OFFICIAL STATEMENT DATED FEBRUARY 11, 2020

NEW ISSUES – BOOK-ENTRY-ONLY **RATINGS: See "RATINGS" herein**

The Taxable Series 2020A Bonds and the Taxable Series 2020B Bonds are not obligations described in Section 103(a) of the Internal Revenue Code of 1986. See "TAX MATTERS – Taxable 2020 Bonds" herein. In the opinion of McCall, Parkhurst & Horton L.L.P., Bond Counsel to the Corporation, interest on the Series 2020C Bonds will be excludable from gross income for federal income tax purposes under statutes, regulations, published rulings and court decisions existing on the date hereof, subject to the matters discussed under "TAX MATTERS – Series 2020C Bonds" herein.

GRAND PARKWAY TRANSPORTATION CORPORATION

$220,415,000
GRAND PARKWAY SYSTEM
FIRST TIER TOLL REVENUE REFUNDING BONDS, TAXABLE SERIES 2020A

$1,293,260,000
GRAND PARKWAY SYSTEM
SUBORDINATE TIER TOLL REVENUE REFUNDING BONDS, TAXABLE SERIES 2020B (TELA SUPPORTED)

$793,385,000
GRAND PARKWAY SYSTEM
FIRST TIER TOLL REVENUE REFUNDING BONDS, SERIES 2020C

Dated Date: Date of Delivery **Due:** As shown herein

The Grand Parkway Transportation Corporation (the "*Corporation*") is issuing its Grand Parkway System First Tier Toll Revenue Refunding Bonds, Taxable Series 2020A (the "*Taxable Series 2020A Bonds*"), Grand Parkway System Subordinate Tier Toll Revenue Refunding Bonds, Taxable Series 2020B (TELA Supported) (the "*Taxable Series 2020B Bonds*"), and Grand Parkway System First Tier Toll Revenue Refunding Bonds, Series 2020C (the "*Series 2020C Bonds*" and, together with the Taxable Series 2020A Bonds and the Taxable Series 2020B Bonds, the "*2020 Bonds*"), as fully registered obligations of the Corporation, a public, non-profit Texas corporation created by the Texas Transportation Commission (the "*Commission*"), the governing body of the Texas Department of Transportation ("*TxDOT*"), and organized and existing pursuant to the Acts (as defined herein). Capitalized terms used on the cover page hereof and not otherwise defined shall have the meanings assigned thereto in "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – Definitions."

The 2020 Bonds are authorized by and issued pursuant to (i) the laws of the State of Texas, particularly the Acts, Chapter 1371, Texas Government Code, as amended, and Section 228.053, Texas Transportation Code, as amended, (ii) a resolution adopted by the Board of Directors of the Corporation on December 19, 2019, and (iii) the Trust Agreement (as defined herein). The 2020 Bonds are payable solely from and secured solely by the Trust Estate and the other security described herein. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS."

Principal of, premium, if any, and interest on the 2020 Bonds will be payable by U.S. Bank National Association, as trustee (the "*Trustee*"), under a Trust Agreement dated as of August 1, 2013, as amended and supplemented (the "*Master Trust Agreement*"), and the Eighth Supplemental Agreement, dated as of February 1, 2020 (the "*Eighth Supplemental Agreement*" and, together with the Master Trust Agreement, the "*Trust Agreement*"), each between the Corporation and the Trustee, to The Depository Trust Company, New York, New York ("*DTC*"), which will make distribution of the amounts so paid to DTC participants for further distribution to the beneficial owners thereof. See "APPENDIX I – DTC BOOK-ENTRY-ONLY SYSTEM." The 2020 Bonds will be registered in the nominee name of DTC, which will act as securities depository for the 2020 Bonds pursuant to its book-entry-only system described herein. No physical delivery of the 2020 Bonds will be made to the respective beneficial owners thereof.

The Corporation is authorized to act on behalf of the Commission for the public purpose of developing, financing, refinancing, designing, acquiring, constructing, reconstructing, expanding, operating and maintaining some or all of the segments of State Highway 99 (Grand Parkway) (the "*Grand Parkway Project*"). The Commission has designated certain segments of the Grand Parkway Project as the responsibility of the Corporation, and the Corporation has designated certain segments thereof as part of the System. The Revenues of the System have been pledged and assigned to the Trustee as part of the Trust Estate established pursuant to the terms of the Master Trust Agreement. The System includes the Initial Project and Segments H and I. See "THE GRAND PARKWAY SYSTEM." All System facilities that comprise the Initial Project have been completed and are open to tolled traffic, and the H and I Project (as defined herein) is currently under construction. The proceeds of the 2020 Bonds, together with other sources of funding described herein, will be used (i) to prepay or refund certain Outstanding Obligations of the Corporation described on SCHEDULE I hereto to achieve debt service savings, and (ii) to pay the costs of issuance of the 2020 Bonds, all as more fully described herein. See "PLAN OF FINANCE."

The Corporation and TxDOT have entered into the Amended and Restated Toll Equity Loan Agreement dated as of May 16, 2018 (which is referred to in this Official Statement as the "*TELA*"). Under certain circumstances, the TELA provides support for eligible costs of the System through advances by TxDOT from the State Highway Fund or other available funds in accordance with the terms of the TELA. If at any time the Revenues of the System and certain fund balances under the Trust Agreement are insufficient to pay certain expenses, the Trustee is able to use proceeds of such advances for the payment of such expenses, including debt service on the Taxable Series 2020B Bonds and other outstanding TELA Supported Bonds (as defined herein), subject to the TELA Limitations (as defined herein) and other provisions of the TELA. **Neither the Taxable Series 2020A Bonds nor the Series 2020C Bonds are entitled to the benefit of the TELA.** See "TOLL EQUITY LOAN AGREEMENT."

NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE STATE OF TEXAS, OR ANY AGENCY OR POLITICAL SUBDIVISION OF THE STATE OF TEXAS, IS PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF, PREMIUM, IF ANY, OR INTEREST ON THE 2020 BONDS. THE CORPORATION HAS NO TAXING POWER.

The 2020 Bonds are further described in this Official Statement. See pages (iv), (v) and (vi) hereof for additional information relating to the Taxable Series 2020A Bonds, the Taxable Series 2020B Bonds and the Series 2020C Bonds, respectively, including provisions relating to maturities, interest rates and yields. This cover page and pages (iv), (v) and (vi) contain information for quick reference only. Such pages do not contain a complete summary of the 2020 Bonds. Potential investors must read this entire Official Statement, which includes the Schedule and Appendices hereto and the documents incorporated herein by reference, to obtain information essential to making an informed investment decision. Investment in the 2020 Bonds is subject to certain investment considerations. See "RISK FACTORS."

The 2020 Bonds are offered for delivery when, as, and if issued and received by the Underwriters and subject to the approval of the Attorney General of the State of Texas and McCall, Parkhurst & Horton L.L.P., Austin, Texas, Bond Counsel to the Corporation. Certain legal matters will be passed upon for the Corporation by Bracewell LLP, Austin, Texas, Disclosure Counsel to the Corporation, by Mayer Brown LLP, Houston, Texas, Special Counsel to the Corporation, and by employees within the General Counsel Division of TxDOT. Certain legal matters will be passed upon for TxDOT by the General Counsel to TxDOT. Certain legal matters will be passed upon for the Underwriters by their co-counsel, Locke Lord LLP, Austin, Texas, and Kassahn & Ortiz, P.C., San Antonio, Texas. It is expected that delivery of the 2020 Bonds will be made through the facilities of DTC on or about February 27, 2020 (the "*Date of Delivery*").

BofA Securities
(Taxable Series 2020A and Taxable Series 2020B Bookrunner)

Goldman Sachs & Co. LLC
(Series 2020C Bookrunner)

Barclays **Morgan Stanley**

Blaylock Van, LLC **Citigroup** **Frost Bank**
J.P. Morgan **Jefferies** **Loop Capital Markets** **Mesirow Financial, Inc.**
Piper Sandler & Co. **Ramirez & Co., Inc.** **Raymond James** **RBC Capital Markets**
Siebert Williams Shank & Co., LLC **Stifel, Nicolaus & Company, Incorporated** **UBS** **Wells Fargo Securities**

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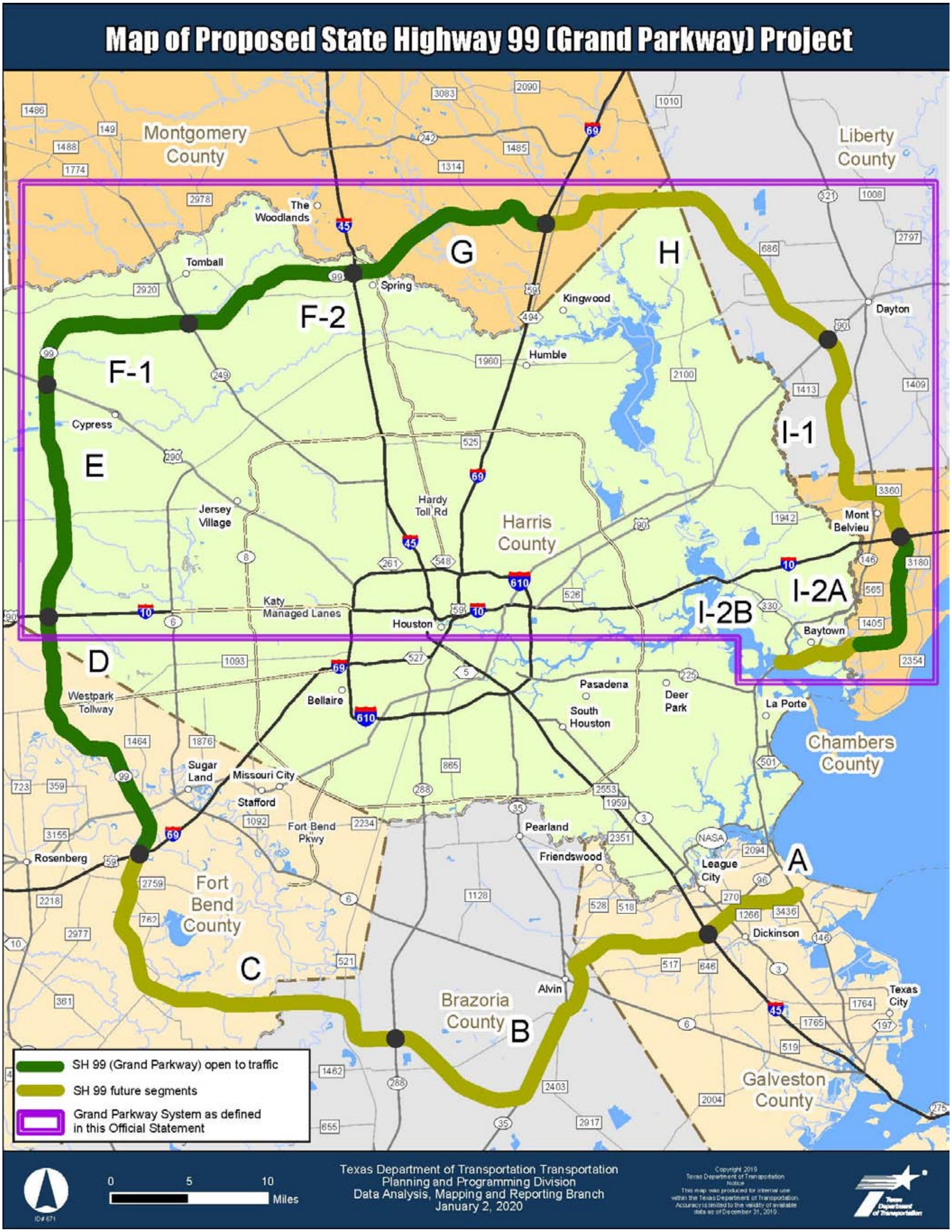
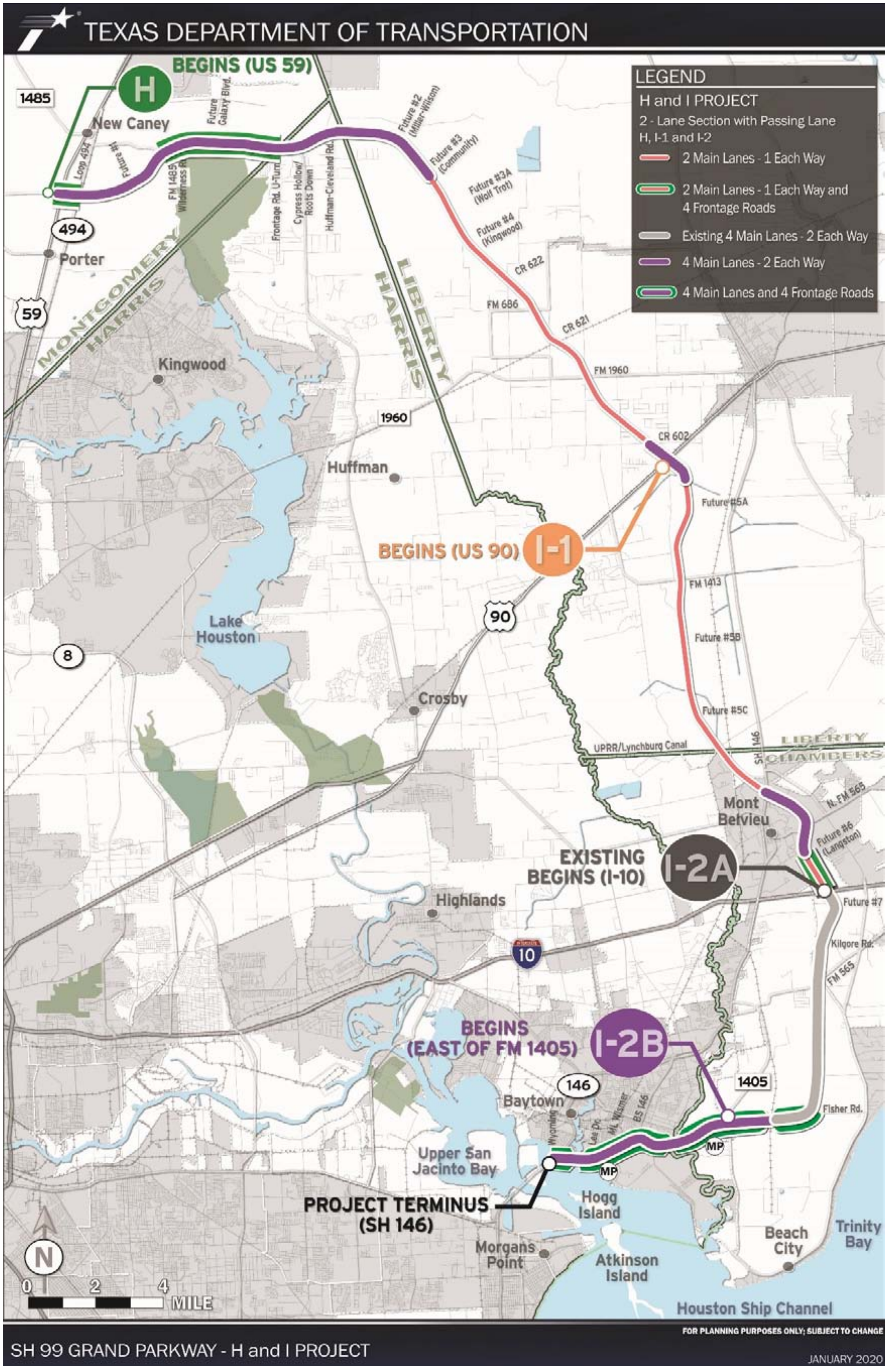
MAP OF STATE HIGHWAY 99 (GRAND PARKWAY) PROJECT



MAP OF THE H AND I PROJECT



MATURITY SCHEDULES, INTEREST RATES, INITIAL YIELDS AND OTHER TERMS FOR THE 2020 BONDS

$220,415,000 GRAND PARKWAY SYSTEM FIRST TIER TOLL REVENUE REFUNDING BONDS, TAXABLE SERIES 2020A

General. The Grand Parkway Transportation Corporation Grand Parkway System First Tier Toll Revenue Refunding Bonds, Taxable Series 2020A (the "*Taxable Series 2020A Bonds*") will be issued as current interest bonds. Interest on the Taxable Series 2020A Bonds will accrue from their Date of Delivery and will be payable on each April 1 and October 1, commencing October 1, 2020, until maturity or prior redemption. The Taxable Series 2020A Bonds will be issued as fully registered obligations in denominations of $5,000 or any integral multiple thereof within a maturity. See "THE TAXABLE SERIES 2020A BONDS."

MATURITY SCHEDULE FOR TAXABLE SERIES 2020A BONDS

Maturity (October 1)	Principal Amount	Interest Rate (%)	Initial Yield (%)	CUSIP No.[1]
2026	$ 935,000	2.105	2.105	38611TCE5
2027	985,000	2.155	2.155	38611TCF2
2028	1,025,000	2.315	2.315	38611TCG0
2029	1,075,000	2.415	2.415	38611TCH8
2030	1,120,000	2.515	2.515	38611TCJ4
2031	1,175,000	2.535	2.535	38611TCK1
2032	1,225,000	2.635	2.635	38611TCL9
2033	1,285,000	2.735	2.735	38611TCM7
2034	1,345,000	2.785	2.785	38611TCN5

$8,430,000 3.056% Taxable Series 2020A Term Bonds due October 1, 2039, Priced to Yield 3.056%; CUSIP No. 38611TCP0[1]

$120,240,000 3.306% Taxable Series 2020A Term Bonds due October 1, 2049, Priced to Yield 3.306%; CUSIP No. 38611TCQ8[1]

$81,575,000 3.356% Taxable Series 2020A Term Bonds due October 1, 2052, Priced to Yield 3.356%; CUSIP No. 38611TCR6[1]

Redemption. The Taxable Series 2020A Bonds are subject to redemption prior to their stated maturity as described herein. See "THE TAXABLE SERIES 2020A BONDS – Redemption."

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(1) CUSIP is a registered trademark of the American Bankers Association. CUSIP data herein is provided by CUSIP Global Services, which is managed on behalf of the American Bankers Association by S&P Global Market Intelligence. This data is not intended to create a database and does not serve in any way as a substitute for the CUSIP Global Services. CUSIP numbers have been assigned by an independent company not affiliated with the Corporation or the Underwriters and are included solely for the convenience of the owners of the Taxable Series 2020A Bonds. None of the Corporation, the Financial Advisor or the Underwriters are responsible for the selection or uses of these CUSIP numbers, and no representation is made as to their correctness on the Taxable Series 2020A Bonds or as indicated above. The CUSIP number for a specific maturity is subject to being changed after the execution and delivery of the Taxable Series 2020A Bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of the Taxable Series 2020A Bonds.

$1,293,260,000 GRAND PARKWAY SYSTEM SUBORDINATE TIER TOLL REVENUE REFUNDING BONDS, TAXABLE SERIES 2020B (TELA SUPPORTED)

General. The Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Refunding Bonds, Taxable Series 2020B (TELA Supported) (the "*Taxable Series 2020B Bonds*") will be issued as current interest bonds. Interest on the Taxable Series 2020B Bonds will accrue from their Date of Delivery and will be payable on each April 1 and October 1, commencing October 1, 2020, until maturity or prior redemption. The Taxable Series 2020B Bonds will be issued as fully registered obligations in denominations of $5,000 or any integral multiple thereof within a maturity. See "THE TAXABLE SERIES 2020B BONDS."

MATURITY SCHEDULE FOR TAXABLE SERIES 2020B BONDS

Maturity (October 1)	Principal Amount	Interest Rate (%)	Initial Yield (%)	CUSIP No.[1]
2020	$14,435,000	1.531	1.531	38611TCS4
2021	18,485,000	1.561	1.561	38611TCT2
2022	18,780,000	1.591	1.591	38611TCU9
2023	19,085,000	1.608	1.608	38611TCV7
2024	2,780,000	1.644	1.644	38611TCW5
2025	2,825,000	1.724	1.724	38611TCX3
2026	2,880,000	1.895	1.895	38611TCY1
2027	2,935,000	1.945	1.945	38611TCZ8
2028	2,995,000	2.125	2.125	38611TDA2
2029	3,060,000	2.175	2.175	38611TDB0
2030	3,125,000	2.225	2.225	38611TDC8
2031	3,200,000	2.285	2.285	38611TDD6
2032	3,275,000	2.355	2.355	38611TDE4
2033	3,355,000	2.435	2.435	38611TDF1
2034	3,435,000	2.485	2.485	38611TDG9
2035	3,525,000	2.535	2.535	38611TDH7

$15,170,000 3.006% Taxable Series 2020B Term Bonds due October 1, 2039, Priced to Yield 3.006%; CUSIP No. 38611TDJ3[1]

$157,290,000 3.216% Taxable Series 2020B Term Bonds due October 1, 2049, Priced to Yield 3.216%; CUSIP No. 38611TDK0[1]

$1,012,625,000 3.236% Taxable Series 2020B Term Bonds due October 1, 2052, Priced to Yield 3.236%; CUSIP No. 38611TDL8[1]

Redemption. The Taxable Series 2020B Bonds are subject to redemption prior to their stated maturity as described herein. See "THE TAXABLE SERIES 2020B BONDS – Redemption."

(1) CUSIP is a registered trademark of the American Bankers Association. CUSIP data herein is provided by CUSIP Global Services, which is managed on behalf of the American Bankers Association by S&P Global Market Intelligence. This data is not intended to create a database and does not serve in any way as a substitute for the CUSIP Global Services. CUSIP numbers have been assigned by an independent company not affiliated with the Corporation or the Underwriters and are included solely for the convenience of the owners of the Taxable Series 2020B Bonds. None of the Corporation, the Financial Advisor or the Underwriters are responsible for the selection or uses of these CUSIP numbers, and no representation is made as to their correctness on the Taxable Series 2020B Bonds or as indicated above. The CUSIP number for a specific maturity is subject to being changed after the execution and delivery of the Taxable Series 2020B Bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of the Taxable Series 2020B Bonds.

$793,385,000 GRAND PARKWAY SYSTEM FIRST TIER TOLL REVENUE REFUNDING BONDS, SERIES 2020C

General. The Grand Parkway Transportation Corporation Grand Parkway System First Tier Toll Revenue Refunding Bonds, Series 2020C (the "*Series 2020C Bonds*") will be issued as current interest bonds. Interest on the Series 2020C Bonds will accrue from their Date of Delivery and will be payable on each April 1 and October 1, commencing October 1, 2020, until maturity or prior redemption. The Series 2020C Bonds will be issued as fully registered obligations in denominations of $5,000 or any integral multiple thereof within a maturity. See "THE SERIES 2020C BONDS."

MATURITY SCHEDULE FOR SERIES 2020C BONDS

Maturity (October 1)	Principal Amount	Interest Rate (%)	Initial Yield (%)(1)	CUSIP No.(2)
2033	$ 260,000	5.000	1.670	38611TBT3
2034	710,000	5.000	1.720	38611TBU0
2035	1,215,000	5.000	1.770	38611TBV8
2036	2,005,000	4.000	1.970	38611TBW6
2037	3,940,000	4.000	2.050	38611TBX4
2038	7,085,000	4.000	2.090	38611TBY2
2039	11,545,000	4.000	2.130	38611TBZ9
2040	17,320,000	4.000	2.160	38611TCA3
***	***	***	***	***
2050	73,185,000	3.000	2.680	38611TCD7

$227,150,000 4.000% Series 2020C Term Bonds due October 1, 2045, Priced to Yield 2.310%(1); CUSIP No. 38611TCB1(2)

$448,970,000 4.000% Series 2020C Term Bonds due October 1, 2049, Priced to Yield 2.370%(1); CUSIP No. 38611TCC9(2)

Redemption. The Series 2020C Bonds are subject to redemption prior to their stated maturity as described herein. See "THE SERIES 2020C BONDS – Redemption."

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(1) Yield calculated to the first optional redemption date of April 1, 2030.

(2) CUSIP is a registered trademark of the American Bankers Association. CUSIP data herein is provided by CUSIP Global Services, which is managed on behalf of the American Bankers Association by S&P Global Market Intelligence. This data is not intended to create a database and does not serve in any way as a substitute for the CUSIP Global Services. CUSIP numbers have been assigned by an independent company not affiliated with the Corporation or the Underwriters and are included solely for the convenience of the owners of the Series 2020C Bonds. None of the Corporation, the Financial Advisor or the Underwriters are responsible for the selection or uses of these CUSIP numbers, and no representation is made as to their correctness on the Series 2020C Bonds or as indicated above. The CUSIP number for a specific maturity is subject to being changed after the execution and delivery of the Series 2020C Bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of the Series 2020C Bonds.

GRAND PARKWAY TRANSPORTATION CORPORATION

Name	Title	Term Expires	Occupation
Brian D. Ragland, CPA	President, Board of Directors	August 31, 2021	Chief Financial Officer, Texas Department of Transportation
Richard McMonagle	Vice President, Board of Directors	August 31, 2021	Chief Administrative Officer, Texas Department of Transportation
Brian Barth	Board Member	August 31, 2021	Director, Project Planning and Development, Texas Department of Transportation
Benjamin H. Asher	Secretary/Treasurer (not a member of the Board of Directors)	N/A	Director, Project Finance, Debt and Strategic Contracts Division Texas Department of Transportation

TEXAS TRANSPORTATION COMMISSION

Name	Title	Term Expires
J. Bruce Bugg, Jr.	Chairman	February 1, 2021
Alvin New	Commissioner	February 1, 2021
Laura Ryan	Commissioner	February 1, 2023
Victor Vandergriff[1]	Commissioner	February 1, 2019
Robert C. Vaughn	Commissioner	February 1, 2025

TEXAS DEPARTMENT OF TRANSPORTATION

Name	Position	Total Years of Service with TxDOT
James M. Bass	Executive Director	35 years
Marc D. Williams, P.E.	Deputy Executive Director	8 years
Brian D. Ragland, CPA	Chief Financial Officer	14 years
Benjamin H. Asher	Director, Project Finance, Debt and Strategic Contracts Division	8 years
Stephen Stewart, CPA	Director, Financial Management Division	8 years
Jeff Graham	General Counsel	7 years

CONSULTANTS AND ADVISORS

Bond Counsel	McCall, Parkhurst & Horton L.L.P., Austin, Texas
Disclosure Counsel	Bracewell LLP, Austin, Texas
Special Counsel to Corporation	Mayer Brown LLP, Houston, Texas
Traffic Consultant	CDM Smith, Inc., Austin, Texas
General Engineering Consultant	HNTB Corporation, Houston, Texas
Financial Advisor	Estrada Hinojosa & Company, Inc., Austin, Texas
Trustee and Paying Agent/Registrar	U.S. Bank National Association, Houston, Texas

For additional information regarding the Corporation, please contact:

Mr. Brian D. Ragland, CPA
President, Board of Directors
Grand Parkway Transportation Corporation
125 E. 11th Street
Austin, Texas 78701-2483
(512) 305-9512

Mr. Paul Jack
Senior Managing Director
Estrada Hinojosa & Company, Inc.
3103 Bee Caves Road, Suite 133
Austin, Texas 78746
(512) 605-2444

(1) Mr. Vandergriff resigned as Commissioner on February 9, 2018. Pursuant to State law, Mr. Vandergriff continues to perform the duties of Commissioner until the earlier of (i) the date such Commissioner's successor shall be duly appointed and qualified or (ii) the last day of the first regular session of the State Legislature that begins after the expiration of such Commissioner's term (which date is May 31, 2021).

SALE AND DISTRIBUTION OF THE 2020 BONDS

Use of Official Statement

No dealer, broker, salesman, or other person has been authorized by the Corporation or the Underwriters to give any information or to make any representation other than those contained in this Official Statement, and, if given or made, such other information or representation must not be relied upon as having been authorized by the Corporation or the Underwriters. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor may there be any sale of the 2020 Bonds by any person, in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information and expressions of opinion herein are subject to change without notice, and neither the delivery of this Official Statement, nor any sale of the 2020 Bonds will, under any circumstances, create any implication that there has been no change in the affairs of the Corporation or TxDOT since the date hereof. This Official Statement is submitted in connection with the sale of the 2020 Bonds and in no instance may this Official Statement be reproduced or used for any other purpose.

This Official Statement is intended to reflect facts and circumstances on the date of this Official Statement or on such other date or at such other time as is identified herein. No assurance can be given that such information will not be misleading at a later date. Consequently, reliance on this Official Statement at times subsequent to the issuance of the 2020 Bonds described herein should not be made on the assumption that any such facts or circumstances are unchanged. See "CONTINUING DISCLOSURE OF INFORMATION" for a description of the undertakings of the Corporation and TxDOT, respectively, to provide certain information on a continuing basis.

The Trustee assumes no responsibility for this Official Statement and has not reviewed or undertaken to verify any information contained in this Official Statement. None of the Corporation, the Corporation's Financial Advisor, the Commission, TxDOT or the Underwriters make any representation or warranty as to the accuracy, adequacy or completeness of the information contained in this Official Statement in "APPENDIX I – DTC BOOK-ENTRY-ONLY SYSTEM," as such information was provided by DTC.

The Underwriters have provided the following statement for inclusion in this Official Statement. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their respective responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not assume responsibility for and do not guarantee the accuracy or completeness of such information.

Marketability

The price and other terms relating to the offering and sale of the 2020 Bonds may be changed from time to time by the Underwriters after such 2020 Bonds are released for sale, and such 2020 Bonds may be offered and sold at prices other than the initial offering price, including sales to dealers who may sell such 2020 Bonds into investment accounts. In connection with the offering of the 2020 Bonds, the Underwriters may over-allot or effect transactions that stabilize or maintain the market price of the 2020 Bonds at a level above those that might otherwise prevail in the open market. Such stabilizing, if commenced, may be discontinued at any time.

Securities Laws

No registration statement relating to the 2020 Bonds has been filed with the United States Securities and Exchange Commission under the Securities Act of 1933, as amended, in reliance upon an exemption provided thereunder. The 2020 Bonds have not been registered or qualified under the Securities Act of Texas in reliance upon various exemptions contained therein; nor have the 2020 Bonds been registered or qualified under the securities laws of any other jurisdiction. The Corporation assumes no responsibility for the registration or qualification for sale or other disposition of the 2020 Bonds under the securities laws of any jurisdiction (domestic or foreign) in which the 2020 Bonds may be offered, sold or otherwise transferred. This disclaimer of responsibility for registration or qualification for sale or other disposition of the 2020 Bonds will not be construed as an interpretation of any kind with regard to the availability of any exemption from securities registration or qualification provisions.

IN MAKING AN INVESTMENT DECISION, INVESTORS MUST RELY ON THEIR OWN EXAMINATION OF THE 2020 BONDS AND THE TERMS OF THE OFFERING, INCLUDING THE MERITS AND RISKS INVOLVED. THE 2020 BONDS HAVE NOT BEEN RECOMMENDED BY ANY FEDERAL OR STATE SECURITIES COMMISSION OR REGULATORY AUTHORITY. FURTHERMORE, THE FOREGOING AUTHORITIES HAVE NOT CONFIRMED THE ACCURACY OR DETERMINED THE ADEQUACY OF THIS DOCUMENT. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE. THE CONTENTS OF THIS OFFICIAL STATEMENT ARE NOT TO BE CONSTRUED AS LEGAL, BUSINESS OR TAX ADVICE, AND PROSPECTIVE INVESTORS SHOULD CONSULT THEIR OWN ATTORNEYS AND BUSINESS AND TAX ADVISORS.

The statements contained in this Official Statement, including the Schedule and the Appendices hereto and the documents incorporated herein by reference, that are not purely historical, are forward-looking statements, including statements regarding the Corporation's, Commission's and TxDOT's expectations, hopes, intentions or strategies regarding the future. Readers should not place undue reliance on forward-looking statements. All forward-looking statements included in this Official Statement are based on information available to the Corporation, the Commission and TxDOT as of the date hereof, and none of the Corporation, the Commission or TxDOT assume any obligation to update any such forward-looking statements. See "RISK FACTORS – Forward-Looking Statements."

Each Series of the 2020 Bonds are separate and distinct securities offerings being issued and sold independently pursuant to a common Official Statement, and, while the 2020 Bonds share certain common attributes, each series is separate from the other and should be reviewed and analyzed independently, including the type of obligation being offered, its terms for payment, the security for its payment, the federal income tax treatment of payments related thereto, the rights of holders, and other features.

References to website addresses presented herein are for informational purposes only and may be in the form of a hyperlink solely for the reader's convenience. Unless specified otherwise, such websites and the information or links contained therein are not incorporated into, and are not part of, this Official Statement for purposes of, and as such term is defined in, Rule 15c2-12 of the United States Securities and Exchange Commission.

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OFFICIAL STATEMENT
relating to

GRAND PARKWAY TRANSPORTATION CORPORATION

$220,415,000
GRAND PARKWAY SYSTEM
FIRST TIER TOLL REVENUE REFUNDING BONDS,
TAXABLE SERIES 2020A

$1,293,260,000
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SUBORDINATE TIER TOLL REVENUE REFUNDING
BONDS, TAXABLE SERIES 2020B (TELA SUPPORTED)

$793,385,000
GRAND PARKWAY SYSTEM
FIRST TIER TOLL REVENUE REFUNDING BONDS, SERIES 2020C

INTRODUCTION

General

This Official Statement (this "*Official Statement*"), which includes the Schedule and Appendices attached hereto and the documents incorporated herein by reference, contains certain information relating to the offer and sale by the Grand Parkway Transportation Corporation (the "*Corporation*") of its Grand Parkway System First Tier Toll Revenue Refunding Bonds, Taxable Series 2020A (the "*Taxable Series 2020A Bonds*"), Grand Parkway System Subordinate Tier Toll Revenue Refunding Bonds, Taxable Series 2020B (TELA Supported) (the "*Taxable Series 2020B Bonds*"), and Grand Parkway System First Tier Toll Revenue Refunding Bonds, Series 2020C (the "*Series 2020C Bonds*" and, together with the Taxable Series 2020A Bonds and the Taxable Series 2020B Bonds, the "*2020 Bonds*"). The Taxable Series 2020A Bonds and the Series 2020C Bonds are referred to herein collectively as the "*2020 First Tier Bonds*." Capitalized terms used in this Official Statement that are not otherwise defined herein have the meanings assigned to them in "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – Definitions."

As used in this Official Statement, the "*Trust Agreement*" shall mean the Trust Agreement dated as of August 1, 2013, as amended and supplemented (the "*Master Trust Agreement*"), together with the Eighth Supplemental Agreement dated as of February 1, 2020 (the "*Eighth Supplemental Agreement*"), each by and between the Corporation and U.S. Bank National Association, as trustee (the "*Trustee*").

The Texas Transportation Commission, TxDOT and the Corporation

The Texas Transportation Commission (the "*Commission*") is the governing body of the Texas Department of Transportation ("*TxDOT*"), which is a state agency charged with the responsibility to develop and maintain a statewide multimodal transportation network and administer federal funds for highway construction and maintenance. TxDOT is headquartered in Austin, with 34 divisions and 25 district offices located throughout the State of Texas (the "*State*") managed by an Executive Director under the direction of the Commission. The Commission is composed of five commissioners appointed by the Governor of the State, with the advice and consent of the State Senate, serving six-year terms. See "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND."

The Corporation is a public, non-profit Texas corporation created by the Commission pursuant to a minute order adopted by the Commission on March 29, 2012, and is organized and existing pursuant to the Acts (as defined herein). The Corporation is authorized to act on behalf of the Commission for the public purpose of developing, financing, refinancing, designing, acquiring, constructing, reconstructing, expanding, operating and maintaining certain segments of the Grand Parkway Project (as defined herein). The three-member Board of Directors of the Corporation (the "*Board*") is composed solely of full-time, permanent employees of TxDOT who are appointed by the Commission. See "– Grand Parkway Project (State Highway 99)," "– Overview of Agreements and Relationships with Respect to Development of the Grand Parkway System," "THE GRAND PARKWAY TRANSPORTATION CORPORATION" and "THE GRAND PARKWAY PROJECT."

Grand Parkway Project (State Highway 99)

The Grand Parkway (State Highway 99) Project (the "*Grand Parkway Project*") is a 184-mile highway project around the greater Houston area from State Highway 146 in Galveston County, Texas to State Highway 146 in Baytown, Texas and spread across the seven counties of Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty and Montgomery (collectively, the "*Counties*"). The primary purpose of the Grand Parkway Project is to provide an outer loop around the Houston metropolitan area to improve connectivity within the existing network, reduce transportation congestion and enhance mobility and travel options, reduce unsafe "stop and go" conditions and accommodate demographic and economic growth. The Grand

Parkway Project is divided into 11 segments designated A through I-2 as depicted on the map on page (ii) of this Official Statement.

TxDOT and the Counties entered into a Market Valuation Waiver Agreement (as defined herein) that defines both the minimum scope and the ultimate scope of the Grand Parkway Project and provides a framework for a uniform toll policy. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Toll Rates; Rate Covenant; Uniformity of Tolls." The minimum scope of the Grand Parkway Project includes (i) four-lane tolled facilities in Segments D, E, F-1, F-2, G and I-2, (ii) two-lane tolled facilities planned for Segments A, B, C, H and I-1 and (iii) phased construction of a number of direct connectors in addition to existing four-lane non-tolled portions of Segment D and a four-lane tolled portion of Segment I-2 (referred to herein as Segment I-2A) in operation at the time of entering into the Market Valuation Waiver Agreement. The ultimate scope of the Grand Parkway Project includes additional tolled lanes in each direction for all segments and construction of additional direct connectors when daily volumes exceed certain projected level thresholds. See "THE GRAND PARKWAY PROJECT." As more specifically described herein, approximately 79 miles of the minimum scope of the Grand Parkway Project have been constructed and opened to traffic, and approximately 44 miles are in the process of being constructed.

The Grand Parkway System, the Initial Project, and the H and I Project

Grand Parkway System. The portion of Segment D located in Harris County, Texas ("*Segment D* (*Harris County*)") and Segments E, F-1, F-2, G, H, I-1 and I-2 of the Grand Parkway Project have been designated as part of the "*Grand Parkway System*" or "*System*" (as defined in the Trust Agreement). Segment I-2 is composed of Segments I-2A and I-2B. The System is depicted on the map on page (ii) of this Official Statement. The Commission is not obligated to designate any additional segments of the Grand Parkway Project as part of the System. See "THE GRAND PARKWAY PROJECT" and "THE GRAND PARKWAY SYSTEM."

Initial Project. The facilities that have been constructed within the project limits of Segment D (Harris County) and Segments E, F-1, F-2 and G, located in northwest Harris County and southeast Montgomery County, are referred to in this Official Statement collectively as the "*Initial Project*." The Initial Project totals approximately 55 miles of tollway, has been completed and is open to tolled traffic. The Initial Project was financed and refinanced through the issuance of Obligations by the Corporation in 2013, 2014 and 2016 and other sources of funding described herein. The Corporation has retained a portion of the remaining proceeds of the Series 2013 Obligations (as defined herein) to pay certain Costs relating to Segments F-1, F-2 and G. See "THE INITIAL PROJECT OF THE CORPORATION."

H and I Project. The Corporation is currently constructing the "*H and I Project*," which includes the design, development, acquisition and construction of: (i) Segments H and I-1, which together generally consist of an approximately 37.5-mile two-lane toll facility (one lane in each direction) with intermittent four-lane sections for passing in Montgomery, Liberty, Harris and Chambers Counties, (ii) Segment I-2B, which generally consists of an approximately 6.1 mile four-lane toll facility in Chambers and Harris Counties, and (iii) tolling equipment upgrades and other improvements to existing Segment I-2A. The H and I Project also includes construction of the H-West Option (as defined herein), which generally consists of the construction of two additional tolled mainlanes, for a total of four tolled mainlanes (being a portion of the ultimate scope of such segment), for the first 8 miles of Segment H from its connection to Segment G at Interstate Highway 69 through Montgomery and Harris Counties. The H and I Project is being constructed pursuant to the Design Build Agreement (as defined herein) between TxDOT and the DB Contractor (as defined herein), which has been assigned to the Corporation. Among other items, the Design Build Agreement specifies the completion deadlines and price for which the DB Contractor is obligated to design and construct the H and I Project. Pursuant to the Design Build Agreement, the DB Contractor is obligated to obtain substantial completion of the H and I Project in February 2022 (which generally means that all work for the entire H and I Project has been completed to the point where it could be opened to traffic), which date is subject to extension for change orders and certain unidentified utility conflicts, as more specifically described herein. The 2018 T&R Letter (as defined herein) assumes that the H and I Project will be substantially complete and open to tolled traffic on May 22, 2022. The H and I Project is depicted on the maps on pages (ii) and (iii) of this Official Statement. See "THE H AND I PROJECT," "TRAFFIC AND REVENUE STUDY" and "CERTAIN PROJECT DOCUMENTS – Design Build Agreement for the H and I Project." See also, "ENGINEERING REPORTS."

Segment I-2A is an existing four-lane facility of approximately 8.7 miles in Chambers County that was constructed and completed by TxDOT in March 2008, and approximately 6.6 miles of this segment began toll operations in November 2011. The Revenues of the System have been pledged as part of the Trust Estate established pursuant to the terms of the Trust Agreement; provided, however, the revenues of Segment I-2A will not become part of the Revenues of the System until the H and I Project is open to tolled traffic. Upon substantial completion of the H and I Project, all 8.7 miles of Segment I-2A will be tolled.

The operation and maintenance expenses of the System facilities that comprise the Initial Project have been designated as Junior Operating Expenses and constitute TELA Supported Junior Operating Expenses pursuant to the Trust Agreement. The operation and maintenance expenses for the H and I Project and the System facilities that comprise Segment I-2A have been designated as Senior Operating Expenses; however, such expenses of Segment I-2A will not become the responsibility of the Corporation until the date of substantial completion of construction of the H and I Project (within the meaning of the Design Build Agreement). The TELA is not available to pay Senior Operating Expenses. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – General."

Overview of Agreements and Relationships with Respect to Development of the Grand Parkway System

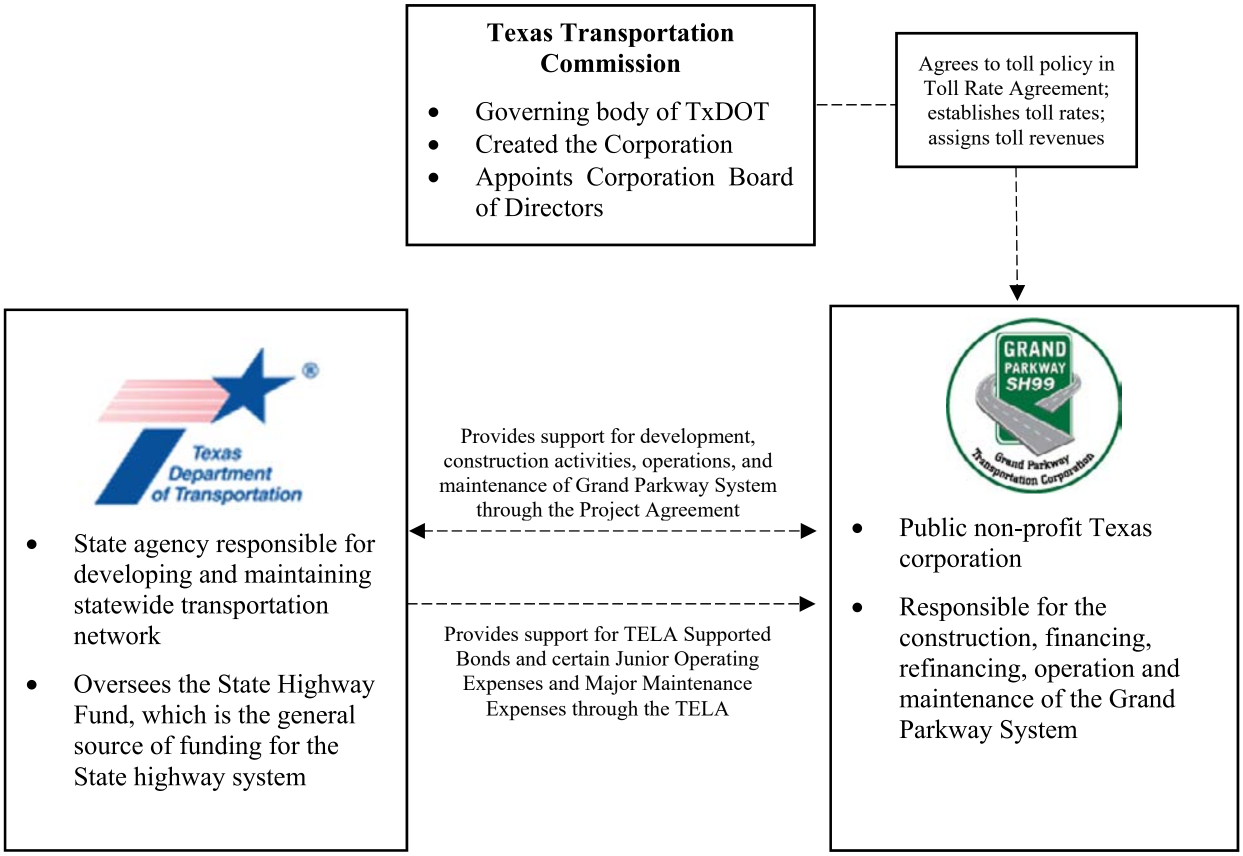
Project Agreement. The Corporation and TxDOT have entered into the Amended and Restated Project Agreement (hereinafter defined as the "*Project Agreement*") that provides the terms and conditions upon which, among other matters, the Corporation will undertake its responsibilities with respect to the System and upon which TxDOT will assign agreements relating to the construction, maintenance and operation of the System to the Corporation and provide toll collection and enforcement services and personnel and advisory support for the System. See "CERTAIN PROJECT DOCUMENTS – Project Agreement."

Toll Rate Agreement. Pursuant to Minute Orders adopted by the Commission on September 27, 2012 and June 25, 2015, the Corporation is entitled to all revenues from, or produced as a consequence of, the operation of the System as a toll highway; provided, however, the revenues of Segment I-2A will not become part of the Revenues of the System until the H and I Project is open to tolled traffic. The Commission has adopted toll rates and a toll escalation policy with respect to the System and has entered into the Toll Rate Agreement (as defined herein) with the Corporation, which established a toll policy for the System and contains covenants of the Commission with respect to the setting of toll rates for the System. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Toll Rates; Rate Covenant; Uniformity of Tolls."

Toll Equity Loan Agreement. To assist the Corporation in financing the System, TxDOT and the Corporation have entered into the Amended and Restated Toll Equity Loan Agreement dated as of May 16, 2018 (which is referred to in this Official Statement as the "*TELA*"). Under certain circumstances, the TELA provides support for Eligible Costs (as defined in the TELA) of the System through advances by TxDOT from the State Highway Fund or other available funds in accordance with the terms of the TELA. If at any time the Revenues of the System and certain fund balances under the Trust Agreement are insufficient to pay certain expenses, the Trustee is able to use proceeds of such advances for the payment of debt service on the Taxable Series 2020B Bonds and other TELA Supported Bonds (as defined herein), certain TELA Supported Junior Operating Expenses and certain Major Maintenance Expenses, subject to the TELA Limitations (as defined in "TOLL EQUITY LOAN AGREEMENT – Toll Equity Loan") and other provisions of the TELA, all as more specifically described herein. See "TOLL EQUITY LOAN AGREEMENT" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT." See also, "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND – Table 9 – Analysis of Impact of Toll Equity Obligations on the State Highway Fund." **The 2020 First Tier Bonds are not entitled to the benefit of the TELA.**

[*Remainder of page intentionally left blank.*]

Set forth below is a graphical illustration of the relationships among the Commission, TxDOT and the Corporation with respect to the development and operation of the Grand Parkway System.



Security and Sources of Payment for the 2020 Bonds

The 2020 First Tier Bonds are First Tier Obligations of the Corporation payable from and secured by the Trust Estate, on the basis and in the priority described herein and in the Trust Agreement. The 2020 First Tier Bonds are secured on a parity with all Outstanding First Tier Obligations and any additional First Tier Obligations issued in the future. As additional security for the 2020 First Tier Bonds there has been established a 2020 First Tier Reserve Account (as defined herein) which shall be funded (but beginning only after Senior Net Revenues for any Fiscal Year are less than 1.75 times the Debt Service Requirements on any Outstanding First Tier Obligations for such Fiscal Year) in an amount at least equal to the 2020 First Tier Reserve Requirement (as defined herein). Due to the historical and projected future annual debt service coverage levels, at the time of delivery of the 2020 First Tier Bonds, it is not anticipated that the 2020 First Tier Reserve Account will be funded. **The 2020 First Tier Bonds are not entitled to the benefit of the TELA.**

The Taxable Series 2020B Bonds are Subordinate Tier Obligations of the Corporation payable from and secured by the Trust Estate, on the basis and in the priority described herein and in the Trust Agreement. The Subordinate Tier Obligations are secured by a pledge of and lien on the Trust Estate that is subordinate to the pledge of and lien on the Trust Estate securing the First Tier Obligations, as further described herein and in the Trust Agreement. The Taxable Series 2020B Bonds are secured on a parity with all Outstanding Subordinate Tier Obligations and any additional Subordinate Tier Obligations issued in the future, except to the extent any additional Subordinate Tier Obligations are designated junior within such Tier as permitted under the Master Trust Agreement. **The Taxable Series 2020B Bonds constitute a senior Series of Subordinate Tier Obligations in terms of priority of payment among Subordinate Tier Obligations. The Taxable Series 2020B Bonds are entitled to the support of TELA draws to pay debt service if Revenues of the System and certain fund balances under the Trust Agreement are insufficient, subject to the TELA Limitations and other provisions of the TELA.** The Corporation has not created any reserve accounts or subaccounts securing any of the Subordinate Tier Obligations (including the Taxable Series 2020B Bonds); however, the Corporation has reserved the right to create such accounts in the future. See "TOLL EQUITY LOAN AGREEMENT" and "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS."

Traffic and Revenue Study

In connection with the issuance of the Series 2018 Obligations, CDM Smith Inc. ("*CDM Smith*"), the Traffic Consultant for the System, issued (i) the 2017 Traffic and Revenue Study (as defined herein) in September 2017 to estimate traffic and toll revenue for the System (which includes the Initial Project and Segments H and I), and (ii) the 2018 T&R Letter (as defined herein) dated March 19, 2018 to address certain changes in the underlying assumptions in the 2017 Traffic and Revenue Study and to incorporate more recent traffic and revenue trends on the existing portions of the System. The base case traffic and revenue estimates for the System in the 2018 T&R Letter supersede such estimates in the 2017 Traffic and Revenue Study.

CDM Smith delivered a reliance letter dated January 24, 2020 (the "*2020 T&R Reliance Letter*") that re-evaluated the underlying assumptions included in the 2018 T&R Letter. Based on a general review of these assumptions, CDM Smith did not identify any significant changes that would adversely impact the current traffic and revenue forecasts included in the 2018 T&R Letter. As a result, CDM Smith made no modifications to the traffic and revenue forecasts in the 2018 T&R Letter. The 2017 Traffic and Revenue Study, the 2018 T&R Letter and the 2020 T&R Reliance Letter are referred to herein collectively as the "*System T&R Report*." See "TRAFFIC AND REVENUE STUDY." Complete copies of the 2017 Traffic and Revenue Study, the 2018 T&R Letter and the 2020 T&R Reliance Letter are attached hereto as "APPENDIX F – 2017 TRAFFIC AND REVENUE STUDY," "APPENDIX G – 2018 T&R LETTER" and "APPENDIX H – 2020 T&R RELIANCE LETTER," respectively.

Engineering Reports

HNTB Corporation prepared the 2018 Engineer's Report (as defined herein), which documents and describes the location, engineering design, construction schedule and cost estimates for the H and I Project. The 2018 Engineer's Report also includes the operation and maintenance expense estimates for the System, including estimates of toll collection and toll system maintenance costs for the System resulting from the Corporation's agreement with TxDOT for TxDOT to provide toll collection, operations and enforcement services, including fees relating to interoperability of the System's tolling infrastructure with that of other tolling systems within the State of Texas and certain other states. HNTB Corporation delivered a certification letter dated January 24, 2020 (the "*2020 O&M Certification Letter*") that re-evaluated the underlying assumptions relating to the estimated operation and maintenance expenses for the System contained in the 2018 Engineer's Report. Based on a general review of these assumptions, HNTB Corporation did not identify any significant changes that would adversely impact the current operation and maintenance expense estimates included in the 2018 Engineer's Report. As a result, HNTB Corporation made no modifications to the operation and maintenance expense estimates for the System in the 2018 Engineer's Report. HNTB Corporation has also prepared the H and I Progress Report (as defined herein), which documents and describes the status of construction of the H and I Project. See "ENGINEERING REPORTS." The 2018 Engineer's Report and the H and I Progress Report are incorporated herein by reference. See "INTRODUCTION – Incorporation by Reference." The Corporation has also engaged HNTB Corporation as the General Engineering Consultant for the System to perform the progress reporting and other duties imposed upon the General Engineering Consultant under the Master Trust Agreement. See also, "PROFESSIONAL ENGINEERS."

Investment Risks

Investment in the 2020 Bonds involves certain risks, some of which are discussed throughout this Official Statement. See "RISK FACTORS" for a discussion of several investment considerations that should also be considered in evaluating an investment in the 2020 Bonds.

Incorporation by Reference

This Official Statement incorporates by reference the documents described below that have been, and with respect to clause (vi) below, may be, filed with the Municipal Securities Rulemaking Board (the "*MSRB*") through its Electronic Municipal Market Access ("*EMMA*") system, which may be accessed over the internet at https://www.emma.msrb.org, using the EMMA Advanced Search function and entering the term "Grand Parkway Transportation Corporation" in the Issuer Name field within the Security Information search filter:

(i) the Original Toll Rate Agreement (as defined herein) and the First Amendment to Toll Rate Agreement (as defined herein), which are described in "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Toll Rates; Rate Covenant; Uniformity of Tolls – Toll Rate Agreement;"

(ii) the Original 2014 TIFIA Loan Agreement (as defined herein), which is described in "2014 TIFIA LOAN AGREEMENT;"

(iii) the 2019 TIFIA Loan Agreement (as defined herein), which is described in "2019 TIFIA LOAN AGREEMENT;"

(iv) the 2018 Engineer's Report and the H and I Progress Report, which are described in "ENGINEERING REPORTS;"

(v) the Design Build Agreement relating to the H and I Project (excluding certain technical provisions and documents incorporated therein by reference), which is described in "CERTAIN PROJECT DOCUMENTS – Design Build Agreement for the H and I Project;" and

(vi) any information or notice filed by the Corporation or TxDOT subsequent to the date of this Official Statement but prior to the "end of the underwriting period" (within the meaning of Rule 15c2-12 of the United States Securities and Exchange Commission) that contains an express statement to the effect that such information or notice is incorporated into and made a part of this Official Statement.

PLAN OF FINANCE

General

A portion of the proceeds of the 2020 Bonds, together with certain other funds of the Corporation, will be used to prepay or refund certain Outstanding Obligations of the Corporation to achieve debt service savings, as follows: a portion of the proceeds of (i) the 2020 First Tier Bonds will be used to prepay in full the 2014 TIFIA Note (as defined herein); (ii) the Taxable Series 2020A Bonds will be used to refund a portion of the Outstanding Series 2013A Bonds (as defined herein); and (iii) the Taxable Series 2020B Bonds will be used to refund all of the Outstanding Series 2013B Bonds (as defined herein) that constitute current interest obligations. The remaining proceeds of the 2020 Bonds will be used to pay the costs of issuance thereof. The Outstanding Series 2013A Bonds and the Outstanding Series 2013B Bonds to be refunded with a portion of the proceeds of the 2020 Bonds, as described above, are referred to herein collectively as the "*Refunded Bonds*." The Refunded Bonds and the 2014 TIFIA Note are referred to herein collectively as the "*Refunded Obligations*," which are more particularly described in SCHEDULE I hereto. The prepayment or refunding, as applicable, of any of the Refunded Obligations is contingent upon the delivery of the 2020 Bonds. See "– Refunded Obligations" and "– Estimated Sources and Uses of Funds."

Refunded Obligations

2014 TIFIA Note. The 2014 TIFIA Note will be prepaid in full on the Date of Delivery of the 2020 Bonds shown on the front cover page of this Official Statement (the "*Prepayment Date*"). The Eighth Supplemental Agreement provides that the Corporation will accomplish the discharge and prepayment in full of the 2014 TIFIA Note on the Prepayment Date using the proceeds of the sale of the 2020 Bonds (as described in "PLAN OF FINANCE – General") received from the Underwriters, together with certain other funds of the Corporation, if any.

Estrada Hinojosa & Company, Inc., in its capacity as financial advisor to the Corporation, will certify as to the sufficiency (such certification, the "*Sufficiency Certificate*") of the amount designated, without regard to investment, to pay the prepayment amount on the 2014 TIFIA Note due on the Prepayment Date. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Description of Outstanding Obligations – 2014 TIFIA Note," "2014 TIFIA LOAN AGREEMENT" and SCHEDULE I hereto for additional information concerning the 2014 TIFIA Note.

Refunded Bonds. A portion of the proceeds of the 2020 Bonds (as described in "PLAN OF FINANCE – General"), together with certain other funds of the Corporation, will be used to purchase a portfolio of obligations authorized under Texas law and the Trust Agreement (the "*Escrowed Securities*") to be deposited, along with certain uninvested proceeds of such 2020 Bonds, in the respective redemption accounts held with the Trustee for the Refunded Bonds (collectively, the "*Series 2013 Redemption Account*"). The maturing principal of and interest on the Escrowed Securities will be sufficient together with uninvested funds to pay, when due, the principal of and interest on the Refunded Bonds prior to and on their respective dates of redemption. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Description of Outstanding Obligations – Series 2013A, 2013B and 2013E Bonds" and SCHEDULE I hereto for additional information concerning the Refunded Bonds.

The accuracy of the mathematical computations of the adequacy of the maturing principal of and interest on the Escrowed Securities, together with the uninvested funds, to provide for the payment of the Refunded Bonds will be verified by AMTEC Corp. (the "*Verification Agent*"). See "VERIFICATION OF MATHEMATICAL ACCURACY" herein.

Money or Escrowed Securities on deposit in the Series 2013 Redemption Account held by the Trustee will not be available to pay debt service on the 2020 Bonds.

Simultaneously with the issuance of the 2020 Bonds, the Corporation will give irrevocable instructions to provide notice to the owners of the Refunded Bonds that the Refunded Bonds will be redeemed prior to their stated maturity on the first date of optional redemption on which date money will be made available to redeem the Refunded Bonds from money held in the Series 2013 Redemption Account and the Corporation will have no further responsibility with respect to amounts available in the Series 2013 Redemption Account for the payment of the Refunded Bonds from time to time, including any insufficiency therein caused by the failure to receive payment when due on the Escrowed Securities.

By the deposit of the Escrowed Securities and uninvested funds with the Trustee in the Series 2013 Redemption Account, the Corporation will have entered into firm banking and financial arrangements for the discharge, defeasance, and final payment of the Refunded Bonds in accordance with applicable law and the terms of the Trust Agreement. Bond Counsel will render an opinion on the date of issuance of the 2020 Bonds to the effect that, in reliance upon the report of the Verification Agent, and as a result of such firm banking and financial arrangements, the Refunded Bonds will be deemed to be fully paid and no longer outstanding except for the purpose of being paid from the funds provided in escrow therefor.

Estimated Sources and Uses of Funds

The proceeds from the sale of the 2020 Bonds, together with other lawfully available funds of the Corporation, are estimated to be applied as follows:

	Taxable Series 2020A Bonds	Taxable Series 2020B Bonds	Series 2020C Bonds	Total
Sources of Funds				
Principal Amount	$220,415,000.00	$1,293,260,000.00	$793,385,000.00	$2,307,060,000.00
Original Issue Premium	-	-	109,567,006.85	109,567,006.85
Other Sources[(1)]	3,721,618.92	25,565,571.29	1,170,386.18	30,457,576.39
Total Sources	$224,136,618.92	$1,318,825,571.29	$904,122,393.03	$2,447,084,583.24
Uses of Funds				
Prepayment of 2014 TIFIA Note	$45,128,196.27	-	$898,976,328.15	$944,104,524.42
Deposit to Series 2013 Redemption Account	177,585,626.55	$1,310,542,351.95	-	1,488,127,978.50
Costs of Issuance[(2)]	1,422,796.10	8,283,219.34	5,146,064.88	14,852,080.32
Total Uses	$224,136,618.92	$1,318,825,571.29	$904,122,393.03	$2,447,084,583.24

(1) Represents moneys on deposit in certain accounts held by the Trustee under the Trust Agreement.
(2) Includes Underwriters' discount, legal fees, financial advisory fees, initial fees of the Trustee, rating agency fees, printing expenses, other costs and rounding amounts. See "UNDERWRITING."

Advances under the TELA

Under certain circumstances, the TELA provides support for Eligible Costs (as defined in the TELA) of the System through advances by TxDOT from the State Highway Fund or other available funds in accordance with the terms of the TELA. If at any time the Revenues of the System and certain fund balances under the Trust Agreement are insufficient to pay certain expenses, the Trustee is able to use the proceeds of such advances for the payment of debt service on outstanding TELA Supported Bonds (which include the Taxable Series 2020B Bonds), certain TELA Supported Junior Operating Expenses (which consist of all Junior Operating Expenses for the System facilities that comprise the Initial Project), and certain Major Maintenance Expenses (for the System facilities that comprise the Initial Project and Segments H and I), subject to the TELA Limitations and other provisions of the TELA. The maximum aggregate principal amount available under the TELA following the issuance of the 2020 Bonds will be $9,242,516,151, with certain maximum annual and aggregate limitations. The Corporation has structured the debt service for the TELA Supported Bonds so that in each year through the final maturity thereof, total debt service for the TELA Supported Bonds plus currently estimated TELA Supported Junior Operating Expenses for each year (as set forth in the 2018 Engineer's Report) do not exceed the Maximum Available Annual Amount (as defined in the TELA) for that year. See "TOLL EQUITY LOAN AGREEMENT – Table 5 – Maximum Available Annual Amount and Annual TELA Supported Debt Service and TELA Supported Junior Operating Expenses." Notwithstanding the foregoing, there are no assurances that the Maximum Available Annual Amount of the TELA will be sufficient to cover all TELA Supported Junior Operating Expenses that are actually incurred in any particular year in which (i) there is a draw under the TELA to pay all or a portion of the debt service due on the TELA Supported Bonds for that year and (ii) the actual TELA Supported Junior Operating Expenses that are incurred for that year exceed the estimated amount of such expenses for that year. The Trustee may not draw upon the TELA to pay the redemption price of any TELA Supported Bonds due as a result of an optional redemption of such Bonds by the Corporation or to pay the purchase price of TELA Supported Bonds due as a result of any tender of such Bonds. While the TELA may be drawn upon to pay Major Maintenance Expenses, the Maximum Available Annual Amount under the TELA is not sufficient to cover the combination of total debt service for the TELA

Supported Bonds plus currently estimated TELA Supported Junior Operating Expenses entitled to the benefit of the TELA plus Major Maintenance Expenses in any given year. See "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT – Other TELA Issues." The ability of the Trustee to obtain advances under the TELA is subject to the TELA Limitations and other provisions of the TELA. Any advances under the TELA are evidenced by the Toll Equity Loan Note (as defined herein) authorized pursuant to the Second Supplemental Agreement to the Master Trust Agreement, and the Toll Equity Loan Note is a TELA/Other Tier Obligation of the Corporation pursuant to the Trust Agreement. As of the date of this Official Statement, no amounts have been borrowed under the TELA. See "TOLL EQUITY LOAN AGREEMENT" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT."

The Taxable Series 2020B Bonds are entitled to the support of TELA draws to pay debt service if Revenues of the System and certain fund balances under the Trust Agreement are insufficient, subject to the TELA Limitations and other provisions of the TELA. The 2020 First Tier Bonds are not entitled to the benefit of the TELA.

It is currently expected that any TELA advances will be made by TxDOT from the State Highway Fund. The State Highway Fund is the source for a substantial portion of funding for the State highway system, TxDOT operations and the administration of State laws relating to traffic and safety on public roads. TxDOT may elect to make advances pursuant to the TELA from lawfully available funds other than the State Highway Fund. See "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND."

THE GRAND PARKWAY TRANSPORTATION CORPORATION

General

The Corporation is a public, non-profit Texas corporation created by the Commission pursuant to a minute order adopted by the Commission on March 29, 2012, and is organized and existing pursuant to the Acts. The Corporation is authorized to act on behalf of the Commission for the public purpose of developing, financing, refinancing, designing, constructing, acquiring, reconstructing, expanding, operating and maintaining certain segments of the Grand Parkway Project. See "THE GRAND PARKWAY PROJECT."

The Corporation is governed by a three-member Board of Directors composed of individuals appointed by the Commission, all of whom are full-time, permanent employees of TxDOT. The directors serve without compensation in such capacity. The Corporation has no staff, no resources (other than Revenues of the System) and no taxing power. The Corporation does not receive any appropriated funds directly from the State Legislature to fund its operations or activities. The Corporation currently funds its operations and activities from the Revenues of the System and the proceeds of Obligations issued under the Trust Agreement.

The Corporation has all powers not prohibited by law that are available to non-profit corporations in the State and which are necessary or useful to enable the Corporation to perform the purpose for which it was created, including the power to issue bonds, notes or other obligations, execute loan agreements, assign any necessary agreements, rights, duties and obligations and otherwise exercise its borrowing power to accomplish the purposes for which it was created. Specifically, the Corporation has the power to issue toll revenue bonds, notes or other obligations and enter into contracts, and assume agreements of TxDOT in connection with the System Segments of the Grand Parkway Project. The Corporation also has the power to enter into agreements with TxDOT regarding the responsibility of each party for the development, financing, refinancing, design, construction, reconstruction, expansion, operation or maintenance of the Grand Parkway Project and the support to be provided to the Corporation by TxDOT, including any necessary toll equity loan agreements between the Corporation and TxDOT, and take other actions necessary or convenient to implementing the portions of the Grand Parkway Project for which the Corporation is responsible. See "CERTAIN PROJECT DOCUMENTS."

[*Remainder of page intentionally left blank.*]

Table 1 – Outstanding Obligations[1]

Upon the issuance of the 2020 Bonds and the application of the proceeds thereof on the anticipated Date of Delivery shown on the front cover page of this Official Statement, the outstanding obligations issued by the Corporation to finance or refinance Costs of the System will be as set forth in the table below (excluding the Toll Equity Loan Note). For additional information regarding the Outstanding Obligations that have been issued by the Corporation pursuant to the Trust Agreement, see "– Description of Outstanding Obligations."

Title	Principal Amount Outstanding[2]	Tier	TELA Status[3]
Series 2013A Bonds	$ 47,730,000[4]	First Tier	Non-Toll Equity Loan Supported Obligation
Series 2013B Bonds	400,071,553[4]	Subordinate Tier	Toll Equity Loan Supported Obligation
Taxable Series 2013E Bonds	361,810,000	Subordinate Tier	Toll Equity Loan Supported Obligation
2014 TIFIA Note	0[4]	Second Tier, with springing First Tier lien upon occurrence of a "Bankruptcy Related Event"[5]	Non-Toll Equity Loan Supported Obligation
Series 2016 Bonds	83,775,000	Subordinate Tier	Toll Equity Loan Supported Obligation
Series 2018A Bonds	712,100,000	Subordinate Tier	Toll Equity Loan Supported Obligation
Series 2018B Bonds	166,525,000	Subordinate Tier	Toll Equity Loan Supported Obligation
2018 BANs	605,330,000	Not issued as Obligations under Trust Agreement[6]	Non-Toll Equity Loan Supported Obligation
2019 TIFIA Note	0[7]	First Tier	Non-Toll Equity Loan Supported Obligation
Taxable Series 2020A Bonds	220,415,000	First Tier	Non-Toll Equity Loan Supported Obligation
Taxable Series 2020B Bonds	1,293,260,000	Subordinate Tier	Toll Equity Loan Supported Obligation
Series 2020C Bonds	793,385,000	First Tier	Non-Toll Equity Loan Supported Obligation
Total	$4,684,401,553		

(1) Includes the 2020 Bonds; excludes the Refunded Obligations and the Toll Equity Loan Note. No amounts have been borrowed under the Toll Equity Loan Note as of the date of this Official Statement. See "PLAN OF FINANCE – General," "– Description of Outstanding Obligations – Toll Equity Loan Note" and "TOLL EQUITY LOAN AGREEMENT."

(2) Principal amount Outstanding upon the issuance of the 2020 Bonds and the application of the proceeds thereof on the anticipated Date of Delivery shown on the front cover page of this Official Statement.

(3) See "– Description of Outstanding Obligations – TELA Supported Bonds" and "TOLL EQUITY LOAN AGREEMENT."

(4) As described in "PLAN OF FINANCE," a portion of the proceeds of the 2020 Bonds will be used to prepay the 2014 TIFIA Note in full and to refund a portion of the Outstanding Series 2013A Bonds and all of the Outstanding Series 2013B Bonds that constitute current interest obligations. Amount shown for the Series 2013B Bonds includes the Outstanding principal amount thereof and accreted interest through the anticipated Date of Delivery shown on the front cover page of this Official Statement.

(5) See "2014 TIFIA LOAN AGREEMENT."

(6) The 2018 BANs (as defined herein) are not Obligations issued under the Trust Agreement and are not secured by or payable from the Trust Estate established under the Trust Agreement. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – 2018 BANs."

(7) The 2019 TIFIA Note (as defined herein) is in an aggregate principal amount up to $605,330,000 and evidences the Corporation's obligation to repay amounts borrowed under the 2019 TIFIA Loan Agreement. No amounts have been borrowed under the 2019 TIFIA Loan Agreement as of the date of this Official Statement. The Corporation currently expects to use any disbursement of the amounts available under the 2019 TIFIA Loan Agreement to refund all or a portion of the 2018 BANs. See " – Description of Outstanding Obligations – 2019 TIFIA Note."

Description of Outstanding Obligations

The Corporation has previously issued, and there are currently Outstanding, the Obligations (as defined in the Master Trust Agreement) described below, additional information for which may be obtained from the audited financial statements of the Corporation for the Fiscal Year ended August 31, 2019. See "– Table 1 – Outstanding Obligations" and "– Financial Reports."

Series 2013A, 2013B and 2013E Bonds. Pursuant to the Master Trust Agreement and the First Supplemental Agreement dated as of August 1, 2013, between the Corporation and the Trustee, the Corporation issued the "*Series 2013 Obligations*," which consist of the Corporation's Grand Parkway System First Tier Toll Revenue Bonds, Series 2013A (the "*Series 2013A Bonds*"), Subordinate Tier Toll Revenue Bonds, Series 2013B (TELA Supported) (the "*Series 2013B Bonds*"), Subordinate Tier Toll Revenue Tender Bonds, Series 2013C (TELA Supported – Interim Construction Financing) (the "*Series 2013C Bonds*"), Subordinate Tier Toll Revenue Tender Bonds, Taxable Series 2013D (TELA Supported) (the "*Series 2013D Bonds*") and Subordinate Tier Toll Revenue Bonds, Taxable Series 2013E (TELA Supported) (the "*Taxable Series 2013E Bonds*"). A portion of the proceeds of the Series 2013 Obligations were used to finance a portion of the Costs of the Initial Project. The Series 2013A Bonds, the Series 2013B Bonds and the Taxable Series 2013E Bonds currently remain Outstanding. The Outstanding Series 2013A Bonds consist of current interest obligations; the Outstanding Series 2013B Bonds consist of both current interest obligations and convertible capital appreciation obligations; and the Outstanding Taxable Series 2013E Bonds consist of current interest obligations. The Series 2013C Bonds and the Series 2013D Bonds were refunded in whole with a portion of the proceeds of the Corporation's Subordinate Tier Toll Revenue Refunding Bond Anticipation Notes, Series 2014A (the "*Series 2014A BANs*"), Subordinate Tier Toll Revenue Refunding Bonds, Series 2014B (TELA Supported) (the "*Series 2014B Bonds*") and Subordinate Tier Toll Revenue Refunding Bonds, Taxable Series 2014C (TELA Supported) (the "*Series 2014C Bonds*" and, together with the Series 2014A BANS and the Series 2014B Bonds, the "*Series 2014 Obligations*"). The Series 2013A Bonds are First Tier Obligations. The Series 2013B Bonds and the Taxable Series 2013E Bonds are Subordinate Tier Obligations, are entitled to the benefit of the TELA, and each constitutes a senior Series of Subordinate Tier Obligations in terms of priority of payment among Subordinate Tier Obligations. See "– Table 1 – Outstanding Obligations" and "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS." A portion of the proceeds of the Taxable Series 2013E Bonds is being used to pay a portion of the Costs of the H and I Project. The Corporation has retained a portion of the proceeds of the Series 2013 Obligations to pay certain Costs relating to Segments F-1, F-2 and G. See "THE INITIAL PROJECT OF THE CORPORATION – Segments F-1, F-2 and G of the Initial Project." See also, "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Fund and Account Balances." As described in "PLAN OF FINANCE – General," a portion of the Outstanding Series 2013A Bonds and all of the Outstanding Series 2013B Bonds that constitute current interest obligations will be refunded with a portion of the proceeds of the 2020 Bonds.

Toll Equity Loan Note. Pursuant to the Master Trust Agreement and the Second Supplemental Agreement dated as of August 1, 2013, between the Corporation and the Trustee, the Corporation issued its TELA/Other Tier Revenue Note, Series 2013 (Toll Equity Loan Agreement) (the "*Toll Equity Loan Note*"), to evidence the Corporation's obligation to repay any amounts borrowed under the TELA. The Toll Equity Loan Note is a TELA/Other Tier Obligation. As of the date of this Official Statement, no amounts have been borrowed under the TELA, and, accordingly, no amount is Outstanding under the Toll Equity Loan Note. See "PLAN OF FINANCE – Advances under the TELA," "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS" and "TOLL EQUITY LOAN AGREEMENT."

2014 TIFIA Note. Pursuant to the Master Trust Agreement and the Revised Third Supplemental Agreement dated as of February 6, 2014 (the "*Third Supplemental Agreement*"), between the Corporation and the Trustee, the Corporation issued a promissory note (the "*2014 TIFIA Note*") to evidence the Corporation's obligation to repay amounts borrowed (the "*2014 TIFIA Loan*") under that certain TIFIA Loan Agreement dated as of February 6, 2014 (the "*Original 2014 TIFIA Loan Agreement*"), entered into by the Corporation and the United States Department of Transportation ("*USDOT*"), acting by and through the Administrator of the Federal Highway Administration ("*FHWA*"), pursuant to the authority of the TIFIA. In December 2016, the Corporation requested the disbursement of the full amount of the 2014 TIFIA Loan to reimburse the Corporation for eligible costs previously expended. The Corporation used the proceeds of such reimbursement to pay the Series 2014A BANs and the Series 2014C Bonds in full on December 15, 2016, being the scheduled maturity date thereof. In relation to the disbursement of the 2014 TIFIA Loan, the Corporation and USDOT, acting by and through the Executive Director of the Build America Bureau (replacing the FHWA as successor in delegation of authority to so act), entered into that certain First Amendment to TIFIA Loan Agreement and Waiver dated as of December 5, 2016 (the "*2014 TIFIA First Amendment*"). In connection with the issuance of the 2018 BANs, the Corporation and USDOT, acting by and through the Executive Director of the Build America Bureau, entered into that certain Second Amendment to TIFIA Loan Agreement, Consent and Waiver dated as of December 7, 2017 (the "*2014 TIFIA Second Amendment*"). Additionally, in connection with the execution and delivery of the 2019 TIFIA Loan Agreement, the Corporation and USDOT, acting by and through the

Executive Director of the Build America Bureau (replacing the FHWA as successor in delegation of authority to so act), entered into that certain Third Amendment to TIFIA Loan Agreement dated as of February 21, 2019 (the "*2014 TIFIA Third Amendment*"). The Original 2014 TIFIA Loan Agreement, as amended by the 2014 TIFIA First Amendment, the 2014 TIFIA Second Amendment and the 2014 TIFIA Third Amendment, is referred to herein as the "*2014 TIFIA Loan Agreement*." The 2014 TIFIA Loan Agreement and the 2014 TIFIA Note are Second Tier Non-TELA Obligations and the 2014 TIFIA Loan Agreement is a Second Tier Credit Agreement; provided, however, upon the occurrence and during the continuance of any Bankruptcy Related Event (as defined in the Master Trust Agreement) of the Corporation and while USDOT, or another related Governmental Lender requiring the same treatment, owns the 2014 TIFIA Note, the 2014 TIFIA Note will automatically and without action on the part of such owner or any other Person immediately become and shall be of equal rank and on parity with the First Tier Obligations and shall be entitled to all rights of an Owner of First Tier Obligations, except that it will not benefit from the First Tier Reserve Account or any subaccount established therein, as more specifically described in "2014 TIFIA LOAN AGREEMENT." See also, "– Table 1 – Outstanding Obligations" and "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS." Neither the 2014 TIFIA Note nor the 2014 TIFIA Loan Agreement is entitled to the benefit of the TELA. As described in "PLAN OF FINANCE – General," the 2014 TIFIA Note will be prepaid in full with a portion of the proceeds of the 2020 First Tier Bonds.

Series 2016 Bonds. Pursuant to the Master Trust Agreement and the Fifth Supplemental Agreement dated as of December 7, 2016, between the Corporation and the Trustee, the Corporation issued its Subordinate Tier Toll Revenue Refunding Bonds, Series 2016 (TELA Supported) (the "*Series 2016 Bonds*"). A portion of the proceeds of the Series 2016 Bonds were used to refund and redeem the Series 2014B Bonds in whole. The Series 2016 Bonds are Subordinate Tier Obligations and are entitled to the benefit of the TELA. The Corporation and the purchaser of the Series 2016 Bonds entered into a Continuing Covenant Agreement dated as of December 1, 2016 (the "*2016 Covenant Agreement*"), which constitutes a Subordinate Tier Credit Agreement under the terms of the Trust Agreement. The Series 2016 Bonds bear interest at a fixed rate of 2.20% per annum (except during any period the "Taxable Rate" or the "Default Rate," as each such term is defined in the 2016 Covenant Agreement, is applicable), are scheduled to mature on October 2, 2023, and are not subject to redemption prior to maturity. The Series 2016 Bonds constitute a senior Series of Subordinate Tier Obligations in terms of priority of payment among Subordinate Tier Obligations. The Series 2016 Covenant Agreement contains additional covenants and agreements of the Corporation, which are for the sole benefit of the holders of the Series 2016 Bonds and may be modified or amended at any time with the consent of, or may be waived in whole or in part by, the holders of the Series 2016 Bonds, and may not be relied upon or enforced in any way by the holders of any other Obligations. See "– Table 1 – Outstanding Obligations" and "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS."

Series 2018A Bonds and Series 2018B Bonds. Pursuant to the Master Trust Agreement and the Sixth Supplemental Agreement dated as of May 1, 2018, between the Corporation and the Trustee, the Corporation issued the "*2018 Bonds*," which consist of the Corporation's Grand Parkway System Subordinate Tier Toll Revenue Bonds, Series 2018A (TELA Supported) (the "*Series 2018A Bonds*") and Subordinate Tier Toll Revenue Put Bonds, Series 2018B (TELA Supported) (the "*Series 2018B Bonds*"). A portion of the proceeds of the 2018 Bonds, together with a portion of the proceeds of the 2018 BANs and other lawfully available funds of the Corporation, are being used to finance the Costs of the H and I Project. See "THE H AND I PROJECT." The Series 2018A Bonds and the Series 2018B Bonds currently remain Outstanding. The 2018 Bonds and the 2018 BANs are referred to herein collectively as the "*Series 2018 Obligations*." See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – 2018 BANs." The Series 2018A Bonds and the Series 2018B Bonds are Subordinate Tier Obligations, are entitled to the benefit of the TELA, and each constitutes a senior Series of Subordinate Tier Obligations in terms of priority of payment among Subordinate Tier Obligations. See "– Table 1 – Outstanding Obligations" and "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS."

2019 TIFIA Note. Pursuant to the Master Trust Agreement and the Seventh Supplemental Agreement dated as of February 21, 2019 (the "*Seventh Supplemental Agreement*"), between the Corporation and the Trustee, the Corporation issued a promissory note (the "*2019 TIFIA Note*") to evidence the Corporation's obligation to repay amounts borrowed (the "*2019 TIFIA Loan*") under that certain TIFIA Loan Agreement dated as of February 21, 2019 (the "*2019 TIFIA Loan Agreement*"), entered into by the Corporation and USDOT, acting by and through the Executive Director of the Build America Bureau, pursuant to the authority of the TIFIA. No amounts have been borrowed under the 2019 TIFIA Loan Agreement. The Corporation currently expects to use any disbursement of the proceeds of the 2019 TIFIA Loan to refund all or a portion of the 2018 BANs. See "GRAND PARKWAY TRANSPORTATION CORPORATION – 2018 BANs." The 2019 TIFIA Loan Agreement and the 2019 TIFIA Note are First Tier Obligations and the 2019 TIFIA Loan Agreement is a First Tier Credit Agreement; provided, that the 2019 TIFIA Note (and the 2019 TIFIA Loan Agreement) will not benefit from the First Tier Reserve Account or any subaccount established therein; provided further, that, pursuant to the terms of the 2019 TIFIA Loan Agreement, the Corporation may become obligated to establish and fund a subaccount within the First Tier Reserve Account, for the sole benefit of the 2019 TIFIA Note, if certain conditions are satisfied. Neither the 2019 TIFIA Loan Agreement nor the 2019 TIFIA Note is entitled to the benefit of the TELA. See "2019 TIFIA LOAN AGREEMENT." See also, "– Table 1 – Outstanding Obligations" and "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS."

TELA Supported Bonds. After the issuance of the 2020 Bonds and the application of the proceeds thereof on the anticipated Date of Delivery shown on the front cover page of this Official Statement, the "*TELA Supported Bonds*" (as such term is used in this Official Statement) will consist of (i) the Taxable Series 2020B Bonds, and (ii) the Outstanding Series 2013B Bonds, Taxable Series 2013E Bonds, Series 2016 Bonds and 2018 Bonds. The TELA Supported Bonds are entitled to the benefit of the TELA and constitute Toll Equity Loan Supported Obligations (as defined in the Master Trust Agreement) and TELA Project Debt (as defined in the TELA). The Taxable Series 2020A Bonds, the Series 2020C Bonds, the 2018 BANs, the Series 2013A Bonds and the 2014 TIFIA Note are not TELA Supported Bonds and are not entitled to the benefit of the TELA. See "TOLL EQUITY LOAN AGREEMENT." As described in "PLAN OF FINANCE – General," a portion of the Outstanding Series 2013A Bonds will be refunded and the 2014 TIFIA Note will be prepaid in full with a portion of the proceeds of the 2020 First Tier Bonds.

2018 BANs

Concurrently with the issuance of the 2018 Bonds, the Corporation issued its Bond Anticipation Notes, Series 2018 (the "*2018 BANs*"), pursuant to that certain Trust and Security Agreement dated as of May 1, 2018 (the "*2018 BANs Security Agreement*"), between the Corporation and the trustee named therein. The 2018 BANs are secured solely by the trust estate established by the 2018 BANs Security Agreement, which consists solely of the proceeds of certain Refunding Obligations (as defined therein) and moneys, including investment earnings, deposited into any accounts or funds created or confirmed in the 2018 BANs Security Agreement and held by or on behalf of the trustee named therein. **The 2018 BANs are not Obligations secured by the Trust Estate established by the Trust Agreement.** As described above, the proceeds of the 2018 BANs, together with the proceeds of the 2018 Bonds, are being used to pay Costs of the H and I Project. The Corporation currently anticipates that the 2018 BANs will be refunded with the proceeds of Additional Obligations issued pursuant to the Trust Agreement, or the proceeds of any amounts disbursed pursuant to the 2019 TIFIA Loan Agreement. See "– Description of Outstanding Obligations – 2019 TIFIA Note." The issuance of Additional Obligations pursuant to the Trust Agreement, and the disbursement of proceeds of the 2019 TIFIA Loan Agreement, are subject to the satisfaction of certain conditions precedent. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Additional Obligations under the Trust Agreement" and "2019 TIFIA LOAN AGREEMENT." See also, "– Description of Outstanding Obligations – Table 1 – Outstanding Obligations."

Financial Reports

Pursuant to the terms of the Master Trust Agreement, the Corporation has covenanted to prepare or cause to be prepared a financial report of the results of operations of the System for each Fiscal Year following Substantial Completion of Segments F-1, F-2 and G, certified by a certified public accountant approved by the Corporation, and containing an audited balance sheet as of the end of such Fiscal Year, an audited statement of operations for such Fiscal Year, and an audited statement of cash flows of such Fiscal Year. The Corporation's Fiscal Year ended August 31, 2016 was the first Fiscal Year for which audited financial statements were prepared for the Corporation. The Corporation's annual financial report for Fiscal Year 2019 was audited by Crowe LLP and is attached hereto as APPENDIX C. Crowe LLP has not been engaged to perform, and has not performed, any procedures on such financial statements since the date of its report included thereon. Crowe LLP also has not performed any procedures relating to this Official Statement.

The Corporation has made available certain unaudited financial information and operating data with respect to the Corporation and the System through filings made with respect to its Outstanding Obligations through the EMMA system maintained by the MSRB, which may be accessed at https://www.emma.msrb.org. Except as specifically set forth in "INTRODUCTION – Incorporation by Reference," such additional information available on EMMA is not incorporated into or made a part of this Official Statement.

For a description of the undertakings of the Corporation and TxDOT, respectively, to provide certain additional information on a continuing basis, see "CONTINUING DISCLOSURE OF INFORMATION."

Investment Authority and Practices of the Corporation

The Corporation is authorized to direct the Trustee to invest funds held by it in accordance with the terms of the Trust Agreement and the Corporation's investment policy adopted by the Board, which is subject to change. See "APPENDIX K – INVESTMENT AUTHORITY AND INVESTMENT PRACTICES OF THE CORPORATION." See also, the definition of "Permitted Investments" and related provisions in the 2014 TIFIA Loan Agreement and the 2019 TIFIA Loan Agreement regarding additional limitations with respect to the investment of certain funds of the Corporation. As described in "PLAN OF

FINANCE – General," a portion of the proceeds of the 2020 First Tier Bonds will be used to prepay the 2014 TIFIA Note in full.

THE GRAND PARKWAY PROJECT

The Grand Parkway Project is a 184-mile long highway project, traversing the seven Counties (Harris, Fort Bend, Brazoria, Galveston, Montgomery, Liberty and Chambers Counties) and encircling the greater Houston area. The Grand Parkway Project is divided into eleven segments designated A, B, C, D, E, F-1, F-2, G, H, I-1 and I-2 and is expected to be configured from two to six lanes with overpasses at major intersections and direct connectors at interchanges with other major thoroughfares. Approximately 24% of the lane miles of the Grand Parkway Project is located in Harris County, consisting largely of Segment E, Segment F-1 and Segment F-2. The remainder of the Grand Parkway Project is located in one or more of the Counties. The segments of the Grand Parkway Project are depicted on the map on page (ii) of this Official Statement.

The Grand Parkway Project serves as a major component of the Houston metropolitan area regional transportation network where it is expected to relieve traffic and congestion on the surrounding major roadways including, but not limited to, US Interstate Highway 10, US Interstate Highway 45, US Highway 59 (also known as US Interstate Highway 69) and US Highway 290. Upon completion of all segments of the Grand Parkway Project, it will be the third and largest loop serving the Houston metropolitan area.

TxDOT and the Corporation do not currently have any rights to develop, construct, finance or operate the segments of the Grand Parkway Project, or portions thereof, located in any of Galveston County, Brazoria County or Fort Bend County. Galveston County currently has the rights to develop Segment A and the portion of Segment B that is located in such county. Brazoria County currently has the rights to develop the portions of Segment B and Segment C that are located in such county. Fort Bend County currently has the rights to develop the portions of Segment C and Segment D that are located in such county. The portion of Segment D in Fort Bend County, which extends approximately 15 miles, has been completed and open to the public since August 31, 1994, and is operated in accordance with a right of use agreement for a local toll project entity's use of state highway right-of-way as executed by the Fort Bend Grand Parkway Toll Road Authority and TxDOT in May 2011. The Fort Bend Grand Parkway Toll Road Authority has added seven tolled overpasses within these limits that have been operational since May 2015. None of the segments of the Grand Parkway Project, or portions thereof, located in any of Galveston County, Brazoria County or Fort Bend County are part of the Grand Parkway System.

TxDOT has commenced preliminary engineering activities and an environmental study in connection with the potential expansion of the non-tolled portion of Segment D of the Grand Parkway Project, from four mainlanes to six mainlanes (one additional mainlane in each direction), from Westpark Tollway/FM 1093 to I-10, for a total distance of approximately six miles. Approximately 1.25 miles of the study area is within the limits of Segment D (Harris County), which is a non-tolled part of the Grand Parkway System, and the remainder of the study area is within the limits of the portion of Segment D within Fort Bend County. The Fort Bend County portion is not in the Grand Parkway System. The Corporation will not be funding construction outside of the Grand Parkway System for this Segment D project. The environmental study is currently being performed, and the metropolitan planning organization for the Houston area (the Houston-Galveston Area Council) has indicated that it plans to fund certain capital costs of this Segment D project; however, no assurances can be given that this project will proceed to the construction phase. According to CDM Smith, the potential expansion within the study area, if eventually constructed, is not anticipated to have a negative impact on the Grand Parkway System and would potentially feed additional traffic to the Grand Parkway System; however, limited negative impacts could be anticipated due to any ramp or mainlane closures during the construction associated with the potential expansion of Segment D of the Grand Parkway Project. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Toll Rates; Rate Covenant; Uniformity of Tolls."

THE GRAND PARKWAY SYSTEM

General

Segment D (Harris County) and Segments E, F-1, F-2, G, H, I-1 and I-2 of the Grand Parkway Project have been designated as part of the Grand Parkway System. Neither the Commission nor the Corporation is obligated to designate any other toll project or facilities as part of the System. Pursuant to the terms of the Master Trust Agreement, the "Grand Parkway System" or "System" is defined as the portions of the Grand Parkway Project designated by the Corporation as the System including the Initial Project, Segments H and I and any System Segment or other toll project or facilities added to or grouped with, or otherwise constituted and declared to be part of the System by the Corporation in accordance with State law and applicable agreements and pursuant to an Order or Orders adopted by the Commission. Set forth on page (ii) of this Official Statement is a map depicting the Grand Parkway Project, including the System Segments of the Grand Parkway Project that comprise the System. See "THE INITIAL PROJECT OF THE CORPORATION" and "THE H AND I PROJECT."

TxDOT owns or will own the roadway and all access roads and appurtenant facilities comprising the System and the related rights-of-way. Pursuant to Minute Orders of the Commission adopted on September 27, 2012 and June 25, 2015, the Corporation is entitled to all revenues from, or produced as a consequence of, the operation of the System as a toll highway; provided, however, the revenues of Segment I-2A will not become part of the Revenues of the System until the H and I Project is open to tolled traffic. TxDOT has assigned to the Corporation the agreements between TxDOT and the contractors/developers who constructed the Initial Project and who will construct the H and I Project. See "CERTAIN PROJECT DOCUMENTS – Project Agreement."

Table 2 – Historical Traffic and Revenue (Unaudited)

The following table sets forth the unaudited total System transactions and toll revenue by quarter for Fiscal Years 2015 through 2019 and for the first quarter of Fiscal Year 2020. Transaction and revenue trends reflected in the following table may not exactly correlate on a quarterly basis due to the following factors: (i) toll transactions (when a vehicle passes through a tolling point) are reported in the period in which they occur; (ii) toll revenues for valid electronic toll collection ("*ETC*") transactions are generally recognized at the time the transaction occurs (which requires a properly installed transponder and a sufficiently funded account); however, recognition of certain toll revenues for transactions occurring in a given quarter may be deferred to a future quarter due to processing delays and other factors; and (iii) toll revenues for non-ETC transactions may be received later than the month in which the transaction occurred due to the time necessary for billing and processing such transactions. All data in the following tables is unaudited.

Historical System Total Transactions[(1)]
(in thousands)

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Quarter Ending	Total Transactions	Total Transactions	Total Transactions	Total Transactions	Total Transactions	Total Transactions
November	5,096	6,230	31,858	41,231	43,206	46,428
February	5,008	8,501	30,729	37,070	41,601	-
May	5,754	24,609	35,831	43,426	46,279	-
August	5,845	29,212	34,962	42,592	45,903	-
Total	21,703	68,552	133,380	164,319	176,988	46,428

Note: Numbers may not compute due to rounding.
(1) Transactions shown include the following segments of the System and tolling for such segments commenced on the following dates: Segment D (Harris County) – February 2014; Segment E – February 2014; Segment F-1 – February 2016; Segment F-2 – February 2016; Segment G – April 2016.

Historical System Toll Revenue[(1)]
(in thousands)

	FY 2015	FY 2016[(2)]	FY2017[(2)]	FY 2018[(2)]	FY 2019[(2)]	FY 2020
Quarter Ending	Toll Revenue	Toll Revenue	Toll Revenue	Toll Revenue	Toll Revenue	Toll Revenue
November	$6,139	$8,059	$31,251	$36,966	$47,679	$51,825
February	6,354	9,817	36,430	37,041	46,476	-
May	7,596	27,681	39,509	48,598	54,089	-
August	7,760	32,006	37,663	48,111	52,355	-
Total	$27,849	$77,564	$144,853	$170,716	$200,599	$51,825

Note: Numbers may not compute due to rounding.
(1) Amounts include only toll revenues and do not include any fee revenues or investment income. Toll revenues shown include the following segments of the System and tolling for such segments commenced on the following dates: Segment D (Harris County) – February 2014; Segment E – February 2014; Segment F-1 – February 2016; Segment F-2 – February 2016; Segment G – April 2016.
(2) As described above, all data in this table is unaudited. Accordingly, the total annual toll revenue amounts shown for Fiscal Years 2016 through 2019, inclusive, do not reflect any necessary fiscal year-end adjustments that may be reflected in the Corporation's audited financial statements for such Fiscal Years. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Financial Reports."

Actual Performance of System in Comparison to Forecasts in 2018 T&R Letter

CDM Smith issued the 2017 Traffic and Revenue Study and the 2018 T&R Letter in connection with the issuance of the 2018 Bonds, and CDM Smith delivered the 2020 T&R Reliance Letter in connection with the issuance of the 2020 Bonds that re-evaluated the underlying assumptions contained in the 2018 T&R Letter. Based on a general review of these assumptions, CDM Smith did not identify any significant changes that would adversely impact the current traffic and revenue forecasts included in the 2018 T&R Letter. As a result, CDM Smith made no modifications to the traffic and revenue forecasts in the 2018 T&R Letter. The 2017 Traffic and Revenue Study incorporates the actual traffic and revenue trends observed for the System through November 2016, and includes traffic and revenue forecasts beginning with Fiscal Year 2017. The 2018 T&R Letter incorporates the actual traffic and revenue trends observed for the System through January 2018, and includes traffic and revenue forecasts beginning with Fiscal Year 2018. **The base case traffic and revenue estimates for the System in the 2018 T&R Letter supersede such estimates in the 2017 Traffic and Revenue Study.**

For the period September 1, 2017 through November 30, 2019, (i) the actual, unaudited toll transactions occurring on the System (which includes all transactions for such period, regardless of tolling) exceeded the forecasted toll transactions in the 2018 T&R Letter by approximately 12.2%, and (ii) the actual, unaudited toll revenues for the System were higher than the forecasted toll revenues in the 2018 T&R Letter by approximately 9.4%. The forecasted and actual revenue amounts utilized for the calculation in clause (ii) of the immediately preceding sentence include only toll revenues and do not include any fee revenues or investment income.

Actual Performance of System in Comparison to Forecasts in 2013 T&R Study

CDM Smith issued its "June 2013 Grand Parkway Segments D through G Comprehensive Traffic and Revenue Study" (referred to herein as the "*2013 T&R Study*") in connection with the issuance of the Series 2013 Obligations. For the period February 1, 2014 through November 30, 2019, (i) the actual, unaudited toll transactions occurring on the System (which includes all transactions for such period, regardless of tolling) exceeded the forecasted toll transactions in the 2013 T&R Study by approximately 61.5%, and (ii) the actual, unaudited toll revenues for the System exceeded the forecasted toll revenues in the 2013 T&R Study by approximately 66.9%. The forecasted and actual revenue amounts utilized for the calculation in clause (ii) of the immediately preceding sentence include only toll revenues and do not include any fee revenues or investment income. **The traffic and revenue forecasts in the 2013 T&R Study are superseded by such forecasts in the 2018 T&R Letter.**

[*Remainder of page intentionally left blank.*]

Table 3 – Historical Revenues, Expenses and Debt Service Coverage[1]

	Fiscal Year Ended August 31, 2016 (in thousands)	Fiscal Year Ended August 31, 2017 (in thousands)	Fiscal Year Ended August 31, 2018 (in thousands)	Fiscal Year Ended August 31, 2019 (in thousands)
Revenues of the System				
Toll Revenue	$ 78,117	$ 145,325	$ 171,631	$201,208
Fee Revenue[2]	5,773	12,905	3,592	5
Interest & Investment Income[3]	1,744	3,372	11,265	27,609
Total	$ 85,634	$ 161,602	$ 186,488	$228,822
Senior Operating Expenses[4]	0	0	0	0
Senior Net Revenues	$ 85,634	$ 161,602	$ 186,488	$228,822
Debt Service				
First Tier Obligations[5]	$ 0	$ 5,371	$ 10,821	$ 10,821
Second Tier Obligations[5]	0	0	0	0
Subordinate Tier Obligations[5]	0	35,174	78,934	78,934
Total Debt Service	$ 0	$ 40,545	$ 89,755	$ 89,755
Coverage of First Tier Debt Service by Senior Net Revenues	N/A	30.09x	17.23x	21.15x
Coverage of First and Second Tier Debt Service by Senior Net Revenues	N/A	30.09x	17.23x	21.15x
Coverage of Total First, Second and Subordinate Tier Debt Service by Senior Net Revenues	N/A	**3.99x**	**2.08x**	**2.55x**
Current Revenues in Excess of Current Debt Service	$ 85,634	$121,058	$ 96,733	$139,067
Junior Operating Expenses[4][6]	14,403	29,879	36,496	43,709
Annual Revenues in Excess of Debt Service and Junior Operating Expenses[7]	$ 71,231	$ 91,179	$ 60,237	$ 95,358

Note: Numbers may not compute due to rounding.

(1) Revenues and expenses are reported on the accrual basis of accounting. Amounts were obtained from the Corporation's audited financial statements for Fiscal Years 2016 through 2019, inclusive. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Financial Reports."

(2) Fee revenue includes revenues from TxDOT fees and charges. See "THE GRAND PARKWAY SYSTEM – Payment Methods for Tolls; Enforcement." The revenue estimates developed by the Traffic Consultant in the System T&R Report include only toll revenues and do not include any fee or other revenues that may be received by the Corporation in connection with the collection or enforcement of tolls. See "TRAFFIC AND REVENUE STUDY." Fee revenues are recognized in the Corporation's audited financial statements when earned, which is at the time cash payment is received. During Fiscal Year 2019, TxDOT began retaining all toll enforcement fees and charges to offset the cost of toll collections. Currently, the Corporation does not receive any fee revenues. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Financial Reports" and "THE GRAND PARKWAY SYSTEM – Payment Methods for Tolls; Enforcement."

(3) Primarily comprised of interest earnings on the Construction Fund and the Rate Stabilization Fund.

(4) There were no Senior Operating Expenses for the System for Fiscal Years 2016 through 2019, inclusive. The operation and maintenance expenses for the System facilities that comprise the Initial Project have been designated as Junior Operating Expenses and constitute TELA Supported Junior Operating Expenses. The operation and maintenance expenses for the H and I Project and the System facilities that comprise Segment I-2A have been designated as Senior Operating Expenses; however, such expenses of Segment I-2A will not become the responsibility of the Corporation until the date of substantial completion of construction of the H and I Project (within the meaning of the Design Build Agreement). See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – General."

(5) Debt service amounts are net of capitalized interest. There was no debt service due on outstanding Obligations in excess of capitalized interest for Fiscal Year 2016, and there were no Second Tier Obligations outstanding during Fiscal Year 2016. The full amount of the 2014 TIFIA Loan, which is a Second Tier Obligation, was drawn upon in December 2016. No debt service was due on the 2014 TIFIA Loan during Fiscal Years 2017 through 2019, inclusive. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Description of Outstanding Obligations – 2014 TIFIA Note."

(6) Amounts shown for Junior Operating Expenses do not include depreciation or amortization. There were no Major Maintenance Expenses incurred by the Corporation for Fiscal Years 2016 or 2017. The Corporation incurred approximately $201,000 and $388,000 in Major Maintenance Expenses for Fiscal Years 2018 and 2019, respectively.

(7) Amounts represent the Revenues of the System in excess of debt service and Junior Operating Expenses for each Fiscal Year shown, and therefore do not reflect carryover balances of excess Revenues from prior fiscal years. For a description of the aggregate amounts held in certain funds and accounts maintained by the Trustee pursuant to the Trust Agreement, see "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Fund and Account Balances."

System Estimated Cash Flow and Debt Service Coverage

The estimated debt service coverage and cash flow for the System, based on the forecasted toll revenues of the System (as estimated by the Traffic Consultant based upon its System T&R Report) and the forecasted Operating Expenses and Major Maintenance Expenses (as estimated by the General Engineering Consultant based upon its 2018 Engineer's Report), are set forth in "TABLE 8 – ESTIMATED TOLL REVENUES AND EXPENSES AND ESTIMATED DEBT SERVICE COVERAGE." See "TABLE 7 – PRO FORMA DEBT SERVICE REQUIREMENTS" for the debt service requirements with respect to the Outstanding Obligations, including the 2020 Bonds. For the estimated toll revenues of each System Segment, see "TRAFFIC AND REVENUE STUDY – Table 6 – Estimated Annual Toll Revenue for the System." For the estimated Operating Expenses and Major Maintenance Expenses, see the 2018 Engineer's Report, which is incorporated herein by reference. See "INTRODUCTION – Incorporation by Reference."

Toll Operations, Collection Facilities and Technology

Toll Operations. TxDOT owns and operates a statewide customer service center that receives information from various toll road operators in the State regarding the use of toll roads in the State, and provides clearinghouse services and back office functions relating to the operation of certain toll roads, including call center operations, account management and maintenance, transponder issuance and replacement, invoicing, toll collection, payment processing and enforcement, revenue handling, and accounting and customer service support. Pursuant to the Project Agreement, the Corporation has agreed that TxDOT shall provide toll operation, collection and enforcement services for the System. See "CERTAIN PROJECT DOCUMENTS – Project Agreement." Such services are provided by the Toll Operations Division within TxDOT. The Toll Operations Division reports to TxDOT's Chief Financial Officer.

Customer service is currently managed and overseen by TxDOT Toll Operations Division staff and Conduent State and Local Solutions, Inc. ("*Conduent*"), formerly known as Xerox State & Local Solutions, Inc., pursuant to an agreement between TxDOT and Conduent, which is a subsidiary of Conduent, Incorporated. The term of the Conduent agreement is currently scheduled to expire in June 2020, which may be extended pursuant to its terms at TxDOT's option through June 2023. Pursuant to TxDOT's agreement with Conduent, Conduent is obligated to provide and operate a turnkey customer service center and account for, invoice and collect tolls for certain TxDOT toll roads. Conduent's statewide customer service center responsibilities include all customer account management, customer service activities (for example, invoicing, printing and mailing services, payment processing and toll collection), and toll transaction processing. TxDOT's agreement with Conduent includes milestone payments for setup, postage and communications costs and fixed or tiered amounts per collected toll transaction. In addition, TxDOT pays Conduent a percentage of the collected revenue for transactions that are collected after the fourth invoice is mailed.

TxDOT may terminate its agreement with Conduent at any time and procure one or more new agreements to provide the services currently being provided by Conduent, as determined by TxDOT to be the most beneficial approach in terms of cost and other factors. TxDOT is in the process of making a fundamental change to its toll operations, and has issued, and plans to issue in the future, various requests for proposals and other solicitation documents in connection with the procurement of software, services and other activities to potentially replace various services or activities currently being provided by Conduent, including but not limited to, transaction processing, billing and customer service, and enforcement and collections processing for toll roads owned or operated by TxDOT, including the System. Specifically, TxDOT released a Request for Offer ("*RFO*") for a toll operations back-office system on February 5, 2018, which was awarded to IBM in December 2018. The implementation of this new back-office system will require extensive testing and integration with other systems and aspects of TxDOT's toll operations. TxDOT currently anticipates that this new back-office system will become operational during the fourth quarter of Fiscal Year 2020, which is subject to change. Additionally, a Request for Proposal ("*RFP*") for a toll operations customer service center was released in January 2019 and was awarded to Faneuil, Inc. ("*Faneuil*") in November 2019. Faneuil will operate the customer service center, which manages TxDOT's TxTag and Pay By Mail programs as well as the toll enforcement program for unpaid tolls, including the Habitual Violators Program. Faneuil is projected to begin providing services on August 1, 2020; however, TxDOT may extend the term of the Conduent agreement in 2020 to allow for an overlapped transition from Conduent to the various other vendors. No assurances can be provided that TxDOT will enter into any agreement with any other provider to replace any of the services currently being provided to TxDOT by Conduent or to provide other toll operation, collection and enforcement services for the System. This new back-office system is anticipated to be funded through and owned by the Central Texas Turnpike System, which is a network of toll roads owned and operated by TxDOT in the Austin, Texas area.

Toll Collection Facilities and Technology. TxDOT has equipped all lanes in the System with an automated electronic tolling system, which utilizes an express ETC transponder (or tag) and image-based billing system equipment allowing toll collection to occur with no physical barriers or toll islands while vehicles travel at normal highway speeds. This system is similar in composition and functionality to those used on other Texas toll roads. Toll collection equipment is mounted in the pavement, outside the shoulder area or in overhead gantries. See "– Payment Methods for Tolls; Enforcement – ETC Transponder Payment Method." Such image-based billing system is utilized in TxDOT's processing of transactions involving customers without a valid ETC transponder or an existing customer toll account in good standing. See "– Payment Methods for Tolls; Enforcement – Invoicing of Non-ETC Transactions." The equipment installation and maintenance of the toll collection and enforcement system, which includes all preventative maintenance necessary to keep the tolling equipment in operation in accordance with the toll system performance requirements, is performed by TransCore, LP pursuant to the Toll System Integrator Agreement (as defined herein) with TxDOT. See "CERTAIN PROJECT DOCUMENTS – Toll System Integrator Agreement."

Payment Methods for Tolls; Enforcement

ETC Transponder Payment Method. The ETC transponder payment method requires that drivers attach a small sticker to the windshields of their vehicles containing a thin transponder which sends a signal to the electronic tolling equipment as the vehicle crosses a tolling point. TxDOT's ETC transponder is branded as a TxTag ("*TxTag*"). Each TxTag transponder is tied to a pre-paid customer toll account and funds are withdrawn daily by TxDOT from such account as tolls are incurred. A single toll account can have multiple TxTag transponders associated with such account. ETC transactions are processed on the System using TxTags as well as ETC transponders issued by other tolling entities, such as the Harris County Toll Road Authority's EZ Tags. See "– Interoperability." During Fiscal Year 2019, approximately 89% of the total toll transactions processed for the System were attributable to ETC transponder accounts. For a description of the assumptions used by CDM Smith in developing the traffic and toll revenue estimates for the System, including the assumption for ETC market share, see "TRAFFIC AND REVENUE STUDY."

Invoicing of Non-ETC Transactions. When a driver crosses a tolling point and a valid ETC transponder is not recognized, an image of the vehicle's license plate is captured, and if there is an existing customer toll account with sufficient funds for that license plate, the transaction is posted to such account and processed as an ETC transponder payment. Customers that use a System toll road without a valid and sufficiently funded transponder account are invoiced for the amount of the toll due on a monthly basis. Certain image-based transactions that occur on the System are not able to be invoiced because the license plate could not be read accurately, the vehicle was exempt from payment of tolls or for other technical reasons. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Toll Rates; Rate Covenant; Uniformity of Tolls." Customers who fail to pay the toll amount due within thirty days of the date of the invoice are charged an administrative fee of $4 per unpaid invoice per month, with a maximum of $48 in administrative fees per person in a twelve-month period. See "– Payment Methods for Tolls; Enforcement – Habitual Violator Legislation" and "– Annual Discharge Policy." During Fiscal Year 2018, TxDOT began collecting administrative fees related to the toll collection operations of the System and other TxDOT owned or operated toll roads pursuant to the requirements of SB 312 (as defined and described below). During Fiscal Year 2019, TxDOT began retaining all fee revenues to offset the cost of toll collections. Currently, the Corporation does not receive any fee revenues. The revenue estimates developed by the Traffic Consultant in the System T&R Report include only toll revenues and do not include any fee or other revenues that may be received by the Corporation in connection with the collection or enforcement of tolls. See "TRAFFIC AND REVENUE STUDY."

Senate Bill 312. The toll collection and billing procedures described above have been in effect for the System since March 1, 2018, and are in compliance with the requirements of Senate Bill 312 ("*SB 312*"), which was passed by the 85th Texas Legislature and was signed into law by the Governor on June 9, 2017. SB 312 imposes limitations on the amount of fees that can be assessed by TxDOT and obligates TxDOT to invoice customers for non-tag (or non-ETC) toll transactions, rather than processing such transactions as violations, for certain toll roads that it operates, including the System. The Commission has adopted rule changes for TxDOT to comply with the changes prescribed by SB 312.

The toll collection and billing procedure changes required by SB 312 for non-tag transactions on the System are incorporated into the updated, base case traffic and revenue estimates for the System in the 2018 T&R Letter. The base case traffic and revenue estimates for the System in the 2018 T&R Letter supersede such estimates in the 2017 Traffic and Revenue Study, which only included the impact of the changes required by SB 312 as a sensitivity analysis. The revenue estimates developed by the Traffic Consultant for the System in the System T&R Report include only toll revenues and do not include any fee revenues that may be received by the Corporation in connection with the collection or enforcement of tolls. See "TRAFFIC AND REVENUE STUDY."

Habitual Violator Legislation. In June 2013, legislation authorized additional toll enforcement tools to pursue habitual violators throughout Texas, which legislation was not impacted by SB 312. Habitual violators are those with more than 100 unpaid tolls in a one-year period and who have been sent at least two notices of non-payment. The 2013 legislation provides more authority to enforce non-payment, including publishing violator names, certain address information and amounts due on websites, and banning the vehicles from using toll roads operated by TxDOT, including the System. If caught driving on a prohibited toll road after being banned and ticketed, the violator's vehicle may be impounded. The legislation also includes authority to report habitual violators to county tax-assessor collectors and the Texas Department of Motor Vehicles (the "*DMV*"), who are responsible for vehicle registration. County tax-assessor collectors and the DMV have discretion, and are therefore not required, to block the renewal of habitual violators' vehicle registration based on non-payment of tolls.

As of November 2019, more than 3,000 individuals have been determined by TxDOT to be habitual violators on all toll roads owned or operated by TxDOT. Currently, TxDOT mails a notice of determination to individuals who meet the requirements for being determined a habitual violator. These notices provide the individuals thirty-five (35) days to fully resolve their unpaid balances, or to enter into an agreement with TxDOT for the monthly repayment of their balances owed. Individuals who either fail to contact TxDOT, resolve their balance in full, enter into an agreement, or continue to honor the terms of the agreement will be prohibited from using toll roads operated by TxDOT (including the System) through an order issued by the Commission. After the Commission has issued an order prohibiting the use of TxDOT's toll roads, TxDOT will mail a notice of prohibition to each prohibited individual. TxDOT has engaged in discussions with local law enforcement agencies regarding the possibility of entering into agreements with such agencies to enforce the Commission's orders of prohibition. No assurances can be provided regarding the timing or nature of the enforcement procedures that may be ultimately implemented under the habitual violator legislation to enforce non-payment of toll transactions involving customers that use a System toll road without a valid and sufficiently funded transponder account.

Annual Discharge Policy. On August 30, 2019, TxDOT adopted a policy to formalize the process for the annual review and discharge of potentially uncollectable tolls and fees in its back-office system. The discharge of tolls and fees under this policy will not require any adjustments to the Corporation's annual financial statements. On an annual basis, all amounts due for tolls posted greater than four years old (from the date of the toll transaction) on accounts with no activity in the past four years will be discharged in the back-office system. Any fees associated with the tolls that are discharged will also be discharged, and enforcement activities will cease. The revenue estimates developed by the Traffic Consultant for the System in the System T&R Report include only toll revenues and do not include any fee revenues that may be received by the Corporation in connection with the collection or enforcement of tolls. See "TRAFFIC AND REVENUE STUDY."

Interoperability

General. The System's toll collection system is interoperable with EZ Tags issued by the Harris County Toll Road Authority ("*HCTRA*") and with other Texas, Oklahoma and Kansas ETC systems so that customers in the Houston region with EZ Tags and customers with transponder tags issued by other entities are not required to have multiple transponders in their vehicles.

TxDOT and several other tolling entities within Texas (including HCTRA through Harris County, the North Texas Tollway Authority, the Central Texas Regional Mobility Authority and the Fort Bend Grand Parkway Toll Road Authority) entered into an Interlocal Agreement in 2007 (the "*2007 Interoperability Agreement*") relating to the interoperability of the various toll collection systems within Texas and fees relating thereto. The 2007 Interoperability Agreement provided for the use of any tolling entity's transponder on any other tolling entity's toll road or system and the processing by each agency of tolls for the transactions of their own customers' transponders occurring on toll roads owned by other agencies.

Central Interoperability Agreement. In March 2017, a new interoperability agreement was executed among TxDOT, the other Texas tolling entities referenced above, the Oklahoma Turnpike Authority and the Kansas Turnpike Authority, and is referred to as the Central US Interoperability Agreement (the "*Central Interoperability Agreement*"). The Central Interoperability Agreement replaced the 2007 Interoperability Agreement and revised the interoperability transaction fees paid by the toll road owner to the transponder issuer. TxDOT, the other Texas tolling entities and the Kansas Turnpike Authority implemented the terms of the Central Interoperability Agreement in May 2017, and the Oklahoma Turnpike Authority implemented the terms of such agreement in April 2019. The E-470 Public Highway Authority of Colorado (which is the operator of most toll roads in Colorado) is expected to join and implement the terms of the Central Interoperability Agreement in the future.

Pursuant to the terms of the Central Interoperability Agreement, in order to reimburse the costs to process these transactions and manage customer accounts, the Corporation pays the transponder issuing agency a fee of 5 cents per transaction and 3% of the revenue generated for each interoperable transaction, with a minimum of 8 cents per transaction. This fee payable pursuant to the Central Interoperability Agreement is included in the estimated Operating Expenses of the System set forth in the 2018 Engineer's Report, which is incorporated herein by reference. See "INTRODUCTION – Incorporation by Reference." During Fiscal Year 2019, approximately 89% of the total toll transactions processed for the System were ETC and approximately 77% of the total toll transactions for the System were HCTRA EZ Tag interoperable transactions. The new fee structure under the Central Interoperability Agreement is lower than the fee structure that was in place under the 2007 Interoperability Agreement for transactions that exceed \$1.00. The average toll amount per transaction for all HCTRA EZ Tag interoperable transactions occurring on the System during Fiscal Year 2019 was approximately \$1.23.

HCTRA collects and processes revenues generated by EZ Tag toll transactions on the System, together with revenues generated by EZ Tag toll transactions on other TxDOT toll roads, and disburses revenues from such transactions to the custodian under the Master Custodial Agreement (as defined herein) for disbursement of the appropriate revenues to the appropriate beneficiary, including the Trustee with respect to toll transactions on the System. See "– Lockbox and Custodial Agreement." Interoperability fees payable to HCTRA (and the other transponder issuing agencies) pursuant to the Central Interoperability Agreement are invoiced to the Corporation separately. Toll revenues and interoperability fees for transactions occurring in a particular month are generally paid and invoiced among the partnering agencies (including HCTRA and TxDOT) by the end of the following month; however, the timing of invoicing and payment among the partnering agencies may extend beyond thirty days from the end of the month in which the related transactions occurred. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Master Custodial Agreement; Agreements with Other Turnpikes," "RISK FACTORS – Operating Risks," "– No Security Interest in Toll Revenues from EZ Tag Transactions Until Received From HCTRA Under Central Interoperability Agreement." The Corporation does not receive any interoperability fee revenues payable to TxDOT pursuant to the terms of the Central Interoperability Agreement or any other interoperability agreement that may be entered into in the future relating to the System.

Additional Interoperability Agreements. TxDOT expects to enter into one or more additional interoperability agreements involving other states in order to comply with the federal Moving Ahead for Progress in the 21st Century Act, which requires that all toll facilities on federal-aid highways implement technologies or business practices that provide for the interoperability of ETC programs, meaning that all transponders can be read on all facilities and all facilities can read all transponders to provide a seamless process to all patrons on all facilities. In October 2017, TxDOT entered into a separate interoperability agreement with the same entities that are parties to the Central Interoperability Agreement as well as the Florida Turnpike Enterprise, related to the interoperability of their respective ETC programs through the use of the Central US Interoperability Hub and the Southeast US Interoperability Hub. The Southeast US Interoperability Hub is owned, operated and maintained by the Florida Turnpike Enterprise and provides for interoperability of transponders on multiple facilities in the states of Florida, North Carolina, South Carolina, Georgia and Alabama. TxDOT and the other parties to this new interoperability agreement are in the process of performing system integration testing. TxDOT's toll collection system will not be interoperable with the ETC programs participating in the Southeast US Interoperability Hub until such system integration testing has been completed.

Lockbox and Custodial Agreement

TxDOT's customer service center receives information from various toll road operators in the State, including TxDOT-owned toll roads such as the System, regarding the use of toll roads in the State. TxDOT also provides clearinghouse services and back office functions relating to the operation of certain toll roads including call center operations, account management and maintenance, transponder issuance and replacement for toll roads, invoicing, toll collection, violation processing and enforcement, revenue handling and accounting and customer service support.

In order to properly account for and disburse revenue received, TxDOT executed the Master Custodial Agreement to hold, administer and disburse funds from certain lockbox and custodial revenue accounts. Under the Master Custodial Agreement, the following toll revenues are deposited into segregated custodial accounts with the custodian under such agreement: (i) all toll revenues received from TxDOT TxTag users, including toll revenues derived from TxTag transponder transactions occurring on the System, other toll roads operated by TxDOT and toll roads operated by other toll authorities; (ii) all toll revenues received from a third-party transponder issuer in consideration for the use of toll roads that are not operated by such third-party transponder issuer, including toll revenues received from HCTRA for toll transactions on the System by customers that have been issued an EZ Tag transponder by HCTRA; and (iii) all payments received from invoices mailed to users of toll roads operated by TxDOT, including the System. The funds received by the custodian under the Master Custodial Agreement are generally disbursed on a daily basis to the appropriate beneficiary (including the Trustee with respect to toll transactions occurring on the System); however, TxTag toll revenues on non-TxDOT owned toll roads are generally distributed by the custodian on a monthly basis under the terms of the Central Interoperability Agreement. For additional information regarding the Master Custodial Agreement, see "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Master Custodial Agreement; Agreements with Other Turnpikes."

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Table 4 – Auto ETC Toll Rates

The table below sets out the toll rates for each segment of the System effective for calendar years 2019 and 2020. The rates shown are for ETC transactions for two-axle vehicles ("*Auto*") for all segments of the System.

		Full Length Toll Rates		Per Mile Toll Rates[2]	
Segment	**Miles[1]**	**January 1, 2019**	**January 1, 2020**	**January 1, 2019**	**January 1, 2020**
D (Harris County) and E	15.7[3]	$3.22	$3.28	$0.21	$0.21
F-1	12.0	2.47	2.52	0.21	0.21
F-2	12.0	2.47	2.52	0.21	0.21
G[4]	13.8	3.02	3.08	0.22	0.22
H	22.9	4.70	4.79	0.21	0.21
I-1	14.7	3.01	3.07	0.21	0.21
I-2	14.4[5]	2.96	3.02	0.21	0.21

Note: The chart above reflects the through trip rates and rates per mile, not individual gantry entrance and exit routes. Accordingly, the toll rates for tolled segment lengths include mainline plaza rates for each segment and exclude entrance and exit ramp charges.

(1) Segment miles reflect tolled on/off lengths for toll gantries, not actual segment construction lengths.
(2) Toll rates are based on tolled miles.
(3) Segment miles exclude a 1.3 mile toll-free section.
(4) Reflects minimum toll rate allocation at a gantry location.
(5) Segment I-2 distance shown reflects the full-build configuration at substantial completion of the H and I Project.

The Commission established the initial toll rates for each System Segment in accordance with the Market Valuation Waiver Agreement. The toll rates for each System Segment have been, and will be, escalated on an annual basis in accordance with the Toll Rate Agreement and the Commission's toll rate escalation policy for the Grand Parkway Project. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Toll Rates; Rate Covenant; Uniformity of Tolls." The most recent Toll Rate Escalation Percentage (as defined herein) for the System was 2.00%, which was adopted by minute order of the Commission on October 31, 2019, and was applied to establish the toll rates that became effective on January 1, 2020 as shown in the table above. For a more detailed description of vehicle classification and particular tolling points, see "APPENDIX F – 2017 TRAFFIC AND REVENUE STUDY" and "APPENDIX G – 2018 T&R LETTER." In addition, a new pair of toll gantries are being planned to operate at Riverwalk Drive along Segment G beginning in 2022. CDM Smith opined in the 2020 T&R Reliance Letter that these new toll gantries will not negatively impact the net toll revenues projected for the System in the 2018 T&R Letter. See "APPENDIX H – 2020 T&R RELIANCE LETTER."

In the Toll Rate Agreement for the benefit of the Corporation, the Trustee and the owners of the Obligations, the Commission has covenanted that it will (i) adopt and maintain in effect a Toll Rate Schedule for the System and (ii) establish charges for other uses of the property constituting a part of the System, such as property leases, designed, collectively, to provide Senior Net Revenues in each Fiscal Year in an amount in compliance with the toll rate covenants of the Commission set forth in the Toll Rate Agreement. The Corporation has covenanted and agreed in the Master Trust Agreement, to the extent permitted by law, that it will take all such action necessary to cause the Commission to meet its obligations under the Toll Rate Agreement. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Toll Rates; Rate Covenant; Uniformity of Tolls."

Insurance for the System

The Corporation has covenanted in the Trust Agreement that it will keep the System and the use and operation thereof insured (including through self-insurance) at all times in such amounts, subject to such exceptions and deductibles and against such risks, as are customary for similar organizations, including business interruption insurance. The Corporation can comply with such covenant by maintaining a self-insurance program ("*SIP*") taking into account available amounts on deposit in the Rate Stabilization Fund to satisfy this requirement. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Rate Stabilization Fund." Any SIP shall be deemed actuarially sound in the written opinion of an accredited actuary, which opinion shall be filed with the Trustee at least annually, if such actuary services are reasonably commercially available and, if not, in a certificate of a Corporation Representative. At any time and from time to time, the Corporation may elect to terminate self-insurance of a given type. Upon making such election, the Corporation shall, to the extent deemed necessary by a qualified insurance consultant, determined by the Corporation, obtain and maintain comparable commercial insurance. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Insurance Recommendations."

The adequacy of the SIP is reviewed annually by an accredited actuary, most recently in a June 30, 2019 report by AMI Risk Consultants, Inc. (the "*Actuarial Consultant*"). In such report, the Actuarial Consultant concluded that the chance of self-insured losses from events occurring July 1, 2019 through June 30, 2020 exceeding the Corporation's SIP reserves is less than one percent, and therefore, the SIP is actuarially sound for the year July 1, 2019 through June 30, 2020. Such report generally assumed (i) that the SIP would cover perils such as catastrophic property, general liability and business interruption, (ii) that the SIP would not cover certain perils, such as title and land use disputes, directors and officers liability, property maintenance, workers' compensation, lawyers liability, employment practices liability and other perils commonly excluded from commercial policies such as war, (iii) State sovereign immunity applies and applicable claims will be so limited, and (iv) toll interruptions lasting less than six months are not a material threat to the adequacy of the SIP's funding.

The Corporation also maintains commercial directors and officers insurance policies with third-party insurance providers, and the DB Contractor is required to maintain certain types of insurance coverage during the term of the Design Build Agreement relating to the H and I Project. Further, the DB Contractor and the Developer are required to maintain certain types of insurance coverage during the term of the H and I Capital Maintenance Agreement (as defined herein) and the F and G Capital Maintenance Agreement (as defined herein), respectively. See "CERTAIN PROJECT DOCUMENTS."

Inspection of the System

Pursuant to the Master Trust Agreement, the Corporation is required to cause the General Engineering Consultant to make an inspection of the System at least once in each Fiscal Year. HNTB Corporation, the General Engineering Consultant for the System, submitted to the Corporation its System Inspection Report dated May 31, 2019 (the "*2019 Inspection Report*") for Fiscal Year 2019, which relates to Segment D (Harris County) and Segments E, F-1, F-2 and G. The 2019 Inspection Report concluded that (i) the existing segments of the System are in good condition (with an overall rating of 87.6 out of 100), (ii) the repairs that are needed are typical for systems of similar age, and (iii) TxDOT is providing the regular maintenance that is needed to keep the System in good condition. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Duties of General Engineering Consultant."

Maintenance of the System

Pursuant to the Master Trust Agreement, the Corporation has covenanted that it will maintain and operate the System in an efficient and economical manner, and that, from the Revenues of the System, it will at all times maintain the System in good repair and in sound operating condition and will make all necessary repairs, renewals and replacements. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Use and Operation of System; Project Agreement."

Maintenance activities with respect to the System's tolling systems and infrastructure are currently being performed by TransCore, LP pursuant to the terms of the Toll System Integrator Agreement. See "CERTAIN PROJECT DOCUMENTS – Toll System Integrator Agreement." Certain maintenance activities for Segments F-1, F-2 and G are currently being performed by the Developer (as defined herein) pursuant to the terms of the F and G Capital Maintenance Agreement, and certain maintenance activities for Segments H and I are anticipated to be performed by the DB Contractor pursuant to the terms of the H and I Capital Maintenance Agreement. See "CERTAIN PROJECT DOCUMENTS – F and G Capital Maintenance Agreement" and "– H and I Capital Maintenance Agreement." Any maintenance activities for the System that are not covered by the Toll System Integrator Agreement, the F and G Capital Maintenance Agreement or the H and I Capital Maintenance Agreement are the responsibility of the Corporation. Pursuant to the terms and conditions of the Project Agreement, TxDOT will provide personnel and support for the System and assign agreements relating to the construction, maintenance and operation of the System to the Corporation. See "CERTAIN PROJECT DOCUMENTS – Project Agreement." Maintenance activities for the System that are not covered by the aforementioned agreements are anticipated to be performed by TxDOT, on behalf of the Corporation, pursuant to TxDOT district maintenance contracts for System Segments. For additional information regarding the maintenance activities for the System, see the 2018 Engineer's Report, which is incorporated herein by reference. See "INTRODUCTION – Incorporation by Reference."

As described in "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – General," the operation and maintenance expenses of the H and I Project and the System facilities that comprise Segment I-2A have been designated as Senior Operating Expenses, and the operation and maintenance expenses of the System facilities that comprise the Initial Project have been designated as Junior Operating Expenses and constitute TELA Supported Junior Operating Expenses. The Trustee may request a draw under the TELA to pay debt service on outstanding TELA Supported Bonds, certain TELA Supported Junior Operating Expenses (which consist of all Junior Operating Expenses for the System facilities that comprise the Initial Project), and certain Major Maintenance Expenses (for the System facilities that comprise the Initial Project and Segments H and I) in the event the Revenues of the System and certain fund balances under the Trust Agreement are insufficient to pay such expenses, subject to the TELA Limitations and other provisions of the TELA, all as more specifically described herein. See "TOLL EQUITY LOAN AGREEMENT."

Hurricane Harvey and the Grand Parkway System

Texas Governor Greg Abbott declared a state of disaster on August 23, 2017 for the Houston region due to Hurricane Harvey and the resulting flooding. To facilitate evacuation and rescue efforts, tolls were suspended on the System from Sunday, August 27, 2017 to Thursday, September 14, 2017 (approximately 18 days) for all tolling locations except for the southbound entrance ramp and northbound exit ramp at Clay Road, which resumed tolling on Tuesday, September 26, 2017. Due to the accumulation of heavy rainfall, certain mainlane and frontage road locations within the System corridor were temporarily closed from August 27, 2017 through August 30, 2017; however, most of these mainlane locations were reopened within 24 hours of the initial closure.

The total cost of restoring the damage to the System caused by Hurricane Harvey was approximately $260,000, and such costs were eligible for federal reimbursement through the Federal Emergency Management Agency, resulting in a $0 net impact to the Corporation from physical damages. The Corporation maintains reserve funds under the terms of the Trust Agreement, including the Rate Stabilization Fund, which provides liquidity for such toll interruptions and self-insurance for property damage and other permitted uses, if necessary. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts." For a description of an executed change order impacting the project schedule for the H and I Project relating to Hurricane Harvey and the timing of issuing a notice to proceed, see "CERTAIN PROJECT DOCUMENTS – Design Build Agreement for the H and I Project – General."

Notwithstanding the impact of Hurricane Harvey (approximately 13 days of toll suspension during Fiscal Year 2018), actual toll revenues for the System for Fiscal Year 2018 exceeded the forecasted toll revenues in the 2018 T&R Letter by approximately 3.08%.

Impact of Tropical Storm Imelda

On September 19, 2019, Texas Governor Greg Abbott declared a state of disaster for the counties impacted by Tropical Storm Imelda. Four counties (Chambers, Harris, Liberty and Montgomery) traversed by the System were covered by the Governor's declaration. Segment D (Harris County) through Segment G experienced less rainfall than Segments H and I, with less than 6 inches in a 24-hour period in Segment D (Harris County) through Segment F-2, and up to 12 inches in a 24-hour period at most on Segment G. While mainlanes remained operational, tolls were suspended on Segment D (Harris County) through Segment G for approximately 26 hours from September 19 to September 20, 2019.

Segments H and I-1 experienced rainfall amounts from Tropical Storm Imelda in excess of 20 inches resulting in impacts to the existing construction of the H and I Project, which included loss of construction equipment due to flood levels and the loss of material from the top layer of embankment and slopes that were under construction. As set forth in the H and I Progress Report, the DB Contractor has indicated in project meetings that the overall impacts to the H and I Project completion schedule from Tropical Storm Imelda are still being assessed. The DB Contractor is in the process of preparing a Time Impact Analysis that is in compliance with the requirements of the Design Build Agreement. In addition, the DB Contractor is working with its insurance provider on claims relating to the damage and loss of materials and equipment caused by Tropical Storm Imelda. See "THE H AND I PROJECT – Status of Construction of H and I Project."

While mainlanes remained operational, tolls were also suspended on Segment I-2A for the same time period described above for Segment D (Harris County) through Segment G from September 19 to September 20, 2019, and again for approximately 22.5 days from September 21 to October 14, 2019. The purpose for the second tolling suspension for Segment I-2A was to allow Segment I-2A to be used as a free alternative route due to damage caused to a bridge on I-10 from the impact of Tropical Storm Imelda. The revenues of Segment I-2A will not become part of the Revenues of the System until the H and I Project is open to tolled traffic, and the operation and maintenance expenses of Segment I-2A will not become the responsibility of the Corporation until the date of substantial completion of construction of the H and I Project (within the meaning of the Design Build Agreement). Accordingly, the toll suspension on Segment I-2A due to Tropical Storm Imelda had no fiscal impact on the Corporation. See "THE H AND I PROJECT – General." Further, Tropical Storm Imelda did not cause any damage requiring repairs to Segment D (Harris County) through Segment G or to Segment I-2A.

THE INITIAL PROJECT OF THE CORPORATION

General

The System includes the facilities that have been initially constructed as the Initial Project, which is an approximately 55 mile tollway located in northwest Harris County and southeast Montgomery County with segments designated as "*Segment D (Harris County),*" "*Segment E,*" "*Segment F-1,*" "*Segment F-2,*" and "*Segment G.*" All of Segment D (Harris County), Segment E, Segment F-1 and Segment F-2 and a portion of Segment G are located in Harris County. Most of Segment G is located in Montgomery County. The Corporation has previously issued and there are currently Outstanding multiple series of Obligations issued pursuant to the Trust Agreement to finance and refinance the Costs of developing and constructing the Initial Project. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Description of Outstanding Obligations." As described in "PLAN OF FINANCE – General," a portion of the proceeds of the 2020 Bonds will be used to prepay or refund certain Outstanding Obligations. All segments comprising the Initial Project have been completed and are open to tolled traffic.

Segments D (Harris County) and Segment E of the Initial Project

Segment D (Harris County). Segment D (Harris County) extends 2.6 miles from the Fort Bend/Harris County line to 0.30 miles north of Colonial Parkway as a four-lane, controlled access toll road with continuous frontage roads, including eight direct connectors. The northern most 0.9 miles of Segment D (Harris County) extends from 0.72 miles north of Kingsland Boulevard to 0.30 miles north of Colonial Parkway. Such portion of Segment D (Harris County) was constructed pursuant to two design-bid-build contracts (including one such contract that also covered a portion of Segment E). The mainlanes of such portion of Segment D (Harris County) opened to traffic on December 21, 2013 and tolling began on February 1, 2014. The eight direct connectors serving Segment D (Harris County) are open to traffic and were completed in August 2014. The other 1.7 miles portion of Segment D (Harris County), which is a non-tolled facility, was previously constructed and was open to traffic at the time of issuance of the Series 2013 Obligations.

Segment E. Segment E is a 14.4-mile, four-lane, controlled access toll road with intermittent frontage roads from 0.30 miles north of Colonial Parkway to US Highway 290 through northwest Harris County. Segment E was constructed pursuant to four design-bid-build contracts (including one such contract that also covered Segment D (Harris County)) and was financed with a portion of the proceeds of the Series 2013 Obligations. Segment E opened to traffic on December 21, 2013 and tolling began on February 1, 2014.

All amounts due and payable by the Corporation pursuant to the construction contracts related to Segment D (Harris County) and Segment E have been paid in full, and the Corporation has paid TxDOT for all costs incurred by TxDOT to construct such segments. Additionally, Harris County advanced certain funds for right-of-way, engineering and other pre-development costs related to Segment D (Harris County) and Segment E pursuant to an Advanced Funding Agreement with TxDOT, and Harris County has been paid in full for all such costs.

Segments F-1, F-2 and G of the Initial Project

Description. Segment F-1 is a 12.1-mile, four-lane, controlled access toll road with intermittent frontage roads from US Highway 290 to State Highway 249 through northwest Harris County. Segment F-2 is a 12.2-mile, four-lane, controlled access toll road with intermittent frontage roads from State Highway 249 to US Interstate Highway 45(N) through northwest Harris County. Segment G is a 13.5-mile, four-lane, controlled access toll road with intermittent frontage roads from US Interstate Highway 45(N) to US Interstate Highway 69(N) through northwest Harris County and southeast Montgomery County. Segments F-1, F-2 and G have achieved final acceptance and are open to tolled traffic, as further described in "– Construction History" below.

Development Agreement. Segments F-1, F-2 and G were developed, designed and constructed pursuant to the terms of a design-build comprehensive development agreement (the "*Development Agreement*") between TxDOT and Zachry-Odebrecht Parkway Builders, J.V. (the "*Developer*"). In accordance with the terms of the Project Agreement, TxDOT has assigned the Development Agreement to the Corporation; however, TxDOT has certain obligations, including obligations with respect to environmental risks, hazardous substances risks and right-of-way acquisition. See "– Segments F-1, F-2 and G of the Initial Project – Remaining Costs," "CERTAIN PROJECT DOCUMENTS – Development Agreement for Segments F-1, F-2 and G" and "– Project Agreement – Obligations of TxDOT."

The Developer. The Developer, Zachry-Odebrecht Parkway Builders, is a joint venture comprised of Zachry Construction Corporation, a Delaware corporation ("*Zachry*"), and Odebrecht Construction, Inc., a Florida corporation ("*Odebrecht*"), each of whom owns fifty percent of the joint venture. Zachry and Odebrecht are jointly and severally liable for the obligations of the Developer under the Development Agreement and the F and G Capital Maintenance Agreement. See "CERTAIN PROJECT DOCUMENTS – Development Agreement for Segments F-1, F-2 and G" and "– F and G Capital Maintenance Agreement."

Zachry, headquartered in San Antonio, Texas, is a leading highway contractor. In the last five years, Zachry and its affiliates have completed or are currently constructing eight design-build transportation projects. Odebrecht Construction, Inc., headquartered in Miami, Florida, has operated in the United States for the past 27 years, performing major infrastructure projects around the country for state departments of transportation, the U.S. Army Corps of Engineers, port and airport authorities, and other private and public entities.

Construction History. Segments F-1 and F-2 were substantially completed and opened to traffic on February 5, 2016, with tolling commencing on February 15, 2016. Segment G was substantially completed and opened to traffic on March 29, 2016, with tolling commencing on April 4, 2016. Final acceptance of Segments F-1, F-2 and G was issued by the Corporation on January 27, 2017 and was subject to the Developer's fulfillment of certain conditions. The Developer has completed all items that were part of the conditional final acceptance. The base case forecast in the 2013 T&R Study that was prepared by the Traffic Consultant assumed that tolling would commence for Segments F-1, F-2 and G in January 2016. The delay in the actual tolling commencement dates for such segments was due in part to certain change orders and the impact of certain force majeure events that occurred in 2015. Harris and Montgomery Counties were included in Presidential and Gubernatorial Disaster Declarations issued for flooding events that occurred in the Spring of 2015, and Harris County was included in a Gubernatorial Disaster Declaration issued for flooding events that occurred in October 2015.

Remaining Costs. The Corporation has paid all amounts due and payable to the Developer under the terms of the Development Agreement and related settlement agreements, except for a retainage amount of approximately $3.0 million that was outstanding as of January 15, 2020, which primarily consists of amounts payable by the Developer to various utility owners within the project corridor. All 433 parcels of right-of-way for Segments F-1, F-2 and G totaling 2,124 acres were released for construction (100% complete) as of March 16, 2015. As of January 15, 2020, five eminent domain parcel actions were pending. The Corporation is responsible for completing and funding these right-of-way activities, other than those related to condemnation that are required to be performed by the Attorney General of the State. These resolution activities will continue until the acquisition process is complete, which include settlements, court ordered mediations, agreed judgments and jury trial awards. Additionally, the Corporation, TxDOT and Harris County have entered into a Funding Agreement relating to the funding of certain improvements within the project corridor of Segments F-1, F-2 and G. All amounts due and payable under the terms of this agreement have been paid in full, except for approximately $289,000 that remains payable by the Corporation to Harris County as of January 15, 2020. The Corporation has retained a portion of the proceeds of the Series 2013 Obligations in an amount that it believes is sufficient to pay all remaining costs to complete the right-of-way activities for Segments F-1, F-2 and G, the retainage amount due to the Developer and the amount payable to Harris County under the terms of the Funding Agreement, all as described above. Any portion of the proceeds of the Series 2013 Obligations not used to pay these remaining costs is expected to be used for the System in accordance with the terms of the Trust Agreement. See "CERTAIN PROJECT DOCUMENTS – Development Agreement for Segments F-1, F-2 and G" and "– Project Agreement – Obligations of TxDOT."

F and G Capital Maintenance Agreement

TxDOT and the Developer have executed the F and G Capital Maintenance Agreement relating to Segments F-1, F-2 and G. The Developer's obligations under the F and G Capital Maintenance Agreement began on January 27, 2018, which was the expiration date of the warranty period under the Development Agreement. For additional information regarding the F and G Capital Maintenance Agreement, see "CERTAIN PROJECT DOCUMENTS – F and G Capital Maintenance Agreement." The F and G Capital Maintenance Agreement has been assigned by TxDOT to the Corporation. See "CERTAIN PROJECT DOCUMENTS – Project Agreement."

Hardy Toll Road Direct Connectors

Four direct connectors at the Hardy Toll Road and Grand Parkway interchange were constructed by Harris County on behalf of the Corporation and opened to traffic in July 2016. These direct connectors were designed and constructed by Harris County as part of a tri-party agreement among TxDOT, the Corporation and Harris County. The Corporation and Harris County equally shared the costs of this project's construction. The Corporation has paid Harris County for the full amount of the Corporation's share of the project costs (in the approximate amount of $19.2 million). These connectors are in the project limits of Segment G and are part of the System; however, Harris County will be responsible for all future maintenance activities and costs on these connectors.

SH 249 Direct Connectors

TxDOT, the Corporation and Harris County are in the process of negotiating the terms of an agreement relating to the design, construction, maintenance and funding of four direct connectors on the south side of the SH 249 and SH 99 interchange (the "*SH 249 Connectors*"). The terms of such agreement are anticipated to provide that Harris County will be obligated to design and construct the SH 249 Connectors at the expense of Harris County, and the Corporation will be responsible for operating and maintaining the SH 249 Connectors upon the completion thereof at the expense of the Corporation. Two of the SH 249 Connectors are within the ultimate scope of Segment F-1, and the other two SH 249 Connectors are considered enhancements for the efficient operation and maintenance of the Grand Parkway Project under the terms of the Market Valuation Waiver Agreement. The Market Valuation Waiver Agreement, among other matters, provides for the substantial completion of the entire minimum scope of the Grand Parkway Project, before the remaining (or ultimate) scope or any enhancements may be constructed. TxDOT has obtained waivers from the Counties, consenting to the development and construction of the SH 249 Connectors before the completion of the entire minimum scope of the Grand Parkway Project. In the event the SH 249 Connectors are eventually constructed, it is anticipated that (i) the SH 249 Connectors will be a part of the System, (ii) Harris County will be responsible for all costs of designing and constructing, and the Corporation will be responsible for all operation and maintenance expenses of, the SH 249 Connectors, and (iii) the operation and maintenance expenses of the SH 249 Connectors for which the Corporation is responsible will constitute TELA Supported Junior Operating Expenses and Major Maintenance Expenses, in each case entitled to the benefit of the TELA. See "TOLL EQUITY LOAN AGREEMENT – General." If constructed, the SH 249 Connectors are not anticipated to include any additional toll gantries. The base case forecast in the System T&R Report does not assume that the SH 249 Connectors will be constructed; however, all of the operation and maintenance expenses for the SH 249 Connectors are included in the estimated Operating Expenses and the estimated Major Maintenance Expenses for the System set forth in the 2018 Engineer's Report. The 2017 Traffic and Revenue Study contains a sensitivity analysis that assumes the SH 249 Connectors will be constructed, and the analysis showed a slight increase in toll revenues for the interim years selected for the analysis. The analysis was performed at select interim years only for illustrative purposes and does not reflect the entire forecast horizon. For additional information regarding this sensitivity analysis, and other sensitivity analyses performed by CDM Smith, see Chapter 5 of the 2017 Traffic and Revenue Study in "APPENDIX F – 2017 TRAFFIC AND REVENUE STUDY." See also, "TRAFFIC AND REVENUE STUDY" and "RISK FACTORS – Traffic and Revenue Study." No assurances can be provided that the SH 249 Connectors will eventually be constructed.

THE H AND I PROJECT

General

The Grand Parkway Project includes "*Segment H*," "*Segment I-1*" and "*Segment I-2*" (referred to herein collectively as "*Segments H and I*"), and Segment I-2 is composed of Segments I-2A and I-2B. Segment H extends across portions of Montgomery, Harris and Liberty Counties, Segment I-1 is located within Liberty and Chambers Counties, and Segment I-2 is located within Chambers and Harris Counties. Pursuant to minute orders adopted by the Commission on June 25, 2015 and March 28, 2017, Segments H and I became part of the System upon execution and delivery of the Design Build Agreement relating to the H and I Project; provided, however, the revenues of Segment I-2A will not become part of the Revenues of the System until the H and I Project is open to tolled traffic, and the operation and maintenance expenses of Segment I-2A will not become the responsibility of the Corporation until the date of substantial completion of construction of the H and I Project (within the meaning of the Design Build Agreement). A portion of the proceeds of the Series 2018 Obligations and the Taxable Series 2013E Bonds are being used to finance the Costs of the development and construction of the H and I Project, which is described below.

Description of H and I Project

The H and I Project includes the design, development, acquisition and construction of: (i) Segments H and I-1, which generally consists of an approximately 37.5-mile two-lane toll facility (one lane in each direction) with intermittent four-lane sections for passing in Montgomery, Liberty, Harris and Chambers Counties, (ii) Segment I-2B, which generally consists of an approximately 6.1 mile four-lane toll facility in Chambers and Harris Counties, and (iii) tolling equipment upgrades and other improvements to Segment I-2A (which is an existing facility as described in "– Background of the H and I Project" below), including approximately 1.2 miles of additional toll lanes for an overpass and connections to Segments I-1 and I-2B.

The H and I Project also includes construction of the H-West Option (as defined in the Design Build Agreement for the H and I Project), which generally consists of the construction of two additional tolled mainlanes, for a total of four tolled mainlanes (being the ultimate scope of such segment), for the first 8 miles of Segment H from its connection to Segment G at Interstate Highway 69 through Montgomery and Harris Counties. The Market Valuation Waiver Agreement, among other things, provides for the substantial completion of the entire minimum scope of the Grand Parkway Project, before the remaining (or ultimate) scope may be constructed. TxDOT has obtained waivers from the Counties, consenting to the construction of the

H-West Option as part of the H and I Project before the completion of the entire minimum scope of the Grand Parkway Project. The total estimated cost of the H and I Project set forth in the 2018 Engineer's Report includes the H-West Option. For additional information regarding the H and I Project, see the 2018 Engineer's Report, which is incorporated herein by reference. See "INTRODUCTION – Incorporation by Reference."

TxDOT has substantially completed improvements to the Segment I-2B non-tolled frontage roads as a separate construction project for the System, which is separate and apart from the H and I Project and was funded by TxDOT. The Corporation will not become obligated to maintain such frontage roads until the date of substantial completion of construction of the H and I Project (within the meaning of the Design Build Agreement). This project is referred to in the 2018 Engineer's Report as the "TxDOT District Project."

Background of H and I Project

In 2010, Chambers County adopted an order relinquishing its rights to TxDOT to develop the portions of Segment I-1 and Segment I-2 that are located in such county. An approximately 8.7 mile portion of Segment I-2 (referred to herein as Segment I-2A) has been completed by TxDOT and open to the public since March 2008, and approximately 6.6 miles of this segment began toll operations in November 2011. In December 2012, Liberty County adopted an order relinquishing its rights to TxDOT to develop the portions of Segment H and Segment I-1 that are located in such county. Pursuant to a minute order adopted by the Commission on January 31, 2013, the Commission approved TxDOT's determination to exercise its option to develop, finance, construct, operate and maintain Segments H and I and, as a result, TxDOT has development rights for such segments. In the January 31, 2013 minute order, the Commission also authorized the Corporation to finance any pre-development costs of future segments of the Grand Parkway Project up to $300 million with priority given to pre-development costs of Segments H and I. The Commission adopted a minute order on June 25, 2015, which authorized the Corporation to act on behalf of the Commission in connection with the development, financing, refinancing, design, construction, reconstruction, expansion, operation and maintenance of Segments H and I as part of the System, and by action of its Board on June 26, 2015, the Corporation accepted such delegation of the authority. On March 28, 2017, the Commission adopted a minute order consenting to the use by the Corporation of a portion of the proceeds of the Taxable Series 2013E Bonds to pay for costs of the Initial Project and Segments H and I, rather than pre-development costs only.

Design Build Agreement for the H and I Project

On June 30, 2017, TxDOT and Grand Parkway Infrastructure, LLC (the "*DB Contractor*") executed the design-build agreement for the H and I Project (the "*Design Build Agreement*"). For additional information regarding the Design Build Agreement and the DB Contractor, see "CERTAIN PROJECT DOCUMENTS – Design Build Agreement for the H and I Project." The Design Build Agreement has been assigned by TxDOT to the Corporation; however, TxDOT has retained certain obligations, including obligations with respect to environmental risks, hazardous substances risks and right-of-way acquisition. See "CERTAIN PROJECT DOCUMENTS – Project Agreement – Obligations of TxDOT" for additional information regarding such obligations of TxDOT.

H and I Capital Maintenance Agreement

TxDOT and the DB Contractor have also executed the H and I Capital Maintenance Agreement relating to Segments H, I-1 and I-2B and a portion of Segment I-2A. For additional information regarding the H and I Capital Maintenance Agreement, see "CERTAIN PROJECT DOCUMENTS – Capital Maintenance Agreement for the H and I Project." The H and I Capital Maintenance Agreement has been assigned by TxDOT to the Corporation. See "CERTAIN PROJECT DOCUMENTS – Project Agreement."

Status of Construction of H and I Project

Construction efforts on the H and I Project began in July 2018. As of November 20, 2019, the design for the H and I Project is approximately 98% complete, and the DB Contractor has achieved approximately 35% completion of the development and construction of the H and I Project (based on the ratio of actual cumulative expenditures to the total amount due to the DB Contractor under the Design Build Agreement, including the amount due for the H-West Option). As of the date of this Official Statement, the Corporation and the DB Contractor have executed a total of four change orders impacting the cost of the H and I Project, having an aggregate net total cost increase of approximately $12.2 million, thereby increasing the amount due to the DB Contractor under the terms of the Design Build Agreement by such amount. The Corporation and the DB Contractor are also negotiating the terms of a pending change order having an anticipated value of approximately $17.6 million relating to revisions to a bridge configuration. If such pending change order is executed, the amount due to the DB Contractor under the terms of the Design Build Agreement will be increased by such amount and will be funded from project contingencies. The total estimated cost of the H and I Project set forth in the 2018 Engineer's Report includes a contingency amount to account for potential change orders and other increases in the project budget. As of November 30, 2019, the remaining contingency amount included in the total estimated cost of the H and I Project (excluding the value of the potential change order described above) is approximately $102.8 million. See the 2018 Engineer's Report, which is incorporated herein by reference as described in "INTRODUCTION – Incorporation by Reference." HNTB Corporation has also prepared periodic progress reports with respect to the H and I Project, including the H and I Progress Report for the fiscal quarter ending November 30, 2019, which is incorporated herein by reference. See "– Construction Progress Reports" and "ENGINEERING REPORTS." As set forth in the H and I Progress Report, the H and I Project is currently expected to be completed within the total budgeted amount shown in such report, which includes a contingency amount that is anticipated to be adequate to address increases in project costs relating to change orders and other cost uncertainties.

Pursuant to the terms of the Design Build Agreement (and after giving effect to the executed change order for the delay in the issuance of NTP2 and the impact of Hurricane Harvey described in "CERTAIN PROJECT DOCUMENTS – Design Build Agreement for the H and I Project), the DB Contractor is obligated to obtain substantial completion of the H and I Project on February 27, 2022 (the "*DBA SC Deadline*"), which date is subject to extension for change orders and certain unidentified utility conflicts, as more specifically described herein. In the monthly progress report submitted by the DB Contractor to the Corporation for the month of December 2019, the DB Contractor's schedule (as of the date of such progress report), estimates that the DB Contractor will achieve substantial completion of the H and I Project on May 13, 2022, which estimated date is after the DBA SC Deadline. In the event the DB Contractor fails to achieve substantial completion of the H and I Project by the DBA SC Deadline, the DB Contractor will be obligated to pay liquidated damages to the Corporation as further described below. Based on the impact of Tropical Storm Imelda, the DB Contractor is in the process of preparing a Time Impact Analysis to support a potential extension of the DBA SC Deadline under the terms of the Design Build Agreement. See "THE GRAND PARKWAY SYSTEM – Impact of Tropical Storm Imelda." For purposes of the 2018 T&R Letter, the H and I Project has an assumed opening date of May 22, 2022. See "TRAFFIC AND REVENUE STUDY – 2018 T&R Letter."

Notwithstanding a delay, if any, in achieving substantial completion of the H and I Project, the forecasted toll revenues for the System, after excluding the forecasted toll revenues for Segments H and I, are anticipated to produce coverage levels sufficient to satisfy the Commission's Rate Covenant in the Toll Rate Agreement over the entire forecast period set forth in Table 8 of this Official Statement. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Toll Rates; Rate Covenant; Uniformity of Tolls" and "TABLE 8 – ESTIMATED TOLL REVENUES AND EXPENSES AND ESTIMATED DEBT SERVICE COVERAGE." In addition, (i) the Trustee's ability to make draws under the TELA and to make transfers from the Rate Stabilization Fund is not conditioned upon the completion of the H and I Project, and (ii) interest due on the 2018 Bonds and the 2018 BANs has been capitalized with a portion of the proceeds thereof which, together with anticipated investment earnings thereon, is expected to be in an amount sufficient to pay 100% of the interest due on the 2018 Bonds and the 2018 BANs through June 1, 2022 and February 1, 2023, respectively.

No assurances can be provided that the entire H and I Project will be open to tolling on or before the May 22, 2022, assumed opening date that is utilized for purposes of the 2018 T&R Letter. In the event the DB Contractor fails to meet the required completion deadlines set forth in the Design Build Agreement, the DB Contractor will be obligated to pay liquidated damages to the Corporation in accordance with and subject to the terms of the Design Build Agreement. For a description of certain provisions of the Design Build Agreement, including the provisions relating to the ability to extend the completion deadlines and to increase the amount due to the DB Contractor, and the provisions relating to liquidated damages, see "CERTAIN PROJECT DOCUMENTS – Design Build Agreement for the H and I Project." See also, "RISK FACTORS – Forward-Looking Statements," "– Costs of Construction; Risk of Delay" and "– Liquidated Damages."

Construction Progress Reports

The Corporation covenants in the Master Trust Agreement to cause the General Engineering Consultant to prepare progress reports on a quarterly basis in connection with the construction of the H and I Project and to file copies of such progress reports with the MSRB through its EMMA system, within fifteen days of the Corporation's receipt of such reports. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Progress Reports; Audits During Construction."

SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS

General

THE PRINCIPAL OF, PREMIUM, IF ANY, AND INTEREST ON THE 2020 BONDS ARE PAYABLE ONLY FROM THE REVENUES OF THE SYSTEM HELD BY THE TRUSTEE, REVENUES OF THE SYSTEM HELD UNDER THE MASTER CUSTODIAL AGREEMENT, AND MONEY HELD BY THE TRUSTEE IN THE FUNDS AND ACCOUNTS CREATED UNDER THE TRUST AGREEMENT, ON THE BASIS AND IN THE PRIORITY DESCRIBED THEREIN AND HEREIN, AND WITH RESPECT TO THE TAXABLE SERIES 2020B BONDS AND ALL OTHER TELA

SUPPORTED BONDS, PAYMENTS OF ADVANCES MADE UNDER THE TELA. EXCEPT AS SPECIFIED IN THE PRECEDING SENTENCE, NONE OF THE STATE OF TEXAS, THE CORPORATION OR ANY OTHER AGENCY OR POLITICAL SUBDIVISION OF THE STATE OF TEXAS IS OBLIGATED TO PAY THE PRINCIPAL OF, PREMIUM, IF ANY, OR INTEREST ON THE 2020 BONDS. NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE STATE OF TEXAS, OR ANY AGENCY OR POLITICAL SUBDIVISION OF THE STATE OF TEXAS, IS PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF, PREMIUM, IF ANY, OR INTEREST ON THE 2020 BONDS. THE CORPORATION HAS NO TAXING POWER.

Under the Trust Agreement, the "*Trust Estate*" consists of (a) all Revenues of the System (as defined below) and all rights to receive the same, whether in the form of accounts receivable, contract rights and the proceeds of such rights whether now owned or held or hereafter coming into existence, including as assigned and transferred to the Corporation by the Commission in accordance with the Project Agreement, (b) all of the Commission's right, title and interest as a "Beneficiary" for the System under the Master Custodial Agreement pursuant to the related joinder agreement among the custodian under such Master Custodial Agreement, TxDOT and the Corporation, and the Toll Rate Agreement, but not as a "Beneficiary" for any other toll projects, (c) all of the Corporation's right, title and interest in and to any Toll Equity Loan Agreement (as defined in the Master Trust Agreement, which includes the TELA), (d) all money, including investment earnings, held by the Trustee in the various funds and accounts created under the Trust Agreement (but excluding moneys on deposit in a purchase fund or redemption account created for the benefit of only certain Obligations to be purchased or redeemed, the Rebate Fund and any amounts held in an account of the Construction Fund that are restricted to another use such as right-of-way contribution that may be used only for that purpose) and, to the extent set forth in a Supplemental Agreement, any Additional Obligation Security, (e) any insurance proceeds, (f) any condemnation proceeds, (g) any liquidated damages for delayed completion under a construction contract relating to the acquisition or construction of a System Segment, and (h) all payments received by the Corporation pursuant to a Credit Agreement, but only to the extent of the terms and provisions of such Credit Agreement.

As described in "PLAN OF FINANCE," a portion of the proceeds of the 2020 Bonds will be used to prepay the 2014 TIFIA Note in full and to refund a portion of the Outstanding Series 2013A Bonds and all of the Outstanding Series 2013B Bonds that constitute current interest obligations. Under the Trust Agreement, upon delivery of the 2020 Bonds and the application of the proceeds thereof on the anticipated Date of Delivery shown on the front cover page of this Official Statement, the "*Obligations*" (as such term is defined in the Master Trust Agreement) that will be Outstanding will consist of the 2020 Bonds, the 2019 TIFIA Note, the 2018 Bonds, the Series 2016 Bonds, the Series 2013A Bonds (such portion that is not refunded by the 2020 Bonds), the Series 2013B Bonds (such portion that is not refunded by the 2020 Bonds), the Taxable Series 2013E Bonds and the Toll Equity Loan Note, and any First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations issued after the issuance of the 2020 Bonds in accordance with the terms of the Trust Agreement. **The 2018 BANs are not Obligations and are not secured by or payable from the Trust Estate.** See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Description of Outstanding Obligations."

Under the Trust Agreement, "*Revenues of the System*" consists of (a) the aggregate revenues and all other receipts and income collected, received or derived by the Corporation from the operation of the System in any period, or estimated aggregate revenues and other receipts and income estimated to be collected, received or derived by the Corporation from the operation of the System in any period, including all such revenues, receipts and income assigned to the Corporation by the Commission and TxDOT pursuant to the Toll Rate Agreement and the Project Agreement, and all investment income from the Revenue Fund, the Senior Operation and Maintenance Fund, the Junior Operation and Maintenance Fund, the Operation and Maintenance Reserve Fund, the Construction Fund (excluding investment income from any Capitalized Interest Account within the Construction Fund and any other investment income from the Construction Fund that is deposited or estimated to be deposited to the credit of the Interest Accounts), the Rate Stabilization Fund, the Major Maintenance Fund and the Grand Parkway Enhancement Fund and (b) any other sources of revenues or funds of the Corporation that the Corporation chooses to designate as "Revenues of the System" pursuant to a Supplemental Agreement or as designated, from time to time, by the Corporation Representative in a written certificate provided to the Trustee. Revenues of the System do not include (i) payments or revenues received by the Corporation or the Trustee from TxDOT pursuant to a Toll Equity Loan Agreement for such Fiscal Year, (ii) the investment income from the Interest Accounts, including any Capitalized Interest Accounts within the Interest Accounts, the Redemption Accounts, the Reserve Accounts, the TELA/Other Tier Payment Fund and any Capitalized Interest Account within the Construction Fund, (iii) any investment income from the Construction Fund which is deposited or estimated to be deposited to the credit of the Interest Accounts and (iv) any of the amounts described above collected or received by the Corporation and required to be paid to TxDOT or other Persons as revenue sharing payments pursuant to the Project Agreement or other agreement.

The assets of the Grand Parkway System are owned by the Commission or TxDOT acting on the Commission's behalf and neither the Commission nor TxDOT has mortgaged, assigned, or pledged any interest in any real or personal property or improvements, including any interest in the Grand Parkway System, as security for payment of the 2020 Bonds or any other

Outstanding Obligations other than the pledge of the Trust Estate under the Trust Agreement. The Corporation does not own any assets of the Grand Parkway System, but the Commission has assigned all Revenues of the System to the Corporation; provided, that the revenues of Segment I-2A will not become part of the Revenues of the System until the H and I Project is open to tolled traffic. Additionally, the Commission has authorized the Corporation to develop, construct, finance, operate and maintain the System so long as Obligations are Outstanding under the Trust Agreement. Pursuant to the Project Agreement, TxDOT has granted a license to the Corporation to use the rights of way for the purposes of the Corporation. The Corporation may sell all or a portion of its accounts receivables provided the Corporation receives fair and reasonable value determined by a Corporation Representative. The Corporation may create a security interest or lien in or pledge of its accounts receivable component of the Revenues of the System and the proceeds thereof securing an obligation of the Corporation to repurchase or replace accounts receivables sold as long as the aggregate maximum amount secured by any such pledge or security interests does not exceed ten percent of the Revenues of the System of the Fiscal Year preceding the creation of such pledge or security interest. Notwithstanding the foregoing, the Corporation may sell or otherwise create a security interest lien or pledge in the accounts receivables related to video tolling transactions or other tolling transactions that have toll rates greater than the toll rates applicable to base electronic transponder transactions so long as the Corporation receives an amount not less than the revenue the Corporation would have received applying the electronic transponder toll rates to such transactions. All amounts received by the Corporation from accounts receivables sold shall be deposited into the Revenue Fund.

The Series 2013A Bonds, the Taxable Series 2020A Bonds and the Series 2020C Bonds are First Tier Obligations of the Corporation payable solely from and secured solely by the Trust Estate, on the basis and in the priority described herein and in the Trust Agreement. As described in "PLAN OF FINANCE – General," a portion of the Outstanding Series 2013A Bonds will be refunded with a portion of the proceeds of the 2020 First Tier Bonds. In the event the 2019 TIFIA Loan is drawn upon, the 2019 TIFIA Note will also constitute a First Tier Obligation. As additional security for the 2020 First Tier Bonds there has been established a subaccount within the First Tier Reserve Account for the sole benefit of the 2020 First Tier Bonds (the "*2020 First Tier Reserve Account*"), which shall be funded (but beginning only after Senior Net Revenues for any Fiscal Year are less than 1.75 times the Debt Service Requirements on any Outstanding First Tier Obligations for such Fiscal Year) in an amount at least equal to the 2020 First Tier Reserve Requirement. Due to the historical and projected future annual debt service coverage levels, at the time of delivery of the 2020 First Tier Bonds, it is not anticipated that the 2020 First Tier Reserve Account will be funded. **None of the Series 2013A Bonds, the 2019 TIFIA Note, the Taxable Series 2020A Bonds or the Series 2020C Bonds are entitled to the benefit of the TELA.**

The 2014 TIFIA Note is a Second Tier Obligation of the Corporation payable solely from and secured solely by the Trust Estate, on the basis and in the priority described herein and in the Trust Agreement; provided, however, upon the occurrence and during the continuance of any Bankruptcy Related Event (as defined in the Master Trust Agreement) of the Corporation and while USDOT, or another related Governmental Lender requiring the same treatment, owns the 2014 TIFIA Note, the 2014 TIFIA Note will automatically and without action on the part of such owner or any other Person immediately become and shall be of equal rank and on parity with the First Tier Obligations and shall be entitled to all rights of an Owner of First Tier Obligations, except that it will not benefit from the First Tier Reserve Account or any subaccount established therein (including the 2013A First Tier Reserve Account and the 2020 First Tier Reserve Account), as more specifically described herein. The 2014 TIFIA Note is not entitled to the benefit of the TELA. See "2014 TIFIA LOAN AGREEMENT." As described in "PLAN OF FINANCE – General," the 2014 TIFIA Note will be prepaid in full with a portion of the proceeds of the 2020 First Tier Bonds.

The Series 2013B Bonds, the Taxable Series 2013E Bonds, the Series 2016 Bonds, the 2018 Bonds and the Taxable Series 2020B Bonds are Subordinate Tier Obligations of the Corporation payable from and secured by the Trust Estate, on the basis and in the priority described herein and in the Trust Agreement. The Taxable Series 2020B Bonds constitute a senior Series of Subordinate Tier Obligations in terms of priority of payment among Subordinate Tier Obligations and are secured on a parity with all Outstanding Subordinate Tier Obligations and any additional Subordinate Tier Obligations issued in the future under the Trust Agreement, except to the extent any additional Subordinate Tier Obligations are designated junior within such Tier as permitted under the Master Trust Agreement. Subject to the restrictions in the Trust Agreement, the Corporation has also reserved the right to establish a priority of payment between the respective series of Subordinate Tier Obligations. The Series 2013B Bonds, the Taxable Series 2013E Bonds, the Series 2016 Bonds, the 2018 Bonds and the Taxable Series 2020B Bonds have been designated as senior Subordinate Tier Obligations in terms of priority of payment among Subordinate Tier Obligations. **The Series 2013B Bonds, the Taxable Series 2013E Bonds, the Series 2016 Bonds, the 2018 Bonds and the Taxable Series 2020B Bonds constitute TELA Supported Bonds and are entitled to the benefit of the TELA**. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Description of Outstanding Obligations – TELA Supported Bonds" and "TOLL EQUITY LOAN AGREEMENT." As described in "PLAN OF FINANCE – General," all of the Outstanding Series 2013B Bonds that constitute current interest obligations will be refunded with a portion of the proceeds of the Taxable Series 2020B Bonds.

The Trust Estate is pledged to the Trustee pursuant to the Trust Agreement for the benefit and security of all Owners of First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations, on the basis, and in the priority described herein and therein. Payment of principal of and interest on First Tier Obligations is subject to the payment of Senior Operating Expenses. The operation and maintenance expenses of the H and I Project and the System facilities that comprise Segment I-2A have been designated as Senior Operating Expenses; provided, however, the operation and maintenance expenses of Segment I-2A will not become the responsibility of the Corporation until the date of substantial completion of construction of the H and I Project (within the meaning of the Design Build Agreement). The operation and maintenance expenses of the System facilities that comprise the Initial Project have been designated as Junior Operating Expenses and constitute TELA Supported Junior Operating Expenses entitled to the benefit of the TELA. The operation and maintenance expenses of any future segments of the Grand Parkway Project that may be added to the System could be designated as Senior Operating Expenses, Junior Operating Expenses or a combination thereof. Payment of principal of and interest on Second Tier Obligations is subject to the payment of Senior Operating Expenses and payment of principal of and interest on First Tier Obligations. Payment of principal of and interest on Subordinate Tier Obligations is subject to the payment of Senior Operating Expenses and payment of principal of and interest on First Tier Obligations and Second Tier Obligations. See "– Funds and Accounts – Revenue Fund" for a description of the application and priority of payment for funds deposited therein. See also "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS."

In accordance with the provisions of the Eighth Supplemental Agreement, at such time as (i) the Series 2013A Bonds, the Series 2013B Bonds, the Taxable Series 2013E Bonds, the 2014 TIFIA Note, the 2014 TIFIA Loan Agreement, the Toll Equity Loan Note, the Series 2016 Bonds, the Series 2018A Bonds, the Series 2018B Bonds, the 2019 TIFIA Note and the 2019 TIFIA Loan Agreement (collectively, the "*Prior Obligations*") are paid or deemed paid and no longer Outstanding within the meaning of the Master Trust Agreement, (ii) the consent of the Owners of any Prior Obligations which remain Outstanding is received or (iii) any combination of (i) and (ii), the Corporation, in its discretion, may designate all or any portion of Junior Operating Expenses as Senior Operating Expenses for the then current Fiscal Year and subsequent Fiscal Years as evidenced by a Corporation Representative certificate. In such Corporation Representative certificate, the Corporation Representative must certify that, immediately after such designation, the Commission will be in compliance with its "Rate Covenant" in the Toll Rate Agreement, and with respect to all Obligations then Outstanding, the Corporation satisfies the debt service coverages set forth in the Master Trust Agreement. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF EIGHTH SUPPLEMENTAL AGREEMENT PROVISIONS – Springing Agreement."

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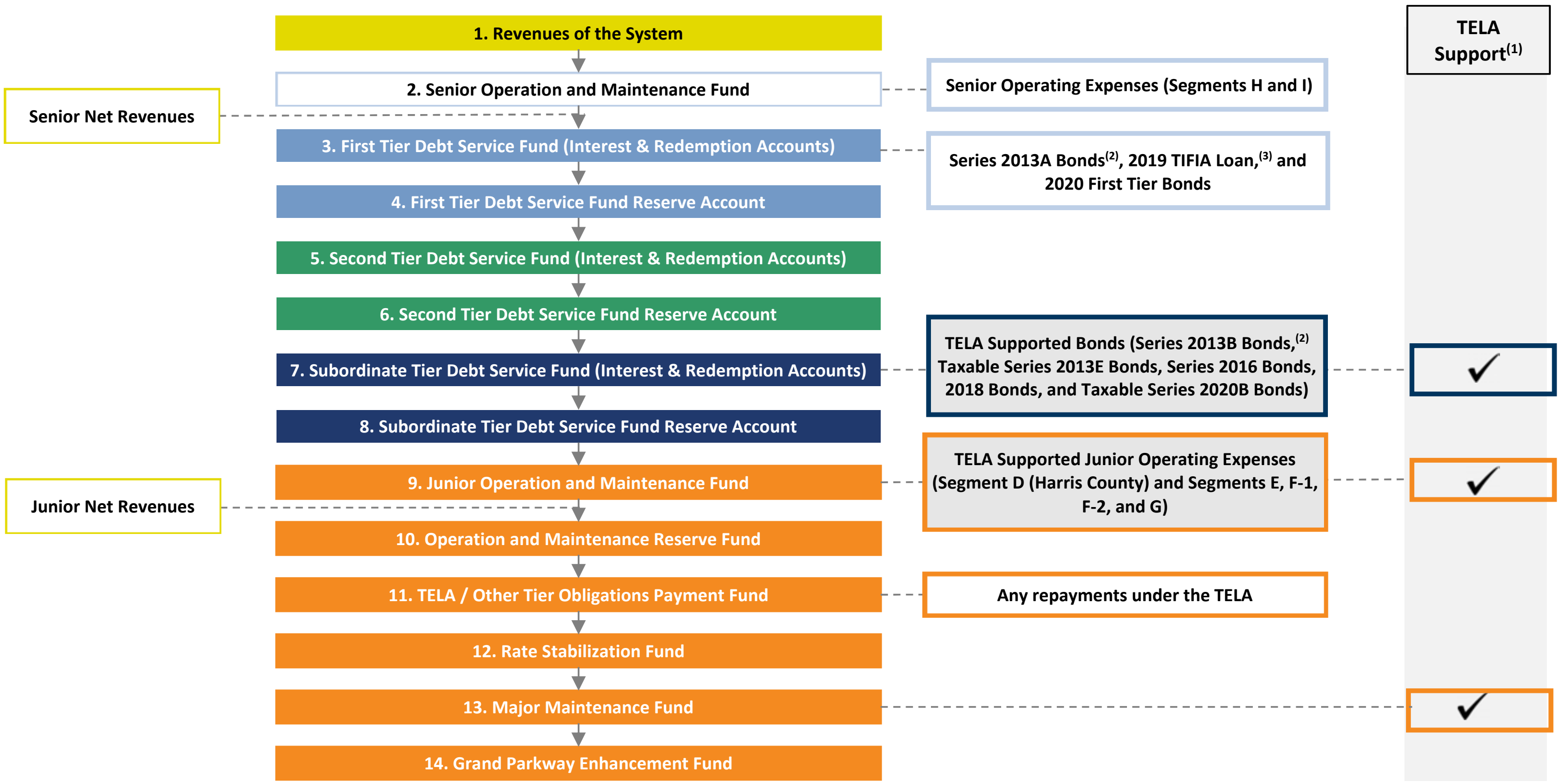
Flow of Funds for Grand Parkway System

The graph below depicts the flow of funds of Revenues of the System pursuant to the terms of the Master Trust Agreement, after giving effect to the issuance of the 2020 Bonds and the application of the proceeds thereof on the anticipated Date of Delivery of the 2020 Bonds:



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(1) The Trustee may request a draw under the TELA to pay debt service on outstanding TELA Supported Bonds, certain TELA Supported Junior Operating Expenses (which consist of all Junior Operating Expenses for the System facilities that comprise the Initial Project), and certain Major Maintenance Expenses (for the System facilities that comprise the Initial Project and Segments H and I), in the event the Revenues of the System and certain fund balances under the Trust Agreement are insufficient to pay such expenses, subject to the TELA Limitations and other provisions of the TELA, all as more specifically described herein. The Corporation has structured the debt service for the TELA Supported Bonds so that in each year through the final maturity thereof, total debt service for the TELA Supported Bonds plus currently estimated TELA Supported Junior Operating Expenses for each year do not exceed the Maximum Available Annual Amount (as defined in the TELA) for that year. Notwithstanding the foregoing, there are no assurances that the Maximum Available Annual Amount of the TELA will be sufficient to cover all TELA Supported Junior Operating Expenses actually incurred under certain circumstances, as more specifically described herein. While the TELA may be drawn upon to pay Major Maintenance Expenses, the Maximum Available Annual Amount under the TELA is not sufficient to cover the combination of total debt service for the TELA Supported Bonds plus currently estimated TELA Supported Junior Operating Expenses entitled to the benefit of the TELA plus Major Maintenance Expenses in any given year. See "TOLL EQUITY LOAN AGREEMENT" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT."

(2) As described in "PLAN OF FINANCE – General," a portion of the proceeds of the 2020 Bonds will be used to refund a portion of the Outstanding Series 2013A Bonds and all of the Outstanding Series 2013B Bonds that constitute current interest obligations.

(3) In the event the 2019 TIFIA Loan is drawn upon, the 2019 TIFIA Note will constitute a First Tier Obligation.

Funds and Accounts

Master Custodial Agreement; Agreements with Other Turnpikes. TxDOT has entered into a Master Lockbox and Custodial Account Agreement, dated as of November 9, 2007 (as amended, the "*Master Custodial Agreement*"), with The Bank of New York Mellon Trust Company, N.A., as custodian (the "*Custodian*"). The term of the Master Custodial Agreement is currently scheduled to expire on November 8, 2022. Under the Master Custodial Agreement, the following toll revenues are deposited into segregated custodial accounts with the Custodian: (i) all toll revenues received from TxDOT TxTag users, including toll revenues derived from TxTag transponder transactions occurring on the System, other toll roads operated by TxDOT and toll roads operated by other toll authorities; (ii) all toll revenues received from a third-party transponder issuer in consideration for the use of toll roads that are not operated by such third-party transponder issuer, including toll revenues received from HCTRA for toll transactions on the System by customers that have been issued an EZ Tag transponder by HCTRA; and (iii) all payments received from invoices mailed to users of toll roads operated by TxDOT, including the System. The funds received by the Custodian are generally disbursed on a daily basis to the appropriate beneficiary (including the Trustee with respect to toll transactions occurring on the System); however, TxTag toll revenues on non-TxDOT owned toll roads are generally distributed by the Custodian on a monthly basis under the terms of the Central Interoperability Agreement. The Corporation has entered into a joinder agreement with the Custodian to properly account for and disburse Revenues of the System, including toll revenues received from HCTRA. See "THE GRAND PARKWAY SYSTEM – Payment Methods for Tolls; Enforcement" and "– Interoperability." On each business day, the Custodian will transfer to the Trustee all toll revenues deposited into such custodial accounts that constitute available funds and that have been reconciled to transactions on the System. The disbursement of funds under the Master Custodial Agreement has operated as expected since the implementation of the agreement in 2007. Under the terms of the Trust Agreement, funds derived from the operation of the System are required to be transferred to the Revenue Fund (described below) on a daily basis, as far as practicable; however, interoperability toll revenues held by a third-party transponder issuer (such as HCTRA) are not transferred to the Custodian on a daily basis. See "THE GRAND PARKWAY SYSTEM – Interoperability – Central Interoperability Agreement" and "RISK FACTORS – No Security Interest in Toll Revenues from EZ Tag Transactions Until Received From HCTRA Under Central Interoperability Agreement."

To the extent now or hereafter authorized by law, the Corporation, the Commission or TxDOT, for the benefit of the Corporation, may enter into an agreement or consent to any agreements entered into by the Commission or TxDOT with any other authority or other similar legal body operating a toll road, whether or not connected to the System, for the collection and application of tolls charged for trips over all or a portion of one or more toll roads, which, on the basis of the revenues to be received under any such agreement, will result in the receipt by the Corporation (or the Trustee) of the allocable portion of such tolls (less fees and expenses associated with such arrangement). Amounts relating to the System which constitute Revenues of the System received by the Corporation from such other authority or other similar legal body or pursuant to the Toll Rate Agreement, the Project Agreement and the Master Custodial Agreement, in accordance with such agreements, are required to be deposited with the Trustee for credit to the Revenue Fund.

Revenue Fund. The Corporation has covenanted that all Revenues of the System (except investment income from such funds and accounts that constitute a portion of the Revenues of the System, other than the Revenue Fund, which shall be retained in such funds and accounts except as otherwise required to be transferred as described herein) will be collected by the Corporation and deposited daily, as far as practicable and within the control of the Corporation, with the Trustee for the credit of the Revenue Fund.

If, in any month, the Trustee submits a Draw Request under a Toll Equity Loan Agreement solely with respect to (i) any First Tier TELA Obligations and the related First Tier Debt Service Fund, (ii) any Second Tier TELA Obligations and the related Second Tier Debt Service Fund, (iii) the Subordinate Tier TELA Obligations and the related Subordinate Tier Debt Service Fund, (iv) the TELA Supported Junior Operating Expenses and the Junior Operation and Maintenance Fund, or (v) the Major Maintenance Fund, and the amount received by the Trustee pursuant to such Draw Request is insufficient to pay all amounts requested in such Draw Request, the Trustee is required to apply the amounts received under such Draw Request, first, to any amounts required to be deposited in the First Tier Debt Service Fund on such date with respect to any First Tier TELA Obligations, second, to any amounts required to be deposited in the Second Tier Debt Service Fund on such date with respect to any Second Tier TELA Obligations, third, to any amounts required to be deposited in the Subordinate Tier Debt Service Fund on such date with respect to any Subordinate Tier TELA Obligations, fourth, to any amounts required to be deposited in the Junior Operation and Maintenance Fund on such date, and fifth, to any amounts required to be deposited in the Major Maintenance Fund on such date.

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On the fifth Business Day preceding the first day of each month, unless a Corporation Representative certificate is delivered to the Trustee as set forth below (each such date, a "*Transfer Date*"), transfers from the Revenue Fund shall be made to the below-listed funds and accounts, in the order of priority in which the funds and accounts are listed below.

(1) Rebate Fund;

(2) Senior Operation and Maintenance Fund;

(3) First Tier Interest Account;

(4) First Tier Redemption Account;

(5) First Tier Reserve Account;

(6) Second Tier Interest Account;

(7) Second Tier Redemption Account;

(8) Second Tier Reserve Account;

(9) Subordinate Tier Interest Account;

(10) Subordinate Tier Redemption Account;

(11) Subordinate Tier Reserve Account;

(12) Junior Operation and Maintenance Fund;

(13) Operation and Maintenance Reserve Fund;

(14) TELA/Other Tier Payment Fund;

(15) Rate Stabilization Fund;

(16) Major Maintenance Fund; and

(17) Grand Parkway Enhancement Fund.

In recognition that (i) Obligations and the interest thereon, including Payment Obligations, may come due on various dates, (ii) First Tier Obligations have a security interest in the Senior Net Revenues senior to that securing the Second Tier Obligations and the Subordinate Tier Obligations and senior to the security interest in the Junior Net Revenues securing the TELA/Other Tier Obligations, (iii) Second Tier Obligations have a security interest in the Senior Net Revenues senior to that securing the Subordinate Tier Obligations and senior to the security interest in the Junior Net Revenues securing the TELA/Other Tier Obligations, (iv) Subordinate Tier Obligations have a security interest in the Senior Net Revenues senior to the security interest in the Junior Net Revenues securing the TELA/Other Tier Obligations, (v) Second Tier Obligations or interest thereon, may become due and payable on a date or dates in a Fiscal Year prior to the date a First Tier Obligation or the interest thereon is due, (vi) Subordinate Tier Obligations, or interest thereon, may become due and payable on a date or dates in a Fiscal Year prior to the date a First Tier Obligation or a Second Tier Obligation, or the interest thereon, is due, (vii) a series of Subordinate Tier Obligations may have a priority of payment different than another series of Subordinate Tier Obligations, as may be provided in the applicable Supplemental Agreements and (viii) TELA/Other Tier Obligations, or interest thereon, may become due and payable on a date or dates in a Fiscal Year prior to the date a First Tier Obligation, a Second Tier Obligation or a Subordinate Tier Obligation, or the interest thereon, is due, the Corporation covenants in the Trust Agreement that no transfer from the Revenue Fund to any fund or account, other than the Senior Operation and Maintenance Fund or the First Tier Debt Service Fund, will be made in any Fiscal Year unless, in the opinion of the Corporation Representative (based on the Annual Budget for such Fiscal Year) set forth in a certificate delivered to the Trustee on or before the first business day of such Fiscal Year and updated on the date of delivery of any Additional Obligations issued during such year, such transfers during such Fiscal Year are not anticipated to result in the inability of the Corporation to make a later transfer, as required by the Trust Agreement, to a fund or account securing Obligations that have a security interest in the Senior Net Revenues or the Junior Net Revenues, as the case may be, senior to that securing Obligations that are secured by the fund or account into which the transfer is scheduled to be made. If (A) a Corporation Representative fails to deliver the certificate described in the prior sentence for a Fiscal Year, or (B) at any time during a Fiscal Year the Corporation determines that transfers from the Revenue Fund to any fund or account may result in the inability of the Corporation to make a later transfer within the six (6) month period from the date of such determination, as required by the Trust Agreement, to a fund or account securing Obligations that have a security interest in the Senior Net Revenues or the Junior Net Revenues, as the case may be, senior to that securing Obligations that are secured by the fund or account into which the transfer is scheduled to be made, a Corporation Representative shall deliver to the Trustee a certificate to that effect, then, in either case, for such Fiscal Year (i) transfers from the Revenue Fund to any fund or account shall be made strictly in the priority set forth in the immediately preceding paragraph, (ii) such transfers from the Revenue Fund shall be made once each month, and (iii) after each monthly deposit to the Senior Operation and Maintenance Fund, no transfer to a fund or account shall be made until all funds and accounts with a higher priority have on deposit therein all amounts to be deposited in such fund or account for such Fiscal Year.

Fund and Account Balances. In accordance with the terms of the Master Trust Agreement and as directed by a Corporation Representative, on or before the last business day of Fiscal Years 2018 and 2019, the Trustee transferred all remaining Revenues of the System on deposit in the Revenue Fund at the end of each such Fiscal Year to the credit of the funds and accounts under the Trust Agreement in the amounts necessary to pay all scheduled debt service (net of capitalized interest) due on the Outstanding Obligations and all Junior Operating Expenses and Major Maintenance Expenses budgeted for the System for each such Fiscal Year. Set forth below are the balances of certain funds and accounts held by the Trustee under the Trust Agreement as of December 31, 2019.

Name of Fund or Account[1]	Approximate Balance in Millions
Revenue Fund	$ 71.8
First Tier Debt Service Fund	5.5
First Tier Reserve Account[2]	18.0
Subordinate Tier Debt Service Fund	39.8
Junior Operation and Maintenance Fund	42.0
Operation and Maintenance Reserve Fund	12.6
Rate Stabilization Fund	152.9
Major Maintenance Fund	18.8
Grand Parkway Enhancement Fund	137.4
Construction Fund[3]	887.6
Total	$1,386.4

(1) All Funds and Accounts are currently held by the Trustee under the terms of the Trust Agreement; does not include any funds or accounts established by the 2018 BANs Security Agreement. Amounts shown reflect actual balances as of December 31, 2019. Accordingly, revenue earned but not yet received, and expenses incurred but not yet paid, as of such date are not reflected in the above balances.

(2) Represents the amount on deposit in the subaccount established within the First Tier Reserve Account for the benefit of the Series 2013A Bonds (referred to and defined herein as the "2013A First Tier Reserve Account").

(3) Represents remaining proceeds of the Series 2013 Obligations and the 2018 Bonds, including capitalized interest on the 2018 Bonds. A portion of the proceeds of the 2018 Bonds and the Taxable Series 2013E Bonds are being used to pay Costs of the H and I Project. The Corporation will also use a portion of the proceeds of the Taxable Series 2013E Bonds to pay certain Costs relating to Segments F-1, F-2 and G. See "THE INITIAL PROJECT OF THE CORPORATION – Segments F-1, F-2 and G of the Initial Project." Any portion of the proceeds of the Series 2013 Obligations not used to pay these Costs is expected to be used for the System in accordance with the terms of the Trust Agreement.

2013A First Tier Reserve Account. Amounts on deposit in the subaccount established within the First Tier Reserve Account for the benefit of the Series 2013A Bonds (the "*2013A First Tier Reserve Account*") will be held and used for the purpose of finally retiring the last of the Series 2013A Bonds and/or for paying interest on, maturing Principal of, and mandatory sinking fund redemption price of the Series 2013A Bonds to the extent that the moneys held for the credit of the 2013A First Tier Reserve Account and the First Tier Redemption Account shall be insufficient for such purpose. The 2013A First Tier Reserve Account only secures the Series 2013A Bonds. When and for so long as the cash, investments and Reserve Surety Agreement in the 2013A First Tier Reserve Account equal the First Tier Reserve Requirement for the Series 2013A Bonds, no deposits need be made to the credit of the 2013A First Tier Reserve Account; but, if and when the 2013A First Tier Reserve Account at any time contains less than the First Tier Reserve Requirement for the Series 2013A Bonds, the Corporation covenants and agrees in the Trust Agreement that the Corporation shall cure the deficiency in the 2013A First Tier Reserve Account by resuming monthly deposits into the 2013A First Tier Reserve Account in amounts equal to not less than 1/36th of the deficiency remaining of the First Tier Reserve Requirement for the Series 2013A Bonds until such First Tier Reserve Requirement has been fully restored. Earnings and income derived from the investment of amounts held for the credit of the 2013A First Tier Reserve Account shall be retained in the 2013A First Tier Reserve Account until the 2013A First Tier Reserve

Account contains the First Tier Reserve Requirement for the Series 2013A Bonds; thereafter, such earnings and income shall, at the option of the Corporation, be deposited into the First Tier Interest Account or the First Tier Redemption Account relating to the Series 2013A Bonds. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS." **The 2020 First Tier Bonds are not secured by the 2013A First Tier Reserve Account and under no circumstances will amounts in the 2013A First Tier Reserve Account be used to pay the 2020 First Tier Bonds.** As described in "PLAN OF FINANCE – General," a portion of the proceeds of the 2020 First Tier Bonds will be used to refund a portion of the Outstanding Series 2013A Bonds. None of the amounts held in the 2013A First Tier Reserve Account will be contributed to the Series 2013 Redemption Account in connection with the refunding of a portion of the Outstanding Series 2013A Bonds.

2020 First Tier Reserve Account. Amounts on deposit in the 2020 First Tier Reserve Account will be held and used for the purpose of finally retiring the last of the 2020 First Tier Bonds and/or for paying interest on, maturing Principal of, and mandatory sinking fund redemption price of the 2020 First Tier Bonds to the extent that the moneys held for the credit of the 2020 First Tier Reserve Account and the First Tier Redemption Account shall be insufficient for such purpose. When and for so long as the cash, investments and Reserve Surety Agreement in the 2020 First Tier Reserve Account equal the 2020 First Tier Reserve Requirement, no deposits need be made to the credit of the 2020 First Tier Reserve Account; but, if and when the 2020 First Tier Reserve Account at any time contains less than the 2020 First Tier Reserve Requirement, the Corporation covenants and agrees in the Trust Agreement that the Corporation shall cure the deficiency in the 2020 First Tier Reserve Account by resuming monthly deposits into the 2020 First Tier Reserve Account in amounts equal to not less than 1/36th of the deficiency remaining of the 2020 First Tier Reserve Requirement until the 2020 First Tier Reserve Requirement has been fully restored. Earnings and income derived from the investment of amounts held for the credit of the 2020 First Tier Reserve Account shall be retained in the 2020 First Tier Reserve Account until the 2020 First Tier Reserve Account contains the 2020 First Tier Reserve Requirement; thereafter, such earnings and income shall, at the option of the Corporation, be deposited into the 2020 First Tier Interest Account or the 2020 First Tier Redemption Account. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS."

A Reserve Surety Agreement may be substituted for monies and investments in the 2020 First Tier Reserve Account if the substitution of the Reserve Surety Agreement will not, in and of itself, cause any ratings then assigned to the First Tier Obligations by Moody's, S&P and/or Fitch, respectively, to be lowered, the Reserve Surety Agreement is approved by the Texas Attorney General, if then required by State law, and the resolution authorizing the substitution of the Reserve Surety Agreement for all or part of the 2020 First Tier Reserve Requirement contains a finding that such substitution is cost effective. The 2020 First Tier Reserve Account only secures the 2020 First Tier Bonds. The 2014 TIFIA Note and the 2019 TIFIA Note are not secured by the First Tier Reserve Account or any subaccount established therein (including the 2013A First Tier Reserve Account and the 2020 First Tier Reserve Account) and under no circumstances will amounts in the First Tier Reserve Account (or any subaccount therein) be used to pay the 2014 TIFIA Note or the 2019 TIFIA Note; provided, that pursuant to the terms of the 2019 TIFIA Loan Agreement, the Corporation may become obligated to establish and fund a subaccount within the First Tier Reserve Account, for the sole benefit of the 2019 TIFIA Note, upon certain triggering events. See "2019 TIFIA LOAN AGREEMENT." **The Corporation has not created reserve accounts or subaccounts securing any of the Second Tier Obligations, Subordinate Tier Obligations (including the Taxable Series 2020B Bonds) or the TELA/Other Tier Obligations; however, the Corporation has reserved the right to create such accounts in the future.** See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS."

If (i) the long-term, unsecured credit rating of the issuer of a Reserve Surety Agreement falls below the third highest generic rating category (i.e., "A") by Moody's, S&P and/or Fitch, respectively, (ii) the issuer of the Reserve Surety Agreement defaults in its payment obligations thereunder, or (iii) the issuer of the Reserve Surety Agreement provider becomes insolvent, and if the requirement to maintain the 2020 First Tier Reserve Requirement in the 2020 First Tier Reserve Account is not suspended, the Corporation shall within 36 months of such occurrence either (A) only to the extent Revenues of the System are available, deposit into the 2020 First Tier Reserve Account an amount sufficient to cause the cash and investments on deposit therein to accumulate to the 2020 First Tier Reserve Requirement, or (B) replace such instrument with a Reserve Surety Agreement meeting the requirements of the Trust Agreement. Upon replacement, the Corporation may terminate the existing Reserve Surety Agreement. Any cash released from the 2020 First Tier Reserve Account as a result of deposit of a Reserve Surety Agreement may be used for any purpose authorized by the Trust Agreement, as instructed in writing to the Trustee by a Corporation Representative and subject to receipt by the Corporation and the Trustee of an opinion of Bond Counsel that such use will not adversely affect the tax-exempt status of such First Tier Obligations and is permitted by State law.

Notwithstanding anything in the Trust Agreement to the contrary, the requirement set forth above to maintain the 2020 First Tier Reserve Requirement in the 2020 First Tier Reserve Account shall be suspended for such time as the Senior Net Revenues for each Fiscal Year are equal to at least 1.75 times the Debt Service Requirements on any Outstanding First Tier Obligations for such Fiscal Years. The Corporation will be required to commence making 2020 First Tier Reserve Account deposits, as provided in the Eighth Supplemental Agreement and to continue such 2020 First Tier Reserve Account deposits until the earlier of (i) such time as the 2020 First Tier Reserve Account contains the 2020 First Tier Reserve Requirement or (ii) the Senior Net Revenues in each of two consecutive Fiscal Years have been equal to at least 1.75 times the Debt Service Requirements for any Outstanding First Tier Obligations for such Fiscal Years. If the Corporation commences deposits in the 2020 First Tier Reserve Account and the requirement to maintain the 2020 First Tier Reserve Requirement in the 2020 First Tier Reserve Account is later suspended, any funds so accumulated may, at the discretion of the Corporation: (i) remain in the 2020 First Tier Reserve Account or (ii) be used for any lawful purpose including Costs of the System or to pay debt service on the 2020 First Tier Bonds.

Use of Operation and Maintenance Reserve Fund. Moneys held by the Trustee in the Operation and Maintenance Reserve Fund shall be used (i) for the purpose of paying the cost of Operating Expenses by the Trustee transferring amounts on deposit therein to the credit of the Senior Operation and Maintenance Fund and the Junior Operation and Maintenance Fund, as the case may be and in such priority, to cure any deficiencies therein to the extent of any such deficiency and (ii) as provided in this heading and the provisions of the Trust Agreement described in "– Funds and Accounts – Revenue Fund."

The Trustee shall make payments directly from the Operation and Maintenance Reserve Fund to the Corporation or TxDOT, as directed in writing by a Corporation Representative, and such Fund shall be used only for the purposes and in the manner provided in the Trust Agreement and described in the paragraph below.

If at any time the amount in the Debt Service Funds to the credit of the Interest Accounts, the Redemption Accounts, and the Reserve Accounts relating to First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations shall be insufficient for the purpose of paying the interest on or Principal of the First Tier Obligations, the Second Tier Obligations and the Subordinate Tier Obligations, respectively, when due, then the Trustee shall transfer, in the priorities set forth in the Trust Agreement, from the Operation and Maintenance Reserve Fund to the applicable Debt Service Funds for credit to the Interest Accounts and Redemption Accounts an amount sufficient to make up any such deficiency, provided that no such transfer shall be made of moneys in the Operation and Maintenance Reserve Fund which are, determined by the Corporation which a Corporation Representative shall certify to the Trustee, to be needed then for operation and maintenance necessary to maintain safe operation of the System or to prevent loss of revenue of the System. Any moneys so required to be transferred from the Operation and Maintenance Reserve Fund to the Interest Accounts or the Redemption Accounts shall be restored by the Trustee from the first available moneys in the Revenue Fund, subject to the same conditions as are prescribed for deposits to the credit of the Operation and Maintenance Reserve Fund under the provisions of the Trust Agreement described in "– Funds and Accounts – Revenue Fund."

Rate Stabilization Fund. In the priorities established in the Trust Agreement, amounts on deposit in the Rate Stabilization Fund (a) shall be transferred by the Trustee to the Senior Operation and Maintenance Fund, the First Tier Debt Service Fund, the Second Tier Debt Service Fund, the Subordinate Tier Debt Service Fund or the Junior Operation and Maintenance Fund to cure a deficiency therein and (b) upon written direction by the Corporation Representative, may be transferred by the Trustee to any other fund under the Trust Agreement (including, but not limited to, the Major Maintenance Fund) to be used for any other purpose for which Revenues of the System are permitted to be used under applicable law and the Trust Agreement, including as a claims payment fund or any similar function for any self-insurance program of the Corporation. Use of amounts on deposit to the Rate Stabilization Fund for any of the foregoing purposes shall not constitute an Event of Default under the Trust Agreement. The moneys in the Rate Stabilization Fund, after their use as provided in this paragraph, need not be replenished; provided, however, the Corporation shall replenish the Rate Stabilization Fund to the Rate Stabilization Fund Requirement upon the issuance of any Additional Obligations for a purpose other than refunding any Outstanding Obligations or completing the Initial Project (and funding any related reserve or other funds). Pursuant to the terms of the Master Trust Agreement, the Rate Stabilization Fund Requirement is equal to $100,000,000, which was fully funded upon the issuance of the Series 2013 Obligations with a portion of the proceeds thereof. An additional deposit was made to the Rate Stabilization Fund upon the issuance of the 2018 Bonds in the amount of $50,000,000 from a portion of the proceeds of the Taxable Series 2013E Bonds; however, such additional deposit did not cause a corresponding increase to, and is not a part of, the Rate Stabilization Fund Requirement. Notwithstanding anything in this paragraph to the contrary, the Trustee shall replenish the Rate Stabilization Fund to the Rate Stabilization Fund Requirement or a lesser amount at such time and in such manner as directed in writing by a Corporation Representative from available Revenues of the System. Additionally, notwithstanding anything in the Trust Agreement to the contrary, at such time that there is no Toll Equity Loan Agreement outstanding, the Corporation may determine to (i) reduce the Rate Stabilization Fund Requirement to a lesser amount or (ii) eliminate the requirement for the Rate Stabilization Fund and the Rate Stabilization Fund Requirement, and, upon such determination and receipt by the Corporation and the Trustee of (y) written confirmation that such action will not, in and of itself, cause any ratings then assigned to any Outstanding First Tier Obligations or Second Tier Obligations to be adversely affected by Moody's, S&P and/or Fitch, respectively, and (z) an opinion of Bond Counsel that the use of any released amounts from the Rate Stabilization Fund complies with applicable law, the Corporation Representative shall give written notice to the Trustee of such Corporation determination and direct the Trustee to transfer any released amounts from the Rate Stabilization Fund into the Revenue Fund and, if appropriate, close the Rate Stabilization Fund.

Major Maintenance Fund. Pursuant to the terms of the Trust Agreement, moneys in the Major Maintenance Fund shall be disbursed to pay Major Maintenance Expenses shown in the Annual Budget for the System and shall be disbursed only for such purposes, except to the extent provided in the Trust Agreement and described in this caption. All Major Maintenance Expenses shall be paid directly by the Trustee, upon written direction of a Corporation Representative, by drawing checks or drafts or by other means on the Major Maintenance Fund as may be determined by the Trustee and the Corporation Representative.

In addition and in the priorities established in the Trust Agreement, amounts on deposit in the Major Maintenance Fund shall be transferred by the Trustee to the Senior Operation and Maintenance Fund, the First Tier Debt Service Fund, the Second Tier Debt Service Fund, the Subordinate Tier Debt Service Fund or the Junior Operation and Maintenance Fund to cure a deficiency therein.

Subject to the terms of the Trust Agreement and to the extent moneys in the Major Maintenance Fund are insufficient to pay the Major Maintenance Expenses then due, the Trustee shall transfer the amount of such deficiency from the money on deposit in the following funds or accounts and transfer the same to the credit of the Major Maintenance Fund in the following order of priority to the extent that funds are available therein: the Revenue Fund and the Grand Parkway Enhancement Fund. As described in "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Rate Stabilization Fund," upon direction by the Corporation Representative, amounts on deposit in the Rate Stabilization Fund may be transferred by the Trustee to the Major Maintenance Fund. If, after making such transfers, the moneys in the Major Maintenance Fund are insufficient to pay the Major Maintenance Expenses then due, upon written direction of the Corporation Representative, the Trustee shall make a draw under the applicable Toll Equity Loan Agreement by submitting a Draw Request in accordance with the terms of the Trust Agreement in an amount sufficient to satisfy any shortfall as determined by the Corporation Representative, to the extent that funds are available thereunder, and the Corporation Representative certifies in writing to the Trustee that, after such draw, there remains sufficient capacity in the unused portion of the Maximum Available Annual Amount for such Fiscal Year to pay any unpaid Debt Service Requirements of the Outstanding Toll Equity Loan Supported Obligations for which the applicable Toll Equity Loan Agreement is applicable due through the end of such Fiscal Year. See "TOLL EQUITY LOAN AGREEMENT."

Grand Parkway Enhancement Fund. Pursuant to the terms of the Trust Agreement, moneys held in the Grand Parkway Enhancement Fund shall be used for any lawful purpose with priority given to (a) in the priorities established in the Trust Agreement, curing a deficiency in the Senior Operation and Maintenance Fund, the First Tier Debt Service Fund, the Second Tier Debt Service Fund, the Subordinate Tier Debt Service Fund or the Junior Operation and Maintenance Fund, (b) paying for any of the purposes set forth in the Trust Agreement, including any amounts due to TxDOT under any Toll Equity Loan Agreement, the Project Agreement or any other agreement and any amounts transferred and deposited to any fund or account created under the Trust Agreement and (c) paying any costs of the System or paying any costs related to any section or segment of the Grand Parkway Project without regard to whether such section or segment can become part of the System. Pursuant to the terms of the Market Valuation Waiver Agreement, unless consented to by the parties to such agreement, the toll revenues of the Grand Parkway Project shall not be used for any purpose other than the Grand Parkway Project until the ultimate scope of the Grand Parkway Project is completed. Pursuant to the terms of the 2014 TIFIA Loan Agreement and the 2019 TIFIA Loan Agreement, the Corporation may become obligated to make prepayments of the 2014 TIFIA Note and the 2019 TIFIA Note from certain moneys deposited to the Grand Parkway Enhancement Fund if certain conditions are satisfied. In addition, the 2019 TIFIA Loan Agreement imposes certain conditions on the Corporation's ability to transfer funds from the Grand Parkway Enhancement Fund for the purposes specified in clause (c) of the first sentence of this paragraph, including mandatory prepayment of the 2014 TIFIA Note and the 2019 TIFIA Note on a pro-rata basis in an amount equal to the amount of the proposed transfer. See "2014 TIFIA LOAN AGREEMENT" and "2019 TIFIA LOAN AGREEMENT." As described in "PLAN OF FINANCE – General," a portion of the proceeds of the 2020 First Tier Bonds will be used to prepay the 2014 TIFIA Note in full.

For additional details regarding the purpose and function of the various funds and accounts established pursuant to the Trust Agreement and the flow of revenues through such funds and accounts, see "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT– SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS."

Toll Rates; Rate Covenant; Uniformity of Tolls

Market Valuation Waiver Agreement. Consistent with the requirements of State law in effect at such time, TxDOT and the Counties entered into a "Market Valuation Waiver Agreement for SH 99 (Grand Parkway)" effective as of March 25, 2009 (the "*Market Valuation Waiver Agreement*"). The Market Valuation Waiver Agreement defines the scope and phasing of the segments of the Grand Parkway Project and establishes the framework for a uniform toll policy for the Grand Parkway Project, including a toll rate calculation methodology for the establishment of the initial toll rates of any segment of the Grand Parkway Project and for an automatic annual adjustment of toll rates. The Commission has established initial toll rates and a toll escalation policy for the System consistent with the terms of the Market Valuation Waiver Agreement. See "– Commission Toll Rate Escalation Policy" below.

Toll Rate Agreement. The Corporation and the Commission have entered into the SH 99 (Grand Parkway) Toll Rate Agreement dated as of August 1, 2013 (the "*Original Toll Rate Agreement*"), and that certain First Amendment to Toll Rate Agreement, effective as of June 26, 2015 (the "*First Amendment to Toll Rate Agreement*"). The Original Toll Rate Agreement, as amended by the First Amendment to Toll Rate Agreement, is referred to in this Official Statement as the "*Toll Rate Agreement*." The Original Toll Rate Agreement and the First Amendment to Toll Rate Agreement have been filed with the MSRB through its EMMA system with respect to the Outstanding Series 2013 Obligations and may be accessed over the internet at https://www.emma.msrb.org. The Original Toll Rate Agreement and the First Amendment to Toll Rate Agreement are hereby incorporated by reference into and made a part of this Official Statement as if set forth herein. The First Amendment to Toll Rate Agreement was entered into in connection with the addition of Segments H and I to the System, and generally provides that the terms and provisions of the Original Toll Rate Agreement applicable to the Initial Project also apply to Segments H and I.

Commission Toll Rate Escalation Policy. The Commission adopted a toll rate escalation policy on December 13, 2012. Under the policy, and subject in all respects to the provisions, requirements and restrictions of the Toll Rate Agreement, beginning on October 1, 2013 and on each October 1 thereafter (the "*Toll Escalation Determination Date*"), a percentage increase in toll rates charged on all toll facilities as part of the System will be determined in an amount equal to the Toll Rate Escalation Percentage (as defined below). The Toll Rate Escalation Percentage, as calculated on each Toll Escalation Determination Date, shall be reported to the Corporation and the Commission each year at or before the Commission's October meeting, beginning in 2013. The percentage increase in the toll rates shall be effective automatically on January 1 of the next calendar year and effective for travel on toll segments then forming elements of the System, unless the Commission affirmatively elects prior to January 1 to modify the Toll Rate Escalation Percentage for purposes of satisfying the necessary covenants in the Toll Rate Agreement. See "– Toll Rates; Rate Covenant; Uniformity of Tolls – Rate Covenant." If the Commission elects to modify the Toll Rate Escalation Percentage, the toll rate increase to be effective on January 1 of the next calendar year shall be based on the modified Toll Rate Escalation Percentage. The most recent Toll Rate Escalation Percentage for the System was 2.00%, which was determined on October 1, 2019 pursuant to the terms of Commission's toll rate escalation policy and was applied to establish the toll rates for the System that became effective on January 1, 2020. See "THE GRAND PARKWAY SYSTEM – Table 4 – Auto ETC Toll Rates."

For purposes of determining the Toll Rate Escalation Percentage, the following capitalized terms have the meanings given below:

"*Toll Rate Escalation Percentage*" – a percentage amount equal to the greater of (1) $[(CPI^{t} - CPI^{t-12})/CPI^{t-12}]$ and (2) 2.0%, consistent with the 2009 tolling policy of the HCTRA and the Market Valuation Waiver Agreement, subject in all instances to the provisions, requirements and restrictions of the Toll Rate Agreement.

"*CPI^{t}*" – the most recently published non-revised index of Consumer Prices for Urban Wage Earners and Clerical Workers, also referred to as CPI-W, before seasonal adjustment ("*CPI*"), as published by the Bureau of Labor Statistics of the U.S. Department of Labor ("*BLS*") prior to the Toll Escalation Determination Date for which such calculation is being made. The CPI is published monthly and the CPI for a particular month is generally released and published during the following month. The CPI is based on the expenditures of households included in the more broadly defined "CPI-U," the measure of the average change in consumer prices over time for a fixed market basket of goods and services representing their importance in the spending of urban households in the United States. The CPI (CPI-W), however, also meets two additional requirements: more than one-half of the household's income must come from clerical or wage occupations, and at least one of the household's earners must have been employed for at least 37 weeks during the previous 12 months. The CPI population represents about 32 percent of the total U.S. population and is a subset, or part, of the CPI-U population. The CPI is expressed in relative terms in relation to a time base reference period for which the level is set at 100.0. The base reference period for the CPI is the 1982-1984 average.

"*CPI*$^{t-12}$" – the CPI (CPI-W) published by the BLS in the month that is 12 months prior to the month used to established CPI^{t}.

If the CPI (CPI-W) is discontinued or substantially altered, as determined in the sole discretion of TxDOT, TxDOT will determine an appropriate substitute index or, if no such substitute index is able to be determined, the Commission reserves the right to modify its toll rate escalation policy.

Rate Covenant. Pursuant to the terms of the Toll Rate Agreement, the Commission has agreed to (1) adopt and maintain in effect a Toll Rate Schedule for the System, in substantial conformity with the recommendation of the Traffic Consultant and in conformity with the toll rate escalation policy of the Commission and (2) establish charges for other uses of the property constituting a part of the System such as property leases designed, collectively, to produce Revenues of the System in each Fiscal Year in an amount sufficient to satisfy the greatest of clause (1), (2), (3) or (4) below (the "*Rate Covenant*"):

(1) Senior Net Revenues of 1.50 times the scheduled Debt Service Requirements on all Outstanding First Tier Obligations for the Fiscal Year; or

(2) Senior Net Revenues of 1.30 times the scheduled Debt Service Requirements on all Outstanding First Tier Obligations and all Outstanding Second Tier Obligations for the Fiscal Year; or

(3) Senior Net Revenues of 1.10 times the scheduled Debt Service Requirements on all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations of the Corporation for the Fiscal Year; or

(4) Senior Net Revenues, less Junior Operating Expenses and less any monthly deposits necessary to maintain the Operation and Maintenance Reserve Requirement, of 1.00 times the scheduled Debt Service Requirements on all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations of the Corporation for the Fiscal Year.

In the process of developing and adopting the Toll Rate Schedule for a period or portion of a period that constitutes a Construction and Ramp-Up Period for the System and any Construction and Ramp-Up Period for additional System Segments, the Traffic Consultant, the Commission and the Corporation may assume that, for making the calculations required by clauses (3) and (4) above, Revenues of the System for such period include the amounts forecasted to be on deposit in the Rate Stabilization Fund as reflected in the Annual Budget for each Fiscal Year in such period. In making the Rate Covenant calculations described in clauses (1), (2), (3) and (4) above, the Traffic Consultant, the Commission and the Corporation may take into account any amounts reasonably expected to be received by the Trustee in the Fiscal Year from or as a result of any Additional Obligation Security the Corporation has pledged for the benefit of all Obligations or the Obligations of any Tier or Series, but, if the pledge is not for the benefit of all Obligations, the amounts reasonably expected to be received may only be taken into account when making the Rate Covenant calculation for the affected Obligations.

In the event that for any Fiscal Year Revenues of the System are less than the amounts necessary to meet the Rate Covenant during such Fiscal Year, the Corporation will, before the 15th day of March of the following Fiscal Year, request the Traffic Consultant to make and file its recommendations with the Corporation, the Commission and the Trustee as to a revision in the Toll Rate Schedule then in effect, in order to cause the raising and production of such Revenues of the System in a manner which will enable the Corporation to produce at the earliest feasible time such Revenues of the System in at least the amounts necessary to meet the Rate Covenant during each such Fiscal Year. The Commission covenants that it will promptly and carefully consider such recommendations, and that it will, within sixty days after receipt of such recommendations, either (i) place into effect any Toll Rate Schedule recommended by the Traffic Consultant, or (ii) place into effect any alternative Toll Rate Schedule which, in the opinion of the Commission, will enable it to comply with the Rate Covenant.

The Toll Rate Agreement provides that if the Commission complies with all recommendations of the Traffic Consultant (or such independent engineer or engineering firm or corporation as provided in the Toll Rate Agreement) with respect to the Toll Rate Schedule, it will not constitute an Event of Default under the provisions of the Toll Rate Agreement or the Trust Agreement, if there is a deficiency in any Fiscal Year or Years between the Revenues of the System for such Fiscal Year or Years and the amount required to be produced for such Fiscal Year or Years. However, in the event of any such deficiency, and regardless of any recommendations of the Traffic Consultant or others, or compliance therewith by the Commission, the Trustee may, and the Trustee shall, upon the written request of the Owners of not less than twenty percent (20%) in aggregate principal amount of the Obligations then Outstanding and upon being indemnified to its satisfaction, institute and prosecute in a court of competent jurisdiction an appropriate action to compel the Commission to comply with its covenant in the Toll Rate Agreement to adopt and keep in effect a Toll Rate Schedule which will raise and produce during each Fiscal Year an amount of Revenues of the System necessary to meet the Rate Covenant during such Fiscal Year, or to comply with any other covenant in the Toll Rate Agreement. The Commission has covenanted that it will comply with any final order, decree, or judgment entered in any such proceeding, or any modification thereof.

Uniformity of Tolls; Reduced Tolls and Free Passage. Pursuant to the terms of the Toll Rate Agreement, the Commission has agreed that tolls will be classified in a reasonable way to cover all traffic, so that the tolls will be uniform in application to all traffic falling within any reasonable class as determined by the Commission; provided that this agreement of uniformity shall not be interpreted to restrict the Commission's right, in its discretion in connection with its management of the System, to establish and maintain flexible toll schedules including, but not limited to, provisions for utilizing or otherwise taking into account, peak and nonpeak pricing, introductory pricing, vehicle weight, number of axles, method of payment, frequency, carpooling, electronic and other toll collection technologies, traffic management systems and similar classifications. Any change in classification that results in a reduced toll or any new classification shall be subject to the Traffic Consultant approving the same before it is implemented unless the same is temporary (i.e., having a duration of less than one year from the effective date). In all events, the Commission shall not make a change in classification or any new classification unless the Commission determines that such change is not expected to result in the receipt of Revenues of the System less than the amounts required to meet the Rate Covenant.

The provisions of the paragraph above shall not permit the Commission to allow free vehicular passage or reduced tolls over the System within a class, other than its approaches and service roads, or to allow any portion of the System to be designated toll-free, except that, in its discretion, the Commission may: (1) reduce tolls through the use of commutation or other tickets or privileges based upon frequency or volume if the reduction is expected to result in an increase in the Revenues of the System; and (2) grant free passage to (a) those persons or vehicles as required by the laws of the State of Texas, (b) authorized emergency vehicles, (c) military vehicles, (d) vehicles registered to disabled veterans, Purple Heart recipients, and recipients of the Medal of Honor or such other military honor authorized by law and approved by the Commission, (e) TxDOT or Corporation contractors working on the construction, improvement, maintenance, or operation of the System, (f) any vehicle (i) designated by the Department of Public Safety as an emergency vehicle during disasters declared by the Governor of Texas and (ii) in the time of a declared emergency or natural disaster, as determined by the Executive Director of TxDOT, (g) vehicles that are part of certain funeral processions and (h) processions and motorcades for heads-of-state and dignitaries.

Pursuant to the terms of the Toll Rate Agreement, the Commission shall review each of the discretionary reduced toll allowances with the Traffic Consultant before implementing any of them unless such toll reduction is temporary (i.e., having a duration of less than one year). In addition, in the event the Commission did not meet the Rate Covenant for the preceding Fiscal Year, any such reduced toll shall be subject to approval by the Traffic Consultant before it is implemented by the Commission, unless the Commission reasonably determines that the circumstances require immediate implementation, in which event the Commission shall obtain such approval promptly following implementation. In all events, the Commission shall not reduce tolls unless the Commission determines, based upon an analysis of the Traffic Consultant, that such reduction is not expected to result in the receipt of Revenues of the System in amounts less than those required to meet the Rate Covenant.

Notwithstanding anything in the Toll Rate Agreement to the contrary, introductory, free or reduced tolls may be utilized in connection with the opening to the public of any component or segment of the System.

Additional Obligations under the Trust Agreement

Under the terms of the TELA, as long as the Toll Equity Loan Commitment (as defined herein) will not be terminated in conjunction with, or any amount due and payable under the Toll Equity Loan Note would be outstanding after, the issuance of Additional Obligations secured by the Trust Agreement or by Revenues of the System, the Corporation may not issue Additional Obligations without prior written approval from TxDOT. Subject to the foregoing, the Corporation reserves the right to issue additional First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations, which obligations may or may not be supported by the TELA.

Additional First Tier Obligations. The Corporation may issue additional First Tier Obligations in accordance with the requirements of the Master Trust Agreement, including delivery of a certificate by a Corporation Representative (except in the case of the issuance of refunding First Tier Obligations to refund Outstanding First Tier Obligations which do not cause an increase in then existing annual Debt Service Requirements of First Tier Obligations in any Fiscal Year) certifying that:

(i) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.50 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations and any then Outstanding Second Tier Obligations and Subordinate Tier Obligations that are deemed to be First Tier Obligations upon the occurrence and during the continuance of any Bankruptcy Related Event of the Corporation (excluding any such First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded) and the First Tier Obligations then proposed to be delivered;

(ii) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.30 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations and Second Tier Obligations (excluding any First Tier Obligations or Second Tier Obligations being refunded) and the First Tier Obligations then proposed to be delivered; and

(iii) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.10 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations (excluding any First Tier Obligations, Second Tier Obligations or Subordinate Tier Obligations being refunded) and the First Tier Obligations then proposed to be delivered; provided that for this clause (iii), the Corporation Representative may assume that Senior Net Revenues include the amounts forecasted to be on deposit in the Rate Stabilization Fund during any Construction and Ramp-up Period.

The Corporation is not required to certify as to the revenue coverage described above in connection with the issuance of any First Tier Obligations (i) issued to refund any Series 2016 Bonds, or (ii) issued to refund any obligations that refunded any of the Series 2016 Bonds.

Additionally, in connection with Additional First Tier TELA Obligations the certifications shall include estimated TELA Supported Junior Operating Expenses for each Fiscal Year for which any Covered Operating Expense Toll Equity Loan Supported Obligations and any proposed Additional Obligations are to be Outstanding but shall exclude estimated TELA Supported Junior Operating Expenses for any Fiscal Year that only proposed Non-Covered Operating Expense Additional Obligations are to be Outstanding. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations."

Additional Second Tier Obligations. The Corporation may issue Second Tier Obligations in accordance with the requirements of the Master Trust Agreement, including delivery of a certificate by a Corporation Representative (except in the case of the issuance of refunding Second Tier Obligations to refund Outstanding First Tier Obligations and/or Second Tier Obligations where the annual Debt Service Requirements of such refunding Second Tier Obligations in any Fiscal Year is less than the aggregated Debt Service Requirements in each such Fiscal Year of the First Tier Obligations and Second Tier Obligations being refunded) certifying that:

(i) for the issuance of Second Tier Obligations which are to be TIFIA Obligations that could be deemed to be First Tier Obligations upon the occurrence and during the continuance of any Bankruptcy Related Event of the Corporation, the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.50 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations and any then Outstanding Second Tier Obligations and Subordinate Tier Obligations that are deemed to be First Tier Obligations upon the occurrence and during the continuance of any Bankruptcy Related Event of the Corporation (excluding any such First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded) and the Second Tier Obligations which are to be TIFIA Obligations then proposed to be delivered; and

(ii) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.30 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations and Second Tier Obligations (excluding any First Tier Obligations or Second Tier Obligations being refunded) and the Second Tier Obligations then proposed to be delivered; and

(iii) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.10 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations (excluding any First Tier Obligations, Second Tier Obligations or Subordinate Tier Obligations being refunded) and the Second Tier Obligations then proposed to be delivered; provided that for this clause (iii), the Corporation Representative may assume that Senior Net Revenues include the amounts forecasted to be on deposit in the Rate Stabilization Fund during any Construction and Ramp-up Period.

The Corporation is not required to certify as to the revenue coverage described above in connection with the issuance of any Second Tier Obligations (i) issued to refund any Series 2016 Bonds, or (ii) issued to refund any obligations that refunded any of the Series 2016 Bonds.

Additionally, in connection with Additional Second Tier TELA Obligations the certifications shall include estimated TELA Supported Junior Operating Expenses for each Fiscal Year for which any Covered Operating Expense Toll Equity Loan Supported Obligations and any proposed Additional Obligations are to be outstanding but shall exclude estimated TELA Supported Junior Operating Expenses for any Fiscal year that only proposed Non-Covered Operating Expense Additional Obligations are to be Outstanding. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Second Tier Obligations."

Additional Subordinate Tier Obligations. The Corporation may issue additional Subordinate Tier Obligations in accordance with the requirements of the Master Trust Agreement, including delivery of a certificate by a Corporation Representative (except in the case of the issuance of refunding Subordinate Tier Obligations to refund Outstanding First Tier Obligations, Second Tier Obligations and/or Subordinate Tier Obligations which the annual Debt Service Requirements of such refunding Subordinate Tier Obligations in any Fiscal Year is less than the aggregated Debt Service Requirements of the First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded) certifying that:

(i) for the issuance of Subordinate Tier Obligations which are to be TIFIA Obligations that could be deemed to be First Tier Obligations upon the occurrence and during the continuance of any Bankruptcy Related Event of the Corporation, the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.50 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations and any then Outstanding Second Tier Obligations and Subordinate Tier Obligations that are deemed to be First Tier Obligations upon the occurrence and during the continuance of any Bankruptcy Related Event of the Corporation (excluding any such First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded) and the Subordinate Tier Obligations which are to be TIFIA Obligations then proposed to be delivered; and

(ii) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.10 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations (excluding any First Tier Obligations, Second Tier Obligations or Subordinate Tier Obligations being refunded) and the Subordinate Tier Obligations then proposed to be delivered; provided that for this clause (ii), the Corporation Representative may assume that Senior Net Revenues include the amounts forecasted to be on deposit in the Rate Stabilization Fund during any Construction and Ramp-up Period.

The Corporation is not required to certify as to the revenue coverage described above in connection with the issuance of any Subordinate Tier Obligations (i) issued to refund any Series 2016 Bonds, or (ii) issued to refund any obligations that refunded any of the Series 2016 Bonds.

Additionally, in connection with Additional Subordinate Tier Obligations the certifications shall include estimated TELA Supported Junior Operating Expenses for each Fiscal year for which any Covered Operating Expense Toll Equity Loan Supported Obligations and any proposed Additional Obligations are to be Outstanding but shall exclude estimated TELA Supported Junior Operating Expenses for any Fiscal Year that only proposed Non-Covered Operating Expense Additional Obligations are to be Outstanding. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Subordinate Tier Obligations."

TELA/Other Tier Debt Obligations. The Corporation, without the consent of any Owner, reserves the right to amend or supplement any Toll Equity Loan Agreement (including the TELA) and execute and deliver additional Toll Equity Notes and the related Toll Equity Loan Agreements and incur the related additional TELA/Other Tier Debt Obligations to evidence any Toll Equity Loan in connection with any Toll Equity Loan Agreement. See "TOLL EQUITY LOAN AGREEMENT – Amendments."

Covenant Regarding Additional Obligations in Resolution Authorizing 2018 BANs. The Corporation covenants in the resolution of the Corporation authorizing the issuance of the 2018 BANs not to issue any bonds, notes or other obligations for borrowed money, direct or contingent, secured by a pledge of the Revenues of the System pursuant to the Trust Agreement, other than (i) bonds, notes or other obligations issued by the Corporation for the purpose of refunding or retiring the 2018 BANs, (ii) bonds or other obligations issued to refund existing obligations of the Corporation, (iii) bonds or other obligations for the H and I Project, and (iv) bonds or other obligations to complete the Initial Project and the H and I Project. However, the Corporation may also issue bonds or other obligations for any lawful purpose provided the trustee for the 2018 BANs receives written confirmation from each rating agency then maintaining a rating on the 2018 BANs to the effect that such issuance of bonds or obligations for any lawful purpose will not in and of itself cause the rating agency to reduce or withdraw the then current rating on the 2018 BANs. The foregoing covenants will be in effect only for so long as the 2018 BANs are outstanding, are for the sole benefit of the owners of the 2018 BANs, and may be modified or amended at any time with the consent of, or may be waived in whole or in part by, the owners of the 2018 BANs, and may not be relied upon or enforced in any way by the Owners of any Obligations.

See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS" for additional information regarding the issuance of additional First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations and the ability to amend or supplement the TELA or deliver additional Toll Equity Notes and related Toll Equity Loan Agreements.

TOLL EQUITY LOAN AGREEMENT

General

To assist the Corporation in financing the Grand Parkway System, TxDOT and the Corporation have entered into that certain Amended and Restated Toll Equity Loan Agreement dated as of May 16, 2018 (the "*TELA*"), which constitutes a Toll Equity Loan Agreement (as defined in the Master Trust Agreement). After issuance of the 2020 Bonds, the "*TELA Supported Bonds*" (as such term is used in this Official Statement) will consist of (i) the Taxable Series 2020B Bonds, and (ii) the Outstanding Series 2013B Bonds, Taxable Series 2013E Bonds, Series 2016 Bonds and 2018 Bonds. The TELA Supported Bonds are entitled to the benefit of the TELA and constitute Toll Equity Loan Supported Obligations (as defined in the Master Trust Agreement) and TELA Project Debt (as defined in the TELA). The Series 2013A Bonds, the 2014 TIFIA Note, the 2018 BANs, the 2019 TIFIA Note, the Taxable Series 2020A Bonds and the Series 2020C Bonds are <u>not</u> TELA Supported Bonds and are <u>not</u> entitled to the benefit of the TELA. *Capitalized terms used in this "TOLL EQUITY LOAN AGREEMENT" caption and not otherwise defined have the meaning set forth in "APPENDIX E – TOLL EQUITY LOAN AGREEMENT."*

The Corporation and TxDOT originally entered into a Toll Equity Loan Agreement in July 2013 in connection with the issuance of the Series 2013 Obligations and the financing of the Initial Project. In February 2014, the Corporation and TxDOT entered into a first amendment to such original Toll Equity Loan Agreement in connection with the issuance of the Series 2014B Bonds and the Series 2014C Bonds (as Toll Equity Loan Supported Obligations), the proceeds of which were used to refund certain of the Series 2013 Obligations. In December 2016, the Corporation and TxDOT entered into a second amendment to the original Toll Equity Loan Agreement in connection with the issuance of the Series 2016 Bonds (as Toll Equity Loan Supported Obligations), the proceeds of which were used to refund the Series 2014B Bonds in whole. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Description of Outstanding Obligations." In connection with the issuance of the 2018 Bonds and the addition of Segments H and I to the System, the Corporation and TxDOT entered into a third amendment to the original Toll Equity Loan Agreement in order to (i) provide financial assistance for Costs and Major Maintenance Expenses of Segments H and I incurred or reasonably expected to be incurred in addition to the financial assistance already approved for the Initial Project under the original Toll Equity Loan Agreement, (ii) modify the schedule of Maximum Available Annual Amounts to reflect the new principal and interest payment requirements of the 2018 Bonds, (iii) revise the Project Budget, and (iv) provide other amendments necessary in respect of the addition of Segments H and I to the System. Concurrently with the execution and delivery of the third amendment to the original Toll Equity Loan Agreement and as permitted thereby to provide for a consolidated set of amendments authorized by such third amendment, the Corporation and TxDOT entered into the Amended and Restated Toll Equity Loan Agreement (referred to herein as the "*TELA*"), which amended and restated (and superseded) the original Toll Equity Loan Agreement and the first, second and third amendments thereto described above.

Pursuant to the TELA, TxDOT has agreed to make a toll equity loan (the "*Toll Equity Loan*") available to the Corporation in the original maximum aggregate principal amount of $9.6 billion, limited as described herein (the "*Maximum Available Aggregate Amount*"). Pursuant to the TELA, if the principal amount of advances under the Toll Equity Loan Commitment (as defined below) made in a given Draw Period is less than the Maximum Available Annual Amount for such Draw Period (or if no Toll Equity Loans have been made in such Draw Period), the difference will not be carried forward and may not be applied to increase the amount available to be advanced in any future Draw Period. The maximum aggregate amount available under the Toll Equity Loan Commitment on the Date of Delivery of the 2020 Bonds will be $9,242,516,151.

The TELA contains the representations, commitments and obligations of the Corporation and TxDOT related to TxDOT's agreement to make advances of funds in respect of Eligible Costs (as defined below) relating to the development, construction, operation, maintenance and financing of the System and possible extensions and expansions of the Grand Parkway Project paid by the Corporation, up to the Maximum Available Aggregate Amount (the "*Toll Equity Loan Commitment*"), subject to certain other limitations in the TELA, when Revenues of the System and certain fund balances under the Trust Agreement are insufficient for such purposes. The Toll Equity Loan Commitment will not exceed the Maximum Available

Aggregate Amount and advances thereunder may not cause the aggregate principal amount of all advances (i) in any of the Draw Periods to exceed the Maximum Available Annual Amount applicable to any such Draw Periods as set forth below (see "– Table 5 – Maximum Available Annual Amount and Annual TELA Supported Debt Service and TELA Supported Junior Operating Expenses" below), and (ii) taking into account such advance and all prior advances, to exceed the aggregate amount of Eligible Costs. The estimated total aggregate amount of Eligible Costs is set forth in the Project Budget, which may be amended in accordance with the terms of the TELA and the Trust Agreement. The Project Budget is set out in Appendix D to the TELA. See "APPENDIX E – TOLL EQUITY LOAN AGREEMENT."

Under the terms of the TELA, "*Eligible Costs*" are amounts expended or incurred, or reasonably anticipated to be expended or incurred, by the Corporation for (i) "*Project Costs*" (as defined in the TELA, which includes Costs for Segment D (Harris County) from 0.72 miles north of Kingsland Boulevard to 0.30 miles north of Colonial Parkway, Segments E, F-1, F-2, G, H, I-1 and I-2B, and for Costs of the Segment I-2A facilities contemplated in the Project Budget), (ii) "*Major Maintenance Expenses*" (as defined in the TELA, which include Major Maintenance Expenses under the Trust Agreement for Segments D (Harris County), E, F-1, F-2, G, H, I-1 and I-2B and for Segment I-2A incurred after substantial completion of construction of the H and I Project), and (iii) "*Operating Expenses*" (as defined in the TELA, which include all Junior Operating Expenses under the Trust Agreement for the System facilities that comprise the Initial Project).

Pursuant to the terms of the TELA, the Project Costs, Major Maintenance Expenses and Operating Expenses (as each such term is defined in the TELA) will include such costs or expenses, as applicable, relating to the SH 249 Connectors as of the date on which (i) appropriate action has been taken by the Corporation and the Commission to add the SH 249 Connectors to the System, (ii) the Commission has authorized financial assistance under the Toll Equity Loan Commitment for such costs and expenses, and (iii) the Corporation has entered into an agreement with Harris County (or HCTRA or an entity related thereto) relating to the design, development, construction, operation and/or maintenance of the SH 249 Connectors. The requirements specified in clauses (i) and (ii) of the immediately preceding sentence have been satisfied, and TxDOT, Harris County and the Corporation are in the process of negotiating the terms of an agreement relating to the design, construction, maintenance and funding of the SH 249 Connectors. No assurances can be provided that the SH 249 Connectors will eventually be constructed. See "THE INITIAL PROJECT OF THE CORPORATION – SH 249 Direct Connectors." As described in "– Toll Equity Loan" below, the Maximum Available Annual Amounts under the TELA for each year equal or exceed the total debt service for the TELA Supported Bonds plus currently estimated Operating Expenses (as defined in the TELA) for each such year (as set forth in the 2018 Engineer's Report, which is incorporated herein by reference as described in "INTRODUCTION – Incorporation by Reference"). The estimated Operating Expenses for the System set forth in the 2018 Engineer's Report include the estimated amounts of such expenses for the SH 249 Connectors, and, accordingly, the Maximum Available Annual Amounts under the TELA have been established to cover the Operating Expenses for the SH 249 Connectors should such project eventually be constructed.

The Operating Expenses (as defined in the Master Trust Agreement) for the System facilities that comprise the Initial Project have been designated as Junior Operating Expenses pursuant to the Trust Agreement and constitute "Operating Expenses" and "Eligible Costs" under the TELA and constitute TELA Supported Junior Operating Expenses under the Trust Agreement. The Operating Expenses (as defined in the Master Trust Agreement) for the H and I Project and the System facilities that comprise Segment I-2A have been designated as Senior Operating Expenses pursuant to the Trust Agreement and do not constitute "Operating Expenses" or "Eligible Costs" under the TELA; however, the Project Costs include the Costs for design, development and construction of the H and I Project as described above. The obligation of TxDOT to make advances under the TELA is also subject to legislative appropriation as described under "– Appropriation and Other Matters Affecting TxDOT TELA Advances" below. See "APPENDIX E – TOLL EQUITY LOAN AGREEMENT" for a copy of the TELA. For a description of provisions of the Eighth Supplemental Agreement that permit the Corporation to designate all or any portion of Junior Operating Expenses as Senior Operating Expenses in the future, including the conditions relating thereto, see "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – General."

Toll Equity Loan

At any time that Revenues of the System and certain fund balances under the Trust Agreement (as further described below) are insufficient to pay debt service on the TELA Supported Bonds or certain operations and maintenance costs, advances under the TELA may be used to pay debt service on the TELA Supported Bonds as well as Operating Expenses and Major Maintenance Expenses (as each such term is defined in the TELA) during the term of the Toll Equity Loan and, in all cases, up to the Maximum Available Aggregate Amount, to the extent amounts to be drawn or advanced are within the amount of Eligible Costs calculated from time to time in accordance with the TELA and subject to the Maximum Available Annual Amounts for each year and the Maximum Permitted Amount, each as set forth in the TELA. Disbursements of the Toll Equity Loan are available during each year the TELA Supported Bonds are outstanding in the Maximum Available Annual Amounts set forth in the TELA and may only be drawn upon if Revenues of the System and certain fund balances under the Trust

Agreement are insufficient to pay debt service on the TELA Supported Bonds, Operating Expenses (as defined in the TELA) or Major Maintenance Expenses (as defined in the TELA) when due.

In the event of any such insufficiency, the Trustee, without further direction or instruction or other action from the Corporation (except as required by the terms of the Master Trust Agreement for a draw to pay Major Maintenance Expenses) or any owners of TELA Supported Bonds, acting in accordance with the Trust Agreement, is required to present to TxDOT by 10:00 a.m., Austin, Texas time, on the fourth business day prior to the date such draw amount is needed for deposit in the applicable fund or account, a draw request certificate in substantially the form attached to the Master Trust Agreement executed by the Trustee.

Each such draw request certificate shall demonstrate, among other things, an insufficiency of the amounts available in any capitalized interest fund, the Revenue Fund, the applicable Debt Service Funds, the Junior Operation and Maintenance Fund, the Operation and Maintenance Reserve Fund, the Major Maintenance Fund, the Rate Stabilization Fund and the Grand Parkway Enhancement Fund for the purposes permitted therefor under the Trust Agreement and subject to the provisions thereof, and that the requested draw (i) does not exceed the Maximum Permitted Amount, (ii) when added to the amounts advanced under the Toll Equity Loan Commitment during the current Draw Period, will not exceed the Maximum Available Annual Amount for such Draw Period and (iii) when added to all advances under the Toll Equity Loan Commitment will not exceed the aggregate amount of Eligible Costs. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds" and "– Toll Equity Loan Agreement Draw Requests." The Trustee may not draw upon the TELA to pay either (i) the redemption price of any TELA Supported Bonds due as a result of an optional redemption of such TELA Supported Bonds by the Corporation or (ii) the purchase price of any TELA Supported Bonds due as a result of any tender of such Bonds for purchase by the holders thereof. Further, pursuant to the terms of the Master Trust Agreement, the Trustee may not draw upon the TELA to pay Major Maintenance Expenses unless the Corporation certifies in writing to the Trustee that, after such draw, there remains sufficient capacity in the unused portion of the Maximum Available Annual Amount for such Fiscal Year to pay any unpaid Debt Service Requirements of the Outstanding TELA Supported Bonds due through the end of such Fiscal Year. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Major Maintenance Fund." See also, "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT – Other TELA Issues."

The "*Maximum Permitted Amount*" under the TELA is the debt service payments associated with the TELA Project Debt (including the TELA Supported Bonds) for the applicable period for which an advance is requested, plus Operating Expenses and Major Maintenance Expenses (as each such term is defined in the TELA) up to the amounts for the applicable period as set forth in the Annual Budget, but minus (i) balances available in the Trust Agreement funds for the payment of capitalized interest on such TELA Project Debt for the applicable period to the extent that a portion of a requested advance is to be used to pay interest on such TELA Project Debt, (ii) any deposit of Revenues into the applicable Debt Service Funds that are available to pay principal of or interest on such TELA Project Debt, and (iii) any amounts in the Junior Operation and Maintenance Fund, Operation and Maintenance Reserve Fund, Major Maintenance Fund, Rate Stabilization Fund and Grand Parkway Enhancement Fund that are available to pay principal and interest on TELA Project Debt, Operating Expenses and Major Maintenance Expenses (as each such term is defined in the TELA), as applicable; provided, however, that for purposes of calculating the Maximum Permitted Amount, debt service associated with the applicable TELA Project Debt will not include (i) the redemption price of any TELA Project Debt due as a result of the Corporation's election to optionally redeem such TELA Project Debt or (ii) the purchase price of any TELA Project Debt due as a result of any tender of such TELA Project Debt for purchase by the holders thereof.

Advances under the TELA are subject to the Maximum Available Aggregate Amount, but shall not exceed with any advance (i) the Maximum Permitted Amount for the applicable period, (ii) when added to other amounts advanced under the Toll Equity Loan Commitment during the current Draw Period, the Maximum Available Annual Amount for such Draw Period and (iii) when taking into account such advance and all prior advances, the aggregate amount of Eligible Costs. In addition to the foregoing limitations, the obligations of TxDOT to make advances under the TELA are subject to legislative appropriation by the State Legislature in a manner that would allow use of the funds to be advanced for such purpose. The legislative appropriation requirements, together with the Maximum Available Aggregate Amount, the Maximum Available Annual Amount, the Maximum Permitted Amount and the Eligible Cost limitations, are referred to herein collectively as the "*TELA Limitations*."

If the principal amount of advances under the Toll Equity Loan Commitment made in a given Draw Period is less than the Maximum Available Annual Amount for such Draw Period (or if no Toll Equity Loans have been made in such Draw Period), the difference will not be carried forward and may not be applied to increase the amount available to be advanced in any future Draw Period. Amounts drawn under the Toll Equity Loan must be repaid by the Corporation and such amount and interest thereon will constitute TELA/Other Tier Obligations under the Trust Agreement and will be subordinate to the TELA Supported Bonds and Junior Operating Expenses pursuant to the terms of the Trust Agreement. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Flow of Funds for Grand Parkway System." The unpaid amount of each advance under the Toll Equity Loan Commitment will bear interest from the date of such advance to the date on which such advance and the interest thereon are repaid in full at a rate per annum equal to the ten-year "Aaa (pure)" rate provided by Municipal Market Data and published in *The Bond Buyer* under the caption "Municipal Market Data General Obligation Yields" on the day such advance is made, plus 100 basis points; provided, however, if the ten year "Aaa (pure)" rate is no longer provided by Municipal Market Data, the rate to be used in its place shall be that rate which most closely replicates such rate, as agreed to by the Corporation and TxDOT.

The Maximum Available Annual Amounts under the TELA for each year equal or exceed the total debt service for the TELA Supported Bonds plus currently estimated Operating Expenses (as defined in the TELA) for each such year (as set forth in the 2018 Engineer's Report, which is incorporated herein by reference as described in "INTRODUCTION – Incorporation by Reference"). Notwithstanding the foregoing, there are no assurances that the Maximum Available Annual Amount of the TELA will be sufficient to cover all such Operating Expenses actually incurred in any particular year in which (i) there is a draw under the TELA to pay all or a portion of the debt service due on the TELA Supported Bonds for that year and (ii) the actual amount of such Operating Expenses incurred for that year exceeds the estimated amount of such Operating Expenses for that year. While Major Maintenance Expenses (as defined in the TELA) are an Eligible Cost under the TELA, the Maximum Available Annual Amount under the TELA is not sufficient to cover the combination of total debt service for the TELA Supported Bonds plus currently estimated Operating Expenses plus Major Maintenance Expenses in any given year. See "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT – Other TELA Issues." Further, as described above, the Trustee may not draw upon the TELA to pay Major Maintenance Expenses unless the Corporation certifies in writing to the Trustee that, after such draw, there remains sufficient capacity in the unused portion of the Maximum Available Annual Amount for such Fiscal Year to pay any unpaid Debt Service Requirements of the Outstanding TELA Supported Bonds due through the end of such Fiscal Year. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Major Maintenance Fund." For additional information regarding TxDOT and the State Highway Fund, see "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND."

[*Remainder of page intentionally left blank.*]

Table 5 –Maximum Available Annual Amount and Annual TELA Supported Debt Service and TELA Supported Junior Operating Expenses

The following table sets out the Maximum Available Annual Amount under the TELA and the estimated aggregate amount of debt service on the TELA Supported Bonds and TELA Supported Junior Operating Expenses in each year through the final maturity of the TELA Supported Bonds.

(dollar amounts shown in thousands)

FYE 31-Aug	TELA Supported Net Debt Service[(1)]	Estimated TELA Supported Junior Operating Expenses[(2)]	Annual TELA Supported Debt Service and Estimated TELA Supported Junior Operating Expenses	TELA Maximum Available Annual Amount ("*MAAA*")	TELA MAAA / Annual TELA Supported Debt Service and Estimated TELA Supported Junior Operating Expenses[(3)]
	A	B	C = A + B	D	E = D / C
2020	$ 49,766	$ 39,734	$ 89,500	$ 118,668	132.6%
2021	78,932	41,214	120,146	120,148	100.0
2022	78,930	42,048	120,978	120,982	100.0
2023	122,862	43,163	166,025	166,028	100.0
2024	224,182	43,791	267,973	269,511	100.6
2025	137,293	44,940	182,233	199,855	109.7
2026	137,291	46,563	183,854	201,488	109.6
2027	137,295	48,396	185,691	203,331	109.5
2028	137,294	50,417	187,711	205,364	109.4
2029	137,293	52,249	189,542	207,206	109.3
2030	139,332	54,080	193,412	211,098	109.1
2031	152,590	56,102	208,692	226,469	108.5
2032	160,906	57,755	218,661	236,492	108.2
2033	166,196	60,178	226,374	244,249	107.9
2034	176,506	62,689	239,195	257,143	107.5
2035	187,380	64,897	252,277	270,304	107.1
2036	196,207	67,142	263,349	281,437	106.9
2037	202,074	69,181	271,255	289,387	106.7
2038	209,086	71,708	280,794	298,981	106.5
2039	212,642	73,597	286,239	304,461	106.4
2040	213,330	75,658	288,988	307,224	106.3
2041	212,512	78,250	290,762	309,008	106.3
2042	209,484	80,349	289,833	308,073	106.3
2043	186,374	83,010	269,384	287,509	106.7
2044	140,259	85,333	225,592	243,464	107.9
2045	203,896	87,362	291,258	309,508	106.3
2046	199,714	89,123	288,837	307,071	106.3
2047	191,839	91,121	282,960	301,161	106.4
2048	187,284	94,019	281,303	299,492	106.5
2049	178,318	96,095	274,413	292,564	106.6
2050	164,378	97,939	262,317	280,401	106.9
2051	338,220	99,991	438,211	457,303	104.4
2052	435,750	101,840	537,590	557,253	103.7
2053	426,437	103,831	530,268	549,886	103.7
	$6,331,853	**$2,353,765**	**$8,685,618**	**$9,242,516**	

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(1) Includes debt service on all TELA Supported Bonds (which include the Taxable Series 2020B Bonds), and is shown net of capitalized interest; excludes the Refunded Bonds that constitute TELA Supported Bonds. See "PLAN OF FINANCE." Debt service on the Series 2016 Bonds is shown in accordance with the terms thereof. Interest on the Series 2018B Bonds is assumed at 8.00% following the Initial Term Fixed Rate Period.

(2) TELA Supported Junior Operating Expenses consist of all Junior Operating Expenses for the System facilities that comprise the Initial Project (including the estimated Junior Operating Expenses for the SH 249 Connectors) and constitute "Operating Expenses" under the TELA. Amounts are obtained from the 2018 Engineer's Report, which is incorporated herein by reference as described in "INTRODUCTION – Incorporation by Reference." No assurances can be provided that the SH 249 Connectors will eventually be constructed. See "THE INITIAL PROJECT OF THE CORPORATION – SH 249 Direct Connectors."

(3) The ability of the Trustee to obtain advances under the TELA is subject to the TELA Limitations and other provisions of the TELA. See "TOLL EQUITY LOAN AGREEMENT – Toll Equity Loan" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT."

Pledge and Assignment

Under the TELA, TxDOT consents to the pledge and assignment and the grant to the Trustee of a lien on and a security interest in, all of the Corporation's right, title and interest in, to and under the TELA, pursuant to the terms and conditions of the Trust Agreement, as collateral security for all of the obligations secured or purported to be secured by the Trust Agreement.

Under the TELA, TxDOT agrees that, as a result of the pledge and assignment referred to above, the Trustee will have the full right and power, in the exercise of the Trustee's rights and remedies under the Trust Agreement, to enforce directly against TxDOT all obligations of TxDOT under the TELA, to exercise all other rights and remedies of the Corporation under the TELA and to make all demands and requests and give all notices required or permitted to be made by the Corporation or the Trustee under the TELA.

Appropriation and Other Matters Affecting TxDOT TELA Advances

Under the TELA, TxDOT covenants that it will submit a request in accordance with applicable law to obtain an appropriation from the State Legislature to fulfill its obligation to make advances under the Toll Equity Loan Commitment, but not to exceed the Maximum Available Annual Amount for the Draw Periods included in the legislative request. Failure to honor a request by the Trustee for an advance under the Toll Equity Loan Commitment due solely to the fact that funds have not been appropriated to TxDOT by the State Legislature in a manner that would allow its use for such purpose will not constitute an Event of Default by TxDOT under the TELA. **If TxDOT fails to honor a request by the Trustee for an advance under the Toll Equity Loan Commitment solely because funds have not been appropriated to TxDOT by the State Legislature in a manner that would allow its use for such purpose, TxDOT will have no obligation to fund such request on any date subsequent to such failure.**

Although the TELA does not specify a particular source of funds for making advances, TxDOT currently expects to make such payments from the State Highway Fund. The State Highway Fund is the source for a substantial portion of funding for the State highway system, TxDOT, and the administration of State laws relating to traffic and safety on public roads. The revenues deposited into the State Highway Fund consist of federal transportation program funds (or reimbursements from federal funds), State motor fuel taxes, State motor vehicle registration fees and State motor lubricants sales taxes, which revenues may fluctuate based on certain factors. With respect to the priority of payments to be made from revenues in the State Highway Fund, TxDOT's payments of amounts due under the TELA (together with payments under any other toll equity agreements and all pass-through toll agreements) have a lower priority of payment from the State Highway Fund than the payment of any outstanding TxDOT bond and credit obligations and commercial paper or tax and revenue anticipation notes, but have the same priority of payment as TxDOT's pass-through toll agreement obligations, any additional toll equity loan agreements (if applicable), payments made for the delivery of Comprehensive Development Agreements ("*CDAs*") and similar obligations. Additionally, TxDOT has the ability to establish additional liens for obligations that may be senior to or on parity with its TELA obligations. See "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT – TxDOT Obligations Payable from the State Highway Fund" and "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND" for additional information regarding TxDOT and the State Highway Fund. See "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND – Table 9 – Analysis of Impact of Toll Equity Obligations on the State Highway Fund" for a table that sets out the expected deposits to and uses of revenues in the State Highway Fund during the term of the TELA with the Corporation.

Term

The undisbursed amount of the Toll Equity Loan Commitment will be available for advances until the earlier of (i) the final maturity date of the TELA Project Debt, including the TELA Supported Bonds and any bonds issued to redeem or defease, in whole or in part, the outstanding principal amount of such TELA Project Debt, the interest on and principal of which is eligible to be paid from advances under the Toll Equity Loan Commitment, and (ii) the date of the defeasance or refunding in whole of such debt, the effect of which is to terminate the Toll Equity Loan Commitment.

Annual Fee

On the first day of the Fiscal Year following June 17, 2023 and on the first day of each Fiscal Year thereafter, the Corporation shall pay to TxDOT, from unencumbered amounts on deposit in the Grand Parkway Enhancement Fund, a non-refundable amount equal to three percent of that Fiscal Year's Maximum Available Annual Amount. The Corporation's failure to pay such amounts shall not constitute a default under the TELA, unless sufficient unencumbered funds are on deposit in the Grand Parkway Enhancement Fund to make such payment; provided that in any event any accrued unpaid amounts shall be due and payable in full on the termination date of the TELA. If payment is not made on the first day of the applicable Fiscal Year, the unpaid amount will bear interest as provided in the TELA from such date to the date on which such amount and the interest thereon are repaid in full, which interest will be compounded semiannually as of April 1 and October 1.

Control Rights

Pursuant to the Trust Agreement, as long as TxDOT has not failed to honor a draw request under the TELA, whether due to Non-Appropriation Event or otherwise:

(a) TxDOT shall be deemed to be the Owner of all Toll Equity Loan Supported Obligations for purposes of (i) exercising all remedies and directing the Trustee to take actions or for any other purposes following an Event of Default under the Trust Agreement, and (ii) granting any consent (other than a consent described in the second paragraph of "TOLL EQUITY LOAN AGREEMENT – Amendments" and as otherwise described in "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT – SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Actions Relating to Certain Financing Documents"), direction or approval or taking any action permitted by or required under the Trust Agreement to be granted or taken by the Owners of such Toll Equity Loan Supported Obligations.

(b) Anything in the Trust Agreement to the contrary notwithstanding, upon the occurrence and continuance of an Event of Default under the Trust Agreement, TxDOT shall be entitled to control and direct the enforcement of all rights and remedies granted to the Owners of Toll Equity Loan Supported Obligations or the Trustee for the benefit of such Owners of Toll Equity Loan Supported Obligations under the Trust Agreement.

Payment of TELA

Interest on the Toll Equity Loan shall be paid on the first Business Day of each month from amounts available therefor in the TELA/Other Tier Payment Fund. The principal amount of the Toll Equity Loan is required to be paid prior to maturity on the first business day of each month from amounts available therefor in the TELA/Other Tier Payment Fund. The Toll Equity Loan Note and all other payment obligations of the Corporation owed to TxDOT under the TELA will constitute TELA/Other Tier Obligations under the Trust Agreement.

Corporation Events of Default

The following events, among others, constitute "Events of Default" under the TELA:

(a) The Corporation fails to operate and maintain the System in accordance with the Project Agreement and such failure could reasonably be expected to have a Material Adverse Effect; unless such failure is remedied within 90 days after TxDOT gives notice thereof to the Corporation, provided, however, that if said default is such that it cannot by its nature with due diligence be cured within the said 90-day period but can be cured, it will not constitute an Event of Default if curative action is commenced by the Corporation within said 90-day period and diligently pursued until the default is cured.

(b) With respect to any of Segments D (Harris County), E, F-1, F-2 G, H, I-1 and I-2 for which Substantial Completion has not occurred as of the Effective Date, Substantial Completion for any of such segments has not occurred by the date that is twelve months after the Estimated Date of Completion (taking into account force majeure) for such segment.

(c) After the start of construction and prior to Substantial Completion of any of Segments D (Harris County), E, F-1, F-2, G, H, I-1 and I-2, the construction of that segment is abandoned, which could reasonably be expected to have a Material Adverse Effect; provided that abandonment of the construction of a segment will be deemed to have occurred if no significant construction (taking into account the construction schedule and permitted delay as a result of force majeure) is carried out without reasonable cause, for a continuous period of 90 days.

(d) The operation or maintenance of the System or any material part thereof is suspended or abandoned; provided that, suspension or abandonment of the System will be deemed to have occurred, after the first Service Commencement Date for any of Segments D (Harris County), E, F-1, F-2 ,G, H, I-1 and I-2, if the Corporation fails, without reasonable cause, to operate the System (taking into account force majeure) for a continuous period of 90 days.

(e) The occurrence of an "Event of Default" under and as defined in the Trust Agreement.

A Corporation default or Event of Default under the TELA will not constitute a default or event of default under the Trust Agreement. See "APPENDIX E – TOLL EQUITY LOAN AGREEMENT" for a complete list of "Events of Default" under the TELA.

Remedies

TxDOT may exercise certain remedies under the TELA upon or after the occurrence of an Event of Default, including, among others, the following: (i) by suit, action or proceeding in equity, enjoin any acts or things that are unlawful or the violation of any rights of TxDOT and the Trustee; (ii) seek an action in mandamus against the Corporation and/or seek the appointment of a receiver; and (iii) exercise, or cause to be exercised, any and all such remedies as it may have under the TELA, the other Finance Documents or any other document or at law or in equity. See "APPENDIX E – TOLL EQUITY LOAN AGREEMENT" for a complete list of TxDOT's remedies under the TELA.

Amendments

Pursuant to the TELA, the TELA may be amended in a written instrument signed and delivered by the Corporation and TxDOT, it being understood that any such amendment may require Commission action. Additional restrictions and requirements related to amending the TELA are set forth in the Trust Agreement and described below.

Without the prior written direction or consent of the Owners of not less than a majority of the aggregate principal amount of the Toll Equity Loan Supported Obligations then Outstanding, (i) neither the Corporation nor the Trustee may sell, assign, delegate or otherwise transfer any of its rights or obligations under the Toll Equity Loan Agreement (including the TELA) or consent to or accept any such assignment, delegation or other transfer of rights and obligations under the Toll Equity Loan Agreement; (ii) the Trustee may not assume any obligation of the Corporation under the Toll Equity Loan Agreement, and (iii) neither the Corporation nor the Trustee may amend, modify or supplement the Toll Equity Loan Agreement (other than as contemplated in the next paragraph and the provisions of the Trust Agreement providing for the issuance of additional First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Debt Obligations) in a manner that is materially adverse to the Owners of Toll Equity Loan Supported Obligations. The Trustee may not amend, modify or supplement the Toll Equity Loan Agreement without the prior written consent of the Corporation.

Notwithstanding any other provision in the Trust Agreement to the contrary except and subject to the provisions of this subsection and the provisions of the following three paragraphs, neither the consent of any Owner of Obligations, of any Bond Insurer nor of the Trustee shall be required for (i) a new Toll Equity Loan Agreement, (ii) any amendment, modification or supplement to any existing Toll Equity Loan Agreement for any adjustment to the Maximum Available Aggregate Amount, the Maximum Available Annual Amount for any Fiscal Year or the Project Budget for any Fiscal Year, as may be required in connection with the issuance of Additional Obligations pursuant to the terms and conditions of the Trust Agreement, or (iii) for any other amendment, modification or supplement to a Toll Equity Loan Agreement in connection therewith so long as such other amendment, modification or supplement does not adversely modify the obligations of TxDOT to pay any Draw Request under any such existing Toll Equity Loan Agreement.

The Corporation, without the consent of any Owner, reserves the right to amend or supplement the Toll Equity Loan Note and TELA, execute and deliver additional Toll Equity Notes and the related Toll Equity Loan Agreements and incur the related additional TELA/Other Tier Debt Obligations to evidence any Toll Equity Loan in connection with any Toll Equity Loan Agreement in accordance with the provisions of the Trust Agreement providing for the issuance of additional First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations. The Toll Equity Note, as so amended, supplemented or subsequently delivered, and any such additional TELA/Other Tier Debt Obligations shall be secured by and payable from a lien on and pledge of the Trust Estate equally and ratably with, and in the same manner and to the same extent as the Outstanding TELA/Other Tier Obligations, and shall be payable from and secured by the TELA/Other Tier Payment Fund and shall be in all respects of equal dignity and on a parity with any then Outstanding TELA/Other Tier Obligations.

In addition, the Corporation, without the consent of any Owner, reserves the right to amend or supplement any Toll Equity Note and the related Toll Equity Loan Agreement (including the TELA), in any manner provided that, as certified by the Corporation Representative, (i) the annual Debt Service Requirements for all Outstanding First Tier TELA Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations and the estimated TELA Supported Junior Operating Expenses (as certified by the General Engineering Consultant) for the current Fiscal Year and in each Fiscal Year any Toll Equity Loan Supported Obligations are Outstanding is less than or equal to the applicable aggregate Maximum Available Annual Amount for each such Fiscal Year as set forth in any outstanding Toll Equity Loan Agreements, as amended or supplemented or (ii) if prior to any amendment or supplement, there is any Fiscal Year (including the then current Fiscal Year) in which the applicable aggregate Maximum Available Annual Amount for such Fiscal Year as set forth in any outstanding Toll Equity Loan Agreements is less than the annual Debt Service Requirements for all Outstanding First Tier TELA

Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations and the estimated TELA Supported Junior Operating Expenses (as certified by the General Engineering Consultant for the current Fiscal Year and in each Fiscal Year any Toll Equity Loan Supported Obligations are Outstanding) for any such Fiscal Year (in each such Fiscal Year, a "*TELA Coverage Deficit*"), then the amendment or supplement to any outstanding Toll Equity Loan Agreements must (A) reduce the TELA Coverage Deficit in each Fiscal Year such a deficit occurs and (B) for all other Fiscal Years that do not have a TELA Coverage Deficit, not create a TELA Coverage Deficit in any such Fiscal Year.

Notwithstanding the foregoing, the certification required in the immediately preceding paragraph shall include estimated TELA Supported Junior Operating Expenses for each Fiscal Year for which any Covered Operating Expense Toll Equity Loan Supported Obligations and any proposed Additional Obligations are to be Outstanding but shall exclude estimated TELA Supported Junior Operating Expenses for any Fiscal Year that only proposed Non-Covered Operating Expense Additional Obligations are to be Outstanding.

2014 TIFIA LOAN AGREEMENT

Pursuant to the Third Supplemental Agreement, the Corporation entered into the Original 2014 TIFIA Loan Agreement with USDOT, acting by and through the Administrator of the FHWA, pursuant to which the Corporation was authorized, subject to the conditions set forth therein, to borrow up to $840,645,000 (referred to herein as the 2014 TIFIA Loan) to pay or reimburse the Corporation for certain eligible costs relating to the Initial Project. In December 2016, the Corporation requested the disbursement of the full amount of the 2014 TIFIA Loan and used the proceeds thereof to pay the Series 2014A BANs and the Series 2014C Bonds in full on December 15, 2016, being the scheduled maturity date thereof. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Description of Outstanding Obligations." Further, in relation to the disbursement of the 2014 TIFIA Loan, the Corporation and USDOT entered into the 2014 TIFIA First Amendment to modify certain provisions related to the disbursement requirements and waive certain requirements of the Corporation under the Original 2014 TIFIA Loan Agreement. In connection with the issuance of the 2018 BANs, the Corporation and USDOT entered into the 2014 TIFIA Second Amendment to provide consent by USDOT to the issuance of the 2018 BANs, to modify certain provisions related to the 2018 BANs and the reporting requirements of the Corporation and to waive certain requirements of the Corporation under the Original 2014 TIFIA Loan Agreement as amended by the 2014 TIFIA First Amendment. Additionally, in connection with the execution and delivery of the 2019 TIFIA Loan Agreement, the Corporation and USDOT entered into the Third Amendment to TIFIA Loan Agreement to conform certain terms of the Original 2014 TIFIA Loan Agreement, as then amended, to the terms of the 2019 TIFIA Loan Agreement. The Original 2014 TIFIA Loan Agreement, as amended by the 2014 TIFIA First Amendment, the 2014 TIFIA Second Amendment and the 2014 TIFIA Third Amendment, is referred to herein as the "*2014 TIFIA Loan Agreement*." The Corporation's obligation to repay the 2014 TIFIA Loan is evidenced by the 2014 TIFIA Note. The 2014 TIFIA Loan Agreement and the 2014 TIFIA Note are Second Tier Non-TELA Obligations and the 2014 TIFIA Loan Agreement is a Second Tier Credit Agreement; provided, however, upon the occurrence and during the continuance of any Bankruptcy Related Event (as defined in the Master Trust Agreement) of the Corporation and while USDOT, or another related Governmental Lender requiring the same treatment, owns the 2014 TIFIA Note, the 2014 TIFIA Note will automatically and without action on the part of such owner or any other Person immediately becomes and shall be of equal rank and on parity with the First Tier Obligations and shall be entitled to all rights of an Owner of First Tier Obligations (including, without limitation, the right of payment pro rata with other First Tier Obligations pursuant to the terms of the Master Trust Agreement); provided, that the 2014 TIFIA Note (and the 2014 TIFIA Loan Agreement) will not benefit from the First Tier Reserve Account established for the benefit of the First Tier Obligations or any other subaccount created therein (including the 2013A First Tier Reserve Account and the 2020 First Tier Reserve Account) unless so determined pursuant to the terms of the Supplemental Agreement establishing such subaccount. Upon such event, the money and investments held in the Second Tier Debt Service Fund allocable to the payment of the 2014 TIFIA Note shall be transferred by the Trustee to the First Tier Debt Service Fund.

The 2014 TIFIA Loan bears interest at a fixed rate of 3.65%. Debt service on the 2014 TIFIA Note is payable semiannually on each April 1 and October 1, commencing on the Debt Service Payment Commencement Date (as defined in the 2014 TIFIA Loan Agreement). The 2014 TIFIA Note is subject to optional and mandatory prepayment in accordance with the terms of the 2014 TIFIA Loan Agreement, and the 2014 TIFIA Note has a final maturity date of October 1, 2050. Pursuant to the terms of the 2014 TIFIA Loan Agreement, the Corporation may be obligated to begin making prepayments of the 2014 TIFIA Note in calendar year 2029 from certain moneys deposited to the Grand Parkway Enhancement Fund if there is at least $250 million on deposit therein and certain other conditions are satisfied. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Grand Parkway Enhancement Fund." For the Outstanding principal amount of the 2014 TIFIA Note, see "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Description of Outstanding Obligations."

Pursuant to the terms of the Third Supplemental Agreement and the 2014 TIFIA Loan Agreement, the Corporation has agreed to additional covenants and agreements set forth therein, which shall be in effect only for so long as the 2014 TIFIA

Note is Outstanding. The provisions set forth therein are for the sole benefit of the Owner of the 2014 TIFIA Note and may be modified or amended at any time with the consent of, or may be waived in whole or in part by, the Owner of the 2014 TIFIA Note, and may not be relied upon or enforced in any way by the Owners of any other Obligations.

As described in "PLAN OF FINANCE – General," the 2014 TIFIA Note will be prepaid in full with a portion of the proceeds of the 2020 First Tier Bonds.

The Original 2014 TIFIA Loan Agreement has been filed with the MSRB through its EMMA system with respect to the Outstanding Series 2013 Obligations and may be accessed over the internet at https://www.emma.msrb.org. The Original 2014 TIFIA Loan Agreement is hereby incorporated by reference into and made a part of this Official Statement as if set forth herein.

2019 TIFIA LOAN AGREEMENT

Pursuant to the Seventh Supplemental Agreement, the Corporation entered into the 2019 TIFIA Loan Agreement with USDOT, acting by and through the Executive Director of the Build America Bureau, pursuant to which the Corporation was authorized, subject to the conditions set forth therein, to borrow up to $605,330,000 (referred to herein as the 2019 TIFIA Loan) to pay or reimburse the Corporation for certain eligible costs relating to the H and I Project. The Corporation's obligation to repay the 2019 TIFIA Loan is evidenced by the 2019 TIFIA Note. The 2019 TIFIA Loan Agreement and the 2019 TIFIA Note are First Tier Obligations and the 2019 TIFIA Loan Agreement is a First Tier Credit Agreement; provided, that the 2019 TIFIA Note (and the 2019 TIFIA Loan Agreement) will not benefit from the First Tier Reserve Account or any subaccount established therein for the benefit of the First Tier Obligations (including the 2013A First Tier Reserve Account and the 2020 First Tier Reserve Account); provided further, that pursuant to the terms of the 2019 TIFIA Loan Agreement, in the event the debt service coverage ratio of First Tier Obligations falls below 1.75 in a calculation period as determined on each April 1 and October 1 while the 2019 TIFIA Loan remains Outstanding, or in the event the Corporation enters into a First Tier Credit Agreement that provides for the establishment of a fully funded debt service reserve fund or account, the Corporation is obligated to establish a subaccount within the First Tier Reserve Account, for the sole benefit of the 2019 TIFIA Note, and fund such account within three (3) months with equal monthly deposits in the amount of the TIFIA debt service reserve requirement, which is an amount equal to the lesser of (i) the maximum debt service due on the 2019 TIFIA Loan in any Fiscal Year, (ii) 1.25 times the average of the debt service due on the 2019 TIFIA Loan in any Fiscal Year, or (iii) ten percent (10%) of the aggregate principal amount of the 2019 TIFIA Loan disbursed to the Corporation. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – 2020 First Tier Reserve Account." The Corporation currently expects to use any disbursement of the proceeds of the 2019 TIFIA Loan to refund all or a portion of the 2018 BANs. See "GRAND PARKWAY TRANSPORTATION CORPORATION – 2018 BANs." The disbursement of proceeds of the 2019 TIFIA Loan is subject to the satisfaction of certain conditions precedent set forth in the 2019 TIFIA Loan Agreement. In the event the Corporation elects to make a draw under the 2019 TIFIA Loan, there is a risk that all or a portion of the 2019 TIFIA Loan proceeds may not be available for disbursement due to non-compliance with the conditions precedent relating thereto.

The 2019 TIFIA Loan bears interest at a fixed rate of 3.03%. Debt service on the 2019 TIFIA Note is payable semiannually on each April 1 and October 1, commencing on the Debt Service Payment Commencement Date (as defined in the 2019 TIFIA Loan Agreement). The 2019 TIFIA Note is subject to optional and mandatory prepayment in accordance with the terms of the 2019 TIFIA Loan Agreement, and the 2019 TIFIA Note has a final maturity date of October 1, 2052. Pursuant to the terms of the 2019 TIFIA Loan Agreement, the Corporation may be obligated to begin making prepayments of the 2019 TIFIA Note in calendar year 2029 from certain moneys deposited to the Grand Parkway Enhancement Fund if there is at least $250 million on deposit therein and certain other conditions are satisfied. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Grand Parkway Enhancement Fund." No amounts have been borrowed under the 2019 TIFIA Loan Agreement. See "THE GRAND PARKWAY TRANSPORTATION CORPORATION – Description of Outstanding Obligations."

Pursuant to the terms of the Seventh Supplemental Agreement and the 2019 TIFIA Loan Agreement, the Corporation has agreed to additional covenants and agreements set forth therein, which shall be in effect only for so long as the 2019 TIFIA Note is Outstanding. The provisions set forth therein are for the sole benefit of the Owner of the 2019 TIFIA Note and may be modified or amended at any time with the consent of, or may be waived in whole or in part by, the Owner of the 2019 TIFIA Note, and may not be relied upon or enforced in any way by the Owners of any other Obligations.

The 2019 TIFIA Loan Agreement has been filed with the MSRB through its EMMA system with respect to the Outstanding 2018 Bonds and may be accessed over the internet at https://www.emma.msrb.org. The 2019 TIFIA Loan Agreement is hereby incorporated by reference into and made a part of this Official Statement as if set forth herein.

TRAFFIC AND REVENUE STUDY

General

CDM Smith Inc. ("*CDM Smith*") currently serves as the Traffic Consultant to the Corporation for the System. CDM Smith is one of the top global design firms as ranked by the Engineering News Record, having a professional staff of over 4,000 employees working in approximately 125 offices throughout North America and has been serving public and private clients since 1947. CDM Smith has a group of over 450 transportation professionals of which more than 70 professionals are actively involved with toll facility clients. CDM Smith's toll facility experience is both broad and diverse, having worked with many clients in more than 46 states and internationally. CDM Smith's investment-grade traffic and revenue reports have been the basis for the sale of over $120 billion in revenue financing/refinancing bonds.

In connection with the issuance of the Series 2018 Obligations, CDM Smith issued (i) its "Grand Parkway Transportation Corporation's Grand Parkway System (SH 99) Segments D through I Comprehensive Traffic & Revenue Study" dated September 2017 (the "*2017 Traffic and Revenue Study*") to estimate traffic and toll revenue for the System (which includes the Initial Project and Segments H and I), and (ii) its "Grand Parkway System Segments D through I Traffic and Revenue Bringdown Letter" (the "*2018 T&R Letter*") dated March 19, 2018 to address certain changes in the underlying assumptions in the 2017 Traffic and Revenue Study and to incorporate the most recent traffic and revenue trends on the existing portions of the System. The traffic and revenue estimates for the System in the 2018 T&R Letter supersede such estimates in the 2017 Traffic and Revenue Study.

CDM Smith delivered a reliance letter dated January 24, 2020 (the "*2020 T&R Reliance L*etter") that re-evaluated the underlying assumptions included in the 2018 T&R Letter. Based on a general review of these assumptions, CDM Smith did not identify any significant changes that would adversely impact the current traffic and revenue forecasts included in the 2018 T&R Letter. As a result, CDM Smith made no modifications to the traffic and revenue forecasts in the 2018 T&R Letter. The 2017 Traffic and Revenue Study, the 2018 T&R Letter and the 2020 T&R Reliance Letter are referred to herein collectively as the "*System T&R Report*."

Complete copies of the 2017 Traffic and Revenue Study, the 2018 T&R Letter and the 2020 T&R Reliance Letter are attached hereto as "APPENDIX F – 2017 TRAFFIC AND REVENUE STUDY," "APPENDIX G – 2018 T&R LETTER" and "APPENDIX H – 2020 T&R RELIANCE LETTER," respectively.

The System T&R Report evaluates the traffic and revenue potential of Segments D (Harris County), E, F-1, F-2, G, H, I-1 and I-2 (which includes Segments I-2A and I-2B). Toll collection on Segments D (Harris County) and E began in February 2014, toll collection on Segments F-1 and F-2 began in February 2016, and tolling on Segment G began in April 2016. Segment I-2A opened to traffic in April 2008, with tolling beginning in November 2011; however, the Corporation will not begin receiving revenues from, and the Corporation will not become obligated to operate and maintain, Segment I-2A until the H and I Project achieves substantial completion and the newly constructed portion of Segments H and I is open to tolled traffic. The 2018 T&R Letter assumes that Segments H, I-1 and I-2B will be substantially complete and open to tolled traffic on May 22, 2022.

The 2017 Traffic and Revenue Study includes updates to the travel demand models from the June 2013 Grand Parkway Segments D through G Comprehensive Traffic and Revenue Study, and assumes the opening of the new proposed Segments H and I. This study also incorporated observed traffic and revenue trends along open sections of the existing Grand Parkway System (Segments D through G) through November 2016, and reflects the most recent regional planned networks and socioeconomic datasets developed for the Houston region that were available as of the date of the 2017 Traffic and Revenue Study. Construction of the new Grand Parkway System Segments H and I traversing Liberty and Chambers Counties is expected to improve mobility in the greater Houston region and serve as a critical part of the overall Grand Parkway Project providing connectivity between US 59, US 90, IH 10 and SH 146. The 2017 Traffic and Revenue Study utilized a combination of the comprehensive traffic count and travel time data collected within Segments H and I in late 2014, and supplemental traffic count collection efforts undertaken in May/June 2016. The socioeconomic growth potential of the region and the Grand Parkway System Segments D through I corridor were updated in 2016 by an independent local economist (Community Development Strategies), and inflation adjustments were made to the value of time parameters and other factors affecting toll road utilization sensitivity. CDM Smith also examined project-specific toll sensitivity and the estimated sensitivity of traffic and revenue to changes in future variables and key assumptions, as described in Chapters 4 and 5 of the 2017 Traffic and Revenue Study.

The base case forecast in the 2017 Traffic and Revenue Study assumes that each of Segments D (Harris County), E, F-1, F-2 and G operate as a four-lane controlled access toll road with intermittent frontage roads. The portion of Segment D located in Fort Bend County ("*Segment D (Fort Bend County)*") includes a free highway section from the southern terminus of

Segment D (Harris County) to Westpark Tollway and existing free lanes from Westpark Tollway to US Highway 59(S) which included several tolled mainlane overpasses to enable toll-paying customers to bypass the current at-grade signalized interchanges within this portion of Segment D (Fort Bend County). The 2017 Traffic and Revenue Study only includes the connectivity impact of the Segment D (Fort Bend County) section on the forecasts for Segments D (Harris County), E, F-1, F-2 and G, and does not reflect any transactions or revenues directly resulting from the tolled section of Segment D (Fort Bend County). Segments H and I-1 are assumed to be constructed as a two-lane controlled access toll road with intermittent passing lanes and intermittent frontage roads along its alignment. Traffic and revenue estimates under a scenario where a portion of Segment H, from US 59N to Huffman Cleveland Road, is expanded to four mainlanes (referred to as the H-West Option in the Design Build Agreement) are also included in the 2017 Traffic and Revenue Study. The existing Segment I-2A and the proposed Segment I-2B will operate as a four-lane controlled access toll road.

Data Collection

The 2017 Traffic and Revenue Study utilizes detailed data collected at numerous locations during late 2014, including new traffic counts and travel time studies, travel pattern surveys, new market research on the willingness-to-pay tolls and value of time estimation, and an update of the socioeconomic growth potential of the Houston region conducted in 2016 by Community Development Strategies ("*CDS*"), an independent local economist firm. Using this detailed information, CDM Smith refined the Houston-Galveston Area Council ("*H-GAC*") regional travel demand model for use in estimating the traffic and revenue potential of Segments D (Harris County), E, F-1, F-2, G, H, I-1 and I-2. The H-GAC regional travel demand model is cooperatively developed and maintained by the H-GAC, TxDOT and the Metropolitan Transit Authority of Harris County, Texas.

Several data collection exercises were conducted along the Grand Parkway System Segments D through I corridor in September through November 2014 that included the collection of automatic traffic recording counts, speed and delay studies, and origin and destination surveys. Most the counts were done for a 48-hour duration and a few of the counts were undertaken for a 24-hour period, and one location was counted for over seven days (168 hours) to capture the variation over a week. Most counts were conducted in September of 2014, with the recounts undertaken in October and November of 2014. An origin and destination study using Bluetooth readers in the Segments H and I study corridor was also conducted in September through November 2014. In addition to the comprehensive traffic data collection program conducted in 2014, traffic counts were collected within the Grand Parkway Project study area at several spot count locations in the Spring of 2016. Additionally, origin and destination data derived using population movement data and patented technology that monitors cellular telephone signal data from AirSage were also obtained in 2014.

A stated preference survey was administered in 2014 by Resource Systems Group ("*RSG*") along the Segments H and I corridor to estimate the distribution of potential customer's value-of-time ("*VOT*"). In addition to collecting data on current travel behaviors, the survey presented respondents with information about the proposed highway improvements and with the use of choice-based conjoint (trade-off) questions, which assisted in estimating travelers' values-of-time (an essential input for determination of toll diversion). RSG conducted Stated Preference surveys as part of the June 2013 Grand Parkway Segments D through G Comprehensive Traffic and Revenue Study that was used in the Corporation's initial debt offering for the Initial Project. No new stated preference survey was conducted along Segments D through G specifically, but the VOT estimates from the 2011 survey along Segments D through G were adjusted to reflect current conditions based on guidance from RSG.

Socioeconomic Forecasts

The distribution and growth of population, households, and employment each have a significant impact on the traffic and revenue potential of a toll facility. The forecasts of these indicators are a key input into the trip generation steps used to build the travel demand model trip tables. These trip tables are the foundation of the travel demand model for the base and correspondingly forecast years from which the future traffic and revenue estimates are derived.

The 2017 Traffic and Revenue Study utilized H-GAC's 2040 regional growth forecasts that present estimates for population, households, and employment in an 8-county Transportation Management Area ("*TMA*") encompassing the Grand Parkway System Segments D through I as a starting point. CDS conducted an independent analysis of the validity of the socioeconomic data. Along with H-GAC's regional forecast, CDS considered seven independent forecasts of population and three independent forecasts of employment from respected organizations for their independent socioeconomic analysis. Considering the recent dip in oil and gas prices and its effects on the Houston economy, CDS revised the regional and county level forecasts taking into account the correlation between long-term employment growth and the attraction of new residents brought about from the job creation.

In preparing this new CDS 2016 forecast, the following assumptions were used:

- The short-term growth of regional employment will be affected by low energy prices. For this short-term forecast, CDS used the most recent 2016 and 2017 job growth estimates as their underlying basis for revisions.

- In the long-term, the Houston economy is expected to continue to grow – overcoming the current short-term oil price disruptions. The Houston economy is much less dependent on the upstream energy industry now than in the past and historical trends support the contention that the Houston region will continue to be a low cost, business friendly, growth-oriented community, attractive to new business start-ups and corporate relocations and expansions.

- Houston should not expect to continue the high and exponential growth experienced historically. As the region matures and attractive parcels are developed, CDS expects that job growth rates will stabilize to a modest sustainable annual rate.

According to CDS, an extended and prolonged run of low oil prices and slowdown of the oil and gas industry beyond the short-term assumptions already envisioned by CDS has the potential to result in lower population and employment growth rates than currently being projected by CDS in the long-term.

At the eight-county TMA region level, the CDS population forecast is approximately 0.4% greater than the H-GAC forecast in 2015, but is 4.8% lower in 2020 and 2.0% lower in 2040. At the eight-county TMA region level, the CDS employment forecast is approximately 7.6% lower than the H-GAC forecast in 2015, and is 12.0% lower in 2020 and 4.4% lower in 2040.

The population in the eight-county region has historically been stable. The population was 5.9 million in 2010, with a historical average annual growth of 2.3% from 1990 to 2010. The projected average annual growth from 2010 to 2035 is approximately 1.8% for the eight-county region. The combined population of Fort Bend, Montgomery, Waller, and Harris Counties was approximately 5.1 million in 2010, with an observed historical growth rate of 2.3% annually from 1990 to 2010, and is projected to grow at 1.6% annually from 2010 to 2035. The Montgomery, Liberty, and Chambers Counties' combined population was nearly 558,000 in 2010, having grown at a historical average annual growth rate of 4.0% from 1990-2010. CDS projects that these Counties will grow at an average annual rate of 3.3% from 2010 to 2035.

The total employment (number of jobs) in the eight-county region was 2.5 million in 2010, with a historical average annual growth of 1.6% in the preceding years from 1990 to 2010. The projected average annual growth from 2010 to 2035 is approximately 1.9% for the eight-county region. The combined employment of Fort Bend, Montgomery, Waller, and Harris Counties was approximately 2.3 million in 2010, with an observed historical growth rate of 1.6% from 1990 to 2010. These Counties are projected to grow at 1.8% annually from 2010 to 2035. The combined employment of Montgomery, Liberty, and Chambers Counties was nearly 153,000 in 2010, and grew at a historical average annual growth rate of 4.5% from 1990 to 2010, and is projected to grow at an average annual rate of 3.6% from 2010 to 2035, according to CDS. See the "Grand Parkway System Demographic Trends" section of the 2018 T&R Letter for more recent information regarding demographic trends.

Toll Transaction and Revenue Forecasts in 2017 Traffic and Revenue Study

For the purposes of the 2017 Traffic and Revenue Study, the travel demand models that were developed for the June 2013 Grand Parkway Segments D through G Comprehensive Traffic and Revenue Study were utilized as background models, and were enhanced to incorporate the most recent network changes implemented by H-GAC. Additional updates were also incorporated to reflect the recent trends observed within the Houston region and other refinements appropriate for a comprehensive level traffic and revenue study. The model calibration process included an extensive effort devoted to the refinement and validation of the regional travel demand model to closely match existing travel conditions within the study area. The various model data inputs included traffic counts, speed and delay, and origin/destination data and updated socio-economic datasets provided by CDS.

The base case traffic and toll revenue estimates developed by CDM Smith in the 2017 Traffic and Revenue Study are based on the following basic assumptions:

1. The Grand Parkway System Segments H, I-1 and I-2B are assumed to be substantially complete and open to tolled traffic on May 9, 2022.

2. The entire Grand Parkway System (Segments D (Harris County), E, F-1, F-2, G, H, I-1 and I-2) will be an Automatic Vehicle Identification ("*AVI*")-only (or ETC-only) toll facility. There will not be video tolling or cash tolling on this facility.

3. A base toll rate of $0.177 per mile in 2012 and a minimum toll rate per transaction of $0.40 (in 2012 dollars) is assumed on Grand Parkway System Segments D through I. Annual toll escalation is assumed to be 2.0% from 2016 to 2018, and 2.2% from 2019 onwards. Tolls on the existing HCTRA, Fort Bend County Toll Road Authority ("*FBCTRA*") and Fort Bend Grand Parkway Toll Road Authority toll systems, along with those on future expansion sections and new toll road facilities, are all assumed to be increased annually at the rates consistent with the Grand Parkway System toll rates.

4. The AVI (or ETC) market share used in the vehicle trip tables was assumed as follows: 85% in 2015, 90% in 2020, 95% in 2025, 95% in 2035. For other regional toll roads, it is assumed that the transponder usage will continue to grow as toll agencies move towards all-electronic tolling and as cash collection is eventually phased out.

5. It is assumed that no capacity improvements will be directly made along the mainlanes of the expanded Grand Parkway System corridor throughout the forecast period; therefore, capacity constraints have been applied in the outer years when demand of the future facility exceeds the available capacity. However, additional cross-streets and roadways from development like Castle Hills near Segment H are assumed. In addition, as noted in the footnotes to the traffic and revenue estimate tables in Section 4.10 of the 2017 Traffic and Revenue Study, several new cross-streets, frontage roads and ramps are assumed along the expanded Grand Parkway System corridor.

6. Future population and employment will be in line with those estimated by CDM Smith's independent economist, CDS, both in scale and distribution.

7. The revenue leakage assumptions reflect the actual revenue leakage experience on Grand Parkway Segments D (Harris County) and E through mid-2016, and indicate the transaction and revenue leakage prior to the application of any administration and violation fees.

8. No other competing facilities, toll or toll-free, beyond those included in the H-GAC regional transportation plan, and/or the toll road expansion programs of TxDOT, HCTRA and FBCTRA, shall be implemented within the forecast period.

9. The entire Grand Parkway System will be properly maintained, efficiently operated and appropriately promoted and signed to encourage maximum usage.

10. No national, regional or local emergency will occur which would abnormally restrict the use of motor vehicles for the duration of the forecast period.

11. Motor fuel will remain in adequate supply for the forecast period, and overall long-term increases in price will not be substantially greater than the rate of inflation.

As part of the 2017 Traffic and Revenue Study, a toll sensitivity analysis was conducted for the model years 2016, 2020, and 2035. The sensitivity analyses indicated that the proposed toll rates along the Grand Parkway System Segments D through I are expected to be well below the estimated theoretical revenue maximization points. This demonstrates that, if needed, there is considerable potential for revenue enhancement through toll increases above current rates and the escalated rates assumed for forecasting purposes. See Chapter 5 of the 2017 Traffic and Revenue Study. See also, "INITIAL PROJECT OF THE CORPORATION – SH 249 Direct Connectors" and "RISK FACTORS – Traffic and Revenue Study."

The traffic/transaction estimates in the 2017 Traffic and Revenue Study for forecast years 2020, 2025 and 2035 were developed by running the corresponding future year travel demand models. The traffic estimates for 2021 through 2024 were obtained by interpolating 2020 and 2025 models and traffic for other years through 2034 were estimated by interpolation of the 2025 and 2035 model year volumes. Traffic/transaction estimates between 2035 and 2039 were extrapolated from the 2035 modeled data using nominal growth rates for transactions of 3.0% annually for Segments H and I-1, and nominal growth rates for transactions of 2.5% annually for all other segments. Beyond 2039, nominal growth rates for transactions for all segments was 2.0% (2040 through 2044), 1.5% (2045 through 2049), 1.0% (2050 through 2054) and 0.5% thereafter. Revenue estimates are based on the assumed transaction growth rates as well as assumed annual increases in toll rates.

2018 T&R Letter

The 2018 T&R Letter updates the base case traffic and toll revenue estimates for the System for years 2018 through 2058. Since the completion of the 2017 Traffic and Revenue Study, new information became available, which warranted minor changes to the base case traffic and toll revenue estimates for the System as summarized below (see the 2018 T&R Letter for additional information regarding the updates undertaken to the base case traffic and toll revenue estimates for the System):

1. The 2018 T&R Letter incorporates the observed actual traffic and toll revenue trends from December 2016 to January 2018 for Segments D (Harris County), E, F-1, F-2 and G of the System, and assumes that Segments H, I-1 and I-2B will be substantially complete and open to tolled traffic on May 22, 2022.

2. Implementation of the changes to toll collection and billing procedures required by SB 312 (referred to in the 2018 T&R Letter as the "Pay-By-Mail" or "PBM" option) and expansion of a portion of Segment H, from US 59N and Huffman Cleveland Road, from two lanes to four lanes (referred to as the H-West Option in the Design Build Agreement), were included as the baseline condition in the 2018 T&R Letter. Implementation of the PBM option and the H-West Option were assumed as sensitivity tests in the 2017 Traffic and Revenue Study.

3. Minor changes to opening dates of roadways in the vicinity of Segments D (Harris County) through I-2 of the System were incorporated into the 2018 T&R Letter.

4. The assumptions associated with revenue recovery were also updated as part of the 2018 T&R Letter based on the recent trends in revenue recovery the assumed implementation of the PBM option by May 22, 2022. A lower AVI (or ETC) market share was also assumed in the 2018 T&R Letter as compared to the AVI market share assumed in the 2017 Traffic and Revenue Study due to the implementation of the PBM option for the System.

5. Incorporation of a one to two-year lag to the expected traffic and toll revenue from Segments H and I based on new information regarding socioeconomic growth within Liberty and Chambers County, as described in the "Grand Parkway System Demographic Trends" section of the 2018 T&R Letter.

As set forth in the 2018 T&R Letter, the overall increase in transactions for the existing Grand Parkway System Segments D through G, as compared to the 2017 Traffic and Revenue Study, is predominately a result of re-benchmarking to the observed traffic from December 2016 to January 2018 and to account for the additional traffic usage expected as a result of the implementation of the PBM option. The lower Segments H and I transactions are mainly due to the expected one to two-year lag in the socioeconomic growth along Segments H and I. In 2035, the total Grand Parkway System Segments D through I transactions estimated in the 2018 T&R Letter are 6.9 percent higher than the transaction estimates in the 2017 Traffic and Revenue Study, despite the lower Segments H and I transactions. The annual net revenues for the Grand Parkway System as shown in the 2018 T&R Letter, after taking into consideration the lower net revenues expected from Segment H and I and higher leakage resulting from the implementation of PBM option, are 1.0 percent higher in comparison to the 2017 Traffic and Revenue Study's annual net revenues. See "APPENDIX G – 2018 T&R LETTER."

Many of the underlying models developed as part of the 2017 Traffic and Revenue Study remain in place, and the revisions incorporated into the 2018 T&R Letter are limited to those described therein. CDM Smith believes that the traffic and toll revenue estimates contained in the 2018 T&R Letter reflect reasonable assumptions and trends that do not materially impact the previous model efforts and sensitivities described in the 2017 Traffic and Revenue Study. The revenue estimates in the System T&R Report include only toll revenues and do not include any fee revenue or investment income.

2020 T&R Reliance Letter

In the 2020 T&R Reliance Letter, CDM Smith re-evaluated the underlying assumptions included in the 2018 T&R Letter. In addition, the 2020 T&R Reliance Letter considered the actual traffic and revenue trends observed for the System through November 2019. Based on a general assessment of the key influential factors and the current strong performance of the System transactions and revenues, CDM Smith concluded that the traffic and revenue projections and the conclusions summarized in the 2018 T&R Letter still remain valid. See "APPENDIX H – 2020 T&R RELIANCE LETTER."

The System T&R Report was conducted at an investment grade level and is considered suitable for use in project financing. CDM Smith anticipates that any significant departure from the key assumptions in the System T&R Report could have a material impact on the actual traffic and toll revenue realized from the System. See "RISK FACTORS – Forward-Looking Statements" and "– Traffic and Revenue Study." CDM Smith has consented to the inclusion of the System T&R Report in this Official Statement. On the Date of Delivery of the 2020 Bonds, CDM Smith will execute and deliver a certificate to the Corporation and the Underwriters certifying to the effect that, among other matters, as of such date (i) the factual information in the System T&R Report is true and accurate in all material respects, (ii) CDM Smith believes that the conclusions set forth in the System T&R Report were reasonable as of the date of the System T&R Report and continue to be reasonable, subject to the disclaimers, assumptions and qualifications set forth in the System T&R Report, and (iii) CDM Smith is not aware of any significant or material plan, event or circumstance occurring after the date of the System T&R Report that would cause it to believe that the conclusions set forth in the System T&R Report are no longer reasonable.

The following table presents estimated annual toll revenue on Segments D (Harris County), E, F-1, F-2, G, H, I-1 and I-2. Annual toll revenues have been adjusted to reflect "ramp-up" during the first several years of operation. Annual fiscal year end toll revenue (less non-collectible revenue) is expected to be approximately $187.9 million in 2020 and $508.8 million in 2035. Annual fiscal year end toll revenue (less non-collectible revenue) is anticipated to be more than $1.0 billion in 2053.

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Table 6 – Estimated Annual Toll Revenue for the System

(in thousands)

FYE 31-Aug	Segment D (Harris County)	Segment E	Segment F-1	Segment F-2	Segment G	Segment H	Segment I-1	Segment I-2A	Segment I-2B	Total Gross Toll Revenues	Less Non-Collectible Revenues[1]	Total Net Toll Revenues
2020	$ 7,936	$ 57,388	$ 42,096	$ 55,912	$ 37,324	-	-	-	-	$ 200,656	$ 12,674	$ 187,982
2021	8,333	60,033	44,098	58,274	40,837	-	-	-	-	211,575	12,887	198,688
2022	8,815	63,435	46,490	60,845	44,813	$ 2,479	$ 1,071	$ 2,150	$ 608	230,706	13,533	217,173
2023	9,586	68,948	49,772	64,301	50,845	12,458	5,232	8,065	2,990	272,197	18,257	253,940
2024	10,061	72,239	52,146	66,852	55,285	16,887	6,959	8,674	3,955	293,058	20,656	272,402
2025	10,519	75,408	54,478	69,399	59,893	21,123	8,599	9,382	4,797	313,598	23,175	290,423
2026	11,011	79,155	57,011	72,129	64,508	23,644	9,574	10,010	5,311	332,353	24,395	307,958
2027	11,532	83,301	59,426	74,997	68,985	25,465	10,298	10,654	5,712	350,370	25,542	324,828
2028	12,073	87,775	62,067	78,092	73,895	27,510	11,123	11,323	6,160	370,018	26,789	343,229
2029	12,635	92,533	64,927	81,191	79,239	29,837	12,047	12,080	6,641	391,130	28,122	363,008
2030	13,259	97,483	67,912	84,688	85,132	32,303	13,111	12,943	7,177	414,008	29,560	384,448
2031	13,878	102,469	70,832	88,098	91,323	35,032	14,322	13,907	7,764	437,625	31,028	406,597
2032	14,547	107,819	73,923	91,566	97,960	37,924	15,562	14,894	8,369	462,564	32,565	429,999
2033	15,263	113,450	77,224	95,451	105,175	41,052	16,942	15,945	9,002	489,504	34,216	455,288
2034	15,980	119,225	80,609	99,168	112,849	44,441	18,433	17,086	9,677	517,468	35,912	481,556
2035	16,656	124,856	84,253	103,150	120,826	47,995	19,975	18,271	10,434	546,416	37,648	508,768
2036	17,443	130,817	88,299	107,761	127,552	50,929	21,226	19,241	11,063	574,331	39,284	535,047
2037	18,284	137,184	92,554	112,847	133,543	53,632	22,347	20,148	11,530	602,069	40,640	561,429
2038	19,128	143,527	96,975	118,445	140,133	56,443	23,531	21,111	12,065	631,358	42,617	588,741
2039	20,019	150,270	101,380	124,118	146,713	59,423	24,776	22,107	12,668	661,474	44,649	616,825
2040	20,936	156,973	105,875	129,518	153,015	62,147	25,917	23,110	13,249	690,740	46,625	644,115
2041	21,805	163,605	110,318	135,052	159,599	64,798	26,986	24,082	13,784	720,029	48,602	671,427
2042	22,712	170,474	115,025	140,669	166,301	67,566	28,138	25,109	14,357	750,351	50,649	699,702
2043	23,695	177,811	120,157	146,847	173,586	70,399	29,360	26,154	14,971	782,980	52,851	730,129
2044	24,689	185,368	125,117	152,925	180,752	73,336	30,578	27,242	15,603	815,610	55,054	760,556
2045	25,667	192,612	129,841	157,885	187,809	76,215	31,753	28,322	16,203	846,307	57,126	789,181
2046	26,648	199,980	134,783	162,676	195,034	79,039	32,956	29,425	16,790	877,331	59,220	818,111
2047	27,634	207,392	139,939	167,641	202,127	82,015	34,205	30,517	17,439	908,909	61,351	847,558
2048	28,671	215,050	145,005	172,634	208,699	85,095	35,487	31,611	18,148	940,400	63,477	876,923
2049	29,764	223,259	150,306	177,724	215,140	88,261	36,795	32,806	18,815	972,870	65,669	907,201
2050	30,788	230,833	155,532	182,602	221,085	91,211	38,065	33,931	19,398	1,003,445	67,733	935,712
2051	31,784	238,276	160,695	187,596	227,025	94,188	39,300	35,038	20,029	1,033,931	69,790	964,141
2052	32,789	245,953	165,948	192,541	233,299	97,199	40,550	36,171	20,689	1,065,139	71,897	993,242
2053	33,833	253,780	171,309	197,900	239,547	100,361	41,840	37,297	21,366	1,097,233	74,063	1,023,170
2054	34,896	261,924	176,753	203,273	245,768	103,610	43,177	38,515	22,050	1,129,966	76,273	1,053,693
2055	35,842	269,025	181,886	208,481	251,825	106,572	44,417	39,655	22,677	1,160,380	78,326	1,082,054
2056	36,722	275,529	186,660	213,411	258,131	109,456	45,623	40,717	23,265	1,189,514	80,292	1,109,222
2057	37,645	282,535	191,589	218,745	264,340	112,466	46,869	41,805	23,868	1,219,862	82,341	1,137,521
2058	38,594	289,419	196,975	224,182	271,241	115,489	48,164	42,924	24,540	1,251,528	84,478	1,167,050
Total	**$832,072**	**$6,207,113**	**$4,230,185**	**$5,079,586**	**$5,791,153**	**$2,298,000**	**$955,308**	**$872,422**	**$493,164**	**$26,759,003**	**$1,819,965**	**$24,939,038**

Source: 2018 T&R Letter.
(1) As described in the "Grand Parkway System T&R Estimates" section of the 2018 T&R Letter.

ENGINEERING REPORTS

HNTB Corporation has prepared its "Grand Parkway Engineer's Report – Segments H and I" dated April 2, 2018, (the "*2018 Engineer's Report*") that documents and describes the location, engineering design, construction schedule and cost estimates for the H and I Project. The 2018 Engineer's Report also includes the operation and maintenance expense estimates for the System, including estimates of toll collection and toll system maintenance costs for the System resulting from the Corporation's agreement with TxDOT for TxDOT to provide toll collection, operations and enforcement services, including fees relating to interoperability of the System's tolling infrastructure with that of other tolling systems within the State of Texas and certain other states. The operation and maintenance expense estimates for the System are shown in the table under "TABLE 8 – ESTIMATED TOLL REVENUES AND EXPENSES AND ESTIMATED DEBT SERVICE COVERAGE."

HNTB Corporation delivered a certification letter dated January 24, 2020 (the "*2020 O&M Certification Letter*") that re-evaluated the underlying assumptions relating to the estimated operation and maintenance expenses for the System contained in the 2018 Engineer's Report. Based on a general review of these assumptions, HNTB Corporation did not identify any significant changes that would adversely impact the current operation and maintenance expense estimates included in the 2018 Engineer's Report. As a result, HNTB Corporation made no modifications to the operation and maintenance expense estimates for the System in the 2018 Engineer's Report. The Corporation has also engaged HNTB Corporation as the General Engineering Consultant for the System to perform the progress reporting and other duties imposed upon the General Engineering Consultant under the Master Trust Agreement.

HNTB Corporation has also prepared the "Grand Parkway H and I Project Quarterly Construction Progress Report, September 1, 2019 – November 30, 2019," dated January 13, 2020 (the "*H and I Progress Report*"), which documents and describes the status of construction of the H and I Project. The H and I Progress Report has been filed with the MSRB through its EMMA system with respect to the 2018 Bonds.

The 2018 Engineer's Report is attached as Appendix H to the final Official Statement dated May 16, 2018 relating to the 2018 Bonds, which has been filed with the MSRB through its EMMA system with respect to the 2018 Bonds. Each of the 2018 Engineer's Report and the H and I Progress Report may be accessed over the internet at https://www.emma.msrb.org and are hereby incorporated by reference into and made a part of this Official Statement as if set forth herein. See "PROFESSIONAL ENGINEERS."

HNTB Corporation is an employee-owned infrastructure firm with more than 4,800 professional and technical staff in over 60 locations across the United States. HNTB Corporation currently serves as the general engineering consultant to 16 toll agencies within the United States and provides a wide range of specialized technical consulting and program management services to another 30 toll clients across the United States. HNTB Corporation's general engineering consultant services include facility inspections, preparation of annual reports, review of operations and maintenance budgets and programs, and bond finance obligation requirements.

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TABLE 7 – PRO FORMA DEBT SERVICE REQUIREMENTS

Set forth in the table below are the total debt service requirements for the 2020 Bonds and the Outstanding Obligations of the Corporation secured by the Revenues of the System, after giving effect to the application of the proceeds of the 2020 Bonds on the anticipated Date of Delivery thereof. See "PLAN OF FINANCE – Refunded Obligations."

			2020 Bonds					
FYE 31-Aug	Existing First Tier Debt Service[1]	Existing Subordinate Tier (TELA Supported Bonds) Net Debt Service[2]	First Tier Series 2020A Debt Service	Subordinate Tier Series 2020B (TELA Supported) Debt Service	First Tier Series 2020C Debt Service	Total First Tier Debt Service	Total Subordinate Tier (TELA Supported) Net Debt Service	Total System Net Debt Service
2020	$ 6,633,588	$ 49,766,405	-	-	-	$ 6,633,588	$ 49,766,405	$ 56,399,993
2021	2,446,163	20,599,280	$ 7,906,099	$ 58,332,862	$ 33,955,577	44,307,838	78,932,142	123,239,981
2022	2,446,163	20,599,280	7,223,847	58,330,411	31,025,400	40,695,409	78,929,691	119,625,100
2023	2,446,163	64,530,530	7,223,847	58,331,740	31,025,400	40,695,409	122,862,271	163,557,680
2024	2,446,163	79,575,641	7,223,847	58,333,902	31,025,400	40,695,409	137,909,543	178,604,952
2025	2,446,163	94,633,783	7,223,847	41,852,607	31,025,400	40,695,409	136,486,390	177,181,799
2026	2,446,163	94,633,783	7,223,847	41,850,404	31,025,400	40,695,409	136,484,187	177,179,596
2027	2,446,163	94,633,783	8,149,006	41,853,764	31,025,400	41,620,568	136,487,547	178,108,116
2028	2,446,163	94,633,783	8,178,552	41,852,934	31,025,400	41,650,114	136,486,716	178,136,831
2029	2,446,163	94,633,783	8,196,074	41,852,569	31,025,400	41,667,636	136,486,352	178,153,988
2030	2,446,163	96,672,055	8,221,229	41,852,469	31,025,400	41,692,791	138,524,525	180,217,316
2031	2,446,163	109,933,559	8,239,164	41,849,426	31,025,400	41,710,727	151,782,985	193,493,712
2032	2,767,706	118,245,990	8,265,187	41,853,101	31,025,400	42,058,293	160,099,091	202,157,384
2033	3,150,288	123,536,210	8,284,155	41,852,978	31,025,400	42,459,842	165,389,188	207,849,030
2034	3,541,088	133,845,580	8,310,443	41,853,567	31,278,900	43,130,430	175,699,148	218,829,578
2035	3,948,313	144,723,327	8,334,141	41,850,040	31,704,650	43,987,104	186,573,367	230,560,471
2036	4,365,041	153,547,735	8,353,944	41,852,681	32,161,525	44,880,509	195,400,416	240,280,926
2037	4,799,222	159,413,894	8,389,785	41,853,518	32,881,050	46,070,056	201,267,411	247,337,468
2038	5,248,550	166,425,618	8,482,264	41,852,897	34,697,150	48,427,964	208,278,515	256,706,479
2039	5,710,719	169,985,687	8,629,548	41,848,970	37,621,650	51,961,917	211,834,657	263,796,573
2040	6,188,294	170,671,886	8,834,727	41,851,585	41,709,050	56,732,070	212,523,472	269,255,542
2041	6,683,584	169,853,912	9,097,706	41,851,224	46,906,750	62,688,041	211,705,136	274,393,176
2042	7,193,772	166,824,545	9,420,758	41,852,519	53,426,750	70,041,280	208,677,064	278,718,344
2043	7,720,909	162,247,565	9,804,016	41,849,472	61,058,650	78,583,576	204,097,037	282,680,613
2044	8,271,666	159,800,768	10,245,000	41,851,923	69,852,850	88,369,516	201,652,691	290,022,206
2045	-	157,050,493	19,562,957	41,849,711	79,776,950	99,339,907	198,900,203	298,240,110
2046	-	152,865,578	20,705,447	41,852,674	90,993,350	111,698,797	194,718,252	306,417,048
2047	-	144,992,103	21,922,396	41,850,653	103,292,650	125,215,046	186,842,756	312,057,801
2048	-	140,434,421	23,214,424	41,853,486	116,691,550	139,905,974	182,287,907	322,193,881
2049	-	89,398,663	24,572,150	83,923,432	131,046,550	155,618,700	173,322,095	328,940,795
2050	-	53,624,750	26,006,029	106,454,667	146,408,250	172,414,279	160,079,417	332,493,695
2051	-	42,170,875	23,065,731	293,003,692	74,282,775	97,348,506	335,174,567	432,523,073
2052	-	41,300,875	19,751,596	392,531,371	-	19,751,596	433,832,246	453,583,842
2053	-	45,986,625	43,609,694	379,776,951	-	43,609,694	425,763,576	469,373,271
Total	**$103,130,525**	**$3,781,792,765**	**$421,871,453**	**$2,493,464,201**	**$1,622,051,427**	**$2,147,053,405**	**$6,275,256,966**	**$8,422,310,371**

Note: All interest shown is net of capitalized interest. This table excludes debt service on the 2018 BANs, the 2019 TIFIA Note and the Refunded Obligations. Totals may not compute due to rounding.

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(1) Excludes that portion of the Series 2013A Bonds that will be refunded with a portion of the proceeds of the Taxable Series 2020A Bonds. See "PLAN OF FINANCE – Refunded Obligations."

(2) Net of capitalized interest. Excludes that portion of the Series 2013B Bonds that will be refunded with a portion of the proceeds of the Taxable Series 2020B Bonds. See "PLAN OF FINANCE – Refunded Obligations." Assumes that (i) the Series 2016 Bonds will be refunded on the maturity date thereof with Subordinate Tier TELA Obligations bearing interest at a rate of 5.00%, with mandatory sinking fund installments in 2042 and 2043, and (ii) the Series 2018B Bonds will be remarketed and bear interest at a rate of 5.00% following the Initial Term Fixed Rate Period.

TABLE 8 – ESTIMATED TOLL REVENUES AND EXPENSES AND ESTIMATED DEBT SERVICE COVERAGE

(dollar amounts shown in thousands)

FYE 31-Aug	Estimated System Toll Revenues[1]	Estimated Senior Operating Expenses (Segments H&I)[2]	Revenues Available for Debt Service	First Tier Net Debt Service[3]	First Tier Net Debt Service Coverage	Second Tier Debt Service[4]	First Tier & Second Tier Net Debt Service Coverage	Subordinate Tier (TELA Supported) Net Debt Service[5]	Consolidated Debt Service Coverage	Estimated TELA Supported Junior Operating Expenses (Segments D-G)[2]	Cashflow after Junior Operating Expenses[6]
	A	B	C = A – B	D	E = C / D	F	G = C / (D+F)	H	I = C / (D+F+H)	J	K = C-D-F-H-J
2020	$ 187,982	-	$ 187,982	$ 6,634	28.34x	-	28.34x	$ 49,766	3.33x	$ 39,734	$ 91,848
2021	198,688	-	198,688	44,308	4.48x	-	4.48x	78,932	1.61x	41,214	34,234
2022	217,173	$ 6,394	210,779	40,695	5.18x	-	5.18x	78,930	1.76x	42,048	49,106
2023	253,940	9,440	244,500	40,695	6.01x	-	6.01x	122,862	1.49x	43,163	37,780
2024	272,402	10,623	261,779	40,695	6.43x	-	6.43x	137,910	1.47x	43,791	39,383
2025	290,423	11,400	279,023	40,695	6.86x	-	6.86x	136,486	1.57x	44,940	56,901
2026	307,958	11,959	295,999	40,695	7.27x	-	7.27x	136,484	1.67x	46,563	72,257
2027	324,828	12,591	312,237	62,203	5.02x	-	5.02x	136,488	1.57x	48,396	65,150
2028	343,229	13,382	329,847	62,261	5.30x	-	5.30x	136,487	1.66x	50,417	80,682
2029	363,008	14,137	348,871	62,222	5.61x	-	5.61x	136,486	1.76x	52,249	97,913
2030	384,448	14,618	369,830	62,276	5.94x	-	5.94x	138,525	1.84x	54,080	114,950
2031	406,597	15,140	391,457	65,888	5.94x	-	5.94x	151,783	1.80x	56,102	117,684
2032	429,999	16,597	413,402	66,254	6.24x	-	6.24x	160,099	1.83x	57,755	129,294
2033	455,288	17,223	438,065	70,442	6.22x	-	6.22x	165,389	1.86x	60,178	142,056
2034	481,556	17,154	464,402	73,136	6.35x	-	6.35x	175,699	1.87x	62,689	152,878
2035	508,768	17,920	490,848	76,038	6.46x	-	6.46x	186,573	1.87x	64,897	163,339
2036	535,047	18,550	516,497	77,011	6.71x	-	6.71x	195,400	1.90x	67,142	176,943
2037	561,429	19,550	541,879	79,290	6.83x	-	6.83x	201,267	1.93x	69,181	192,141
2038	588,741	19,582	569,159	82,729	6.88x	-	6.88x	208,279	1.96x	71,708	206,443
2039	616,825	19,703	597,122	87,361	6.84x	-	6.84x	211,835	2.00x	73,597	224,328
2040	644,115	20,239	623,876	93,235	6.69x	-	6.69x	212,523	2.04x	75,658	242,459
2041	671,427	20,818	650,609	100,323	6.49x	-	6.49x	211,705	2.09x	78,250	260,331
2042	699,702	21,503	678,199	108,803	6.23x	-	6.23x	208,677	2.14x	80,349	280,370
2043	730,129	22,194	707,935	123,389	5.74x	-	5.74x	204,097	2.16x	83,010	297,439
2044	760,556	22,771	737,785	137,200	5.38x	-	5.38x	201,653	2.18x	85,333	313,599
2045	789,181	23,326	765,855	150,595	5.09x	-	5.09x	198,900	2.19x	87,362	328,998
2046	818,111	23,819	794,292	164,301	4.83x	-	4.83x	194,718	2.21x	89,123	346,150
2047	847,558	24,555	823,003	184,855	4.45x	-	4.45x	186,843	2.21x	91,121	360,184
2048	876,923	25,350	851,573	201,698	4.22x	-	4.22x	182,288	2.22x	94,019	373,568
2049	907,201	25,950	881,251	222,228	3.97x	-	3.97x	173,322	2.23x	96,095	389,607
2050	935,712	26,521	909,191	243,823	3.73x	-	3.73x	160,079	2.25x	97,939	407,350
2051	964,141	27,090	937,051	150,707	6.22x	-	6.22x	335,175	1.93x	99,991	351,178
2052	993,242	27,862	965,380	73,451	13.14x	-	13.14x	433,832	1.90x	101,840	356,257
2053	1,023,170	28,558	994,612	97,760	10.17x	-	10.17x	425,764	1.90x	103,831	367,257
	$19,389,497	**$606,519**	**$18,782,978**	**$3,233,900**		**$0**		**$6,275,257**		**$2,353,765**	**$6,920,056**

(1) Amounts obtained from the 2018 T&R Letter. See "TRAFFIC AND REVENUE STUDY."

(2) The operation and maintenance expenses for the H and I Project and the System facilities that comprise Segment I-2A have been designated as Senior Operating Expenses and will not be benefitted by the TELA; however, such expenses of Segment I-2A will not become the responsibility of the Corporation until the date of substantial completion of construction of the H and I Project (within the meaning of the Design Build Agreement). TELA Supported Junior Operating Expenses consist of all Junior Operating Expenses for the System facilities that comprise the Initial Project (including the estimated Junior Operating Expenses for the SH 249 Connectors) and constitute "Operating Expenses" under the TELA. Amounts obtained from the 2018 Engineer's Report. See "ENGINEERING REPORTS." No assurances can be provided that the SH 249 Connectors will eventually be constructed. See "THE INITIAL PROJECT OF THE CORPORATION – SH 249 Direct Connectors."

(3) Net of capitalized interest. Excludes the Refunded Bonds. While there is no guarantee that the 2018 BANs will be refunded with proceeds of the 2019 TIFIA Loan, given the status of long-term fixed interest rates at the time of such refunding and that disbursements made under the 2019 TIFIA Loan will be subject to certain conditions precedent set forth in the 2019 TIFIA Loan Agreement, this table assumes that the 2018 BANs will be refunded on February 1, 2023 with the proceeds of disbursements made under the 2019 TIFIA Loan. The 2019 TIFIA Note, which evidences the Corporation's obligation to repay the 2019 TIFIA Loan, is a First Tier Obligation, bears interest at a fixed rate of 3.03% and has a final maturity date of October 1, 2052. This table assumes that the 2019 TIFIA Loan will be repaid in accordance with the terms of the 2019 TIFIA Loan Agreement, but does not reflect any mandatory prepayments that may be required by the terms thereof. See "2019 TIFIA LOAN AGREEMENT."

(4) Excludes the 2014 TIFIA Note. As described in "PLAN OF FINANCE – General," the 2014 TIFIA Note will be prepaid in full with a portion of the proceeds of the 2020 First Tier Bonds.

(5) Net of capitalized interest. Excludes the Refunded Bonds. Assumes that the Series 2016 Bonds will be refunded on the maturity date thereof with Subordinate Tier TELA Obligations bearing interest at a rate of 5.00%, with mandatory sinking fund installments due in 2042 and 2043. Assumes that the Series 2018B Bonds will be remarketed and bear interest at a rate of 5.00% following the Initial Term Fixed Rate Period.

(6) Defined as Junior Net Revenues in the Master Trust Agreement. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts."

Totals may not compute due to rounding.

CERTAIN PROJECT DOCUMENTS

Design Build Agreement for the H and I Project

Set forth below is a summary of certain provisions of the Design Build Agreement for the H and I Project, which summary does not purport to be comprehensive or definitive and is qualified in its entirety by reference to the Design Build Agreement. The Design Build Agreement (excluding certain technical provisions and documents incorporated therein by reference) has been filed separately with the MSRB through its EMMA system with respect to the Outstanding Series 2013 Obligations, and may be accessed over the internet at https://www.emma.msrb.org. Such portions of the Design Build Agreement are hereby incorporated by reference into and made a part of this Official Statement as if set forth herein. All capitalized terms used in this "– Design Build Agreement for the H and I Project" caption and not otherwise defined have the meanings assigned thereto in the Design Build Agreement.

General. The Design Build Agreement contains the representations, commitments and obligations of the DB Contractor and the Corporation related to the development, design, construction and maintenance of the H and I Project. NTP1, Limited NTP2 and NTP2 (as each such term is defined in the Design Build Agreement) were issued by TxDOT, on behalf of the Corporation, pursuant to the terms of the Design Build Agreement on July 10, 2017, October 13, 2017 and October 27, 2017, respectively. NTP1 authorizes the DB Contractor to prepare the Project Management Plan for submittal and to obtain TxDOT approval, on behalf of the Corporation, of the plan and authorizes the DB Contractor to enter the H and I Project right-of-way in order to conduct surveys and site investigations including geotechnical, hazardous materials and utilities investigations. NTP2 authorizes the DB Contractor to proceed with all other work and activities (including right-of-way acquisition services) pertaining to the H and I Project pursuant to the terms of the Design Build Agreement. Pursuant to the original terms of the Design Build Agreement, the DB Contractor is required to achieve substantial completion of the H and I Project on February 8, 2022, which date is subject to extension for change orders and certain unidentified utility conflicts, as further described below. In November 2018, the DB Contractor and the Corporation executed a change order relating to a delay in the issuance of NTP2 and the impact Hurricane Harvey, which extended the DB Contractor's deadline to achieve substantial completion of the H and I Project to February 27, 2022. Based on the impact of Tropical Storm Imelda, the DB Contractor is in the process of preparing a Time Impact Analysis to support a potential extension of the substantial completion deadline under the terms of the Design Build Agreement. See "THE GRAND PARKWAY SYSTEM – Impact of Tropical Storm Imelda" and "THE H AND I PROJECT – Status of Construction of H and I Project."

Pursuant to the original terms of the Design Build Agreement, the Corporation will pay to the DB Contractor a base price of $855,305,915.22 for the development, design and construction of the H and I Project and $39,395,706.33 for the H-West Option. The Corporation issued the Option Notice to Proceed for the H-West Option on October 27, 2017. The total estimated cost of the H and I Project set forth in the 2018 Engineer's Report includes the H-West Option. See the 2018 Engineer's Report, which is incorporated hereby by reference as described in "INTRODUCTION – Incorporation by Reference." The total amount due to the DB Contractor under the Design Build Agreement may be increased or decreased by a change order or for differing site conditions and certain previously unidentified utilities that result in an increase in certain costs that exceed certain threshold cost amounts. For the status of construction of the H and I Project, including a description of the change orders that have been executed by the Corporation under the terms of the Design Build Agreement, including a pending change order, see "THE H AND I PROJECT – Status of Construction of H and I Project." See also, the H and I Progress Report, which is incorporated herein by reference. See "INTRODUCTION – Incorporation by Reference."

While the Design Build Agreement has been assigned by TxDOT to the Corporation, TxDOT has certain obligations with respect to the construction of the H and I Project. See "– Project Agreement – Obligations of TxDOT." Certain employees of TxDOT have been delegated management, oversight and administrative responsibilities for the Design Build Agreement by resolutions of the Board of Directors of the Corporation.

DB Contractor Obligations. The DB Contractor is required to furnish all design and other services, provide all materials, equipment and labor and undertake all efforts necessary or appropriate (excluding only those materials, services and efforts which the contract documents expressly specify will be undertaken by the Corporation or other persons) to design and construct the H and I Project and maintain the H and I Project during construction in accordance with the requirements of the contract documents. The DB Contractor is responsible for performing and the costs (excluding the purchase price of certain right-of-way identified in the NEPA approvals, and the costs of possession and use agreements, title insurance and relocation costs) of all rights-of-way, engineering, surveying, appraisals, administration, acquisition, environmental and related services for right-of-way parcels purchased by the Corporation, including all costs and expenses of negotiation and, if necessary, support services for condemnation proceedings including any schedule risk associated with the acquisitions, subject to the terms of the Design Build Agreement. The DB Contractor will perform all right-of-way acquisition services other than those related to condemnation that are required to be performed by the Attorney General of the State and the payment of the purchase price and certain other costs for right-of-way identified in the NEPA approvals.

The DB Contractor is responsible for performing, or causing to be performed, at the DB Contractor's expense (other than costs for betterments, new and certain unidentified utilities), each and every adjustment of utilities including all coordination, design, design review, permitting, construction, inspection, payment, maintenance of records, and work necessary for relinquishment of existing utility property interests, preparation of utility joint use agreements, and acquisition of new property interests required for reinstallation of a utility in a new location. The DB Contractor shall be entitled to a time extension of the applicable Completion Deadline up to an aggregate amount of 90 days for all unidentified utilities that cause delays to the Critical Path. If aggregate delays to the Critical Path resulting from unidentified utilities exceed 90 days, then the risk of delays resulting from unidentified utilities in excess of 90 days shall be borne by the DB Contractor. In addition, the DB Contractor bears all risks for delays due to any failure of a utility owner to cooperate for up to 90 days; past 90 days of delay to the Critical Path, if the DB Contractor demonstrates that it has made diligent efforts to obtain the utility owner's cooperation, the DB Contractor may be entitled to a time extension of one day for each two days of delay to the Critical Path.

If at any time during the term of the Design Build Agreement the total combined tangible net worth of the DB Contractor and its equity members and any guarantors is less than $400 million, the DB Contractor is required to provide one or more additional guarantees so that such combined tangible net worth of the DB Contractor, its equity members and guarantors is at least $400 million.

The DB Contractor is required to provide payment, performance, retainage and warranty bonds to the Corporation securing the DB Contractor's obligations under the Design Build Agreement and to maintain such bonds in full force and effect. The amount of each of the payment and performance bonds required is $25 million at the time of issuance of NTP1 and approximately $815,220,518 at the time of issuance of NTP2. The amount of the warranty bond at final acceptance is approximately $8,553,059. The amount of the retainage bond is four percent of the total contract price.

Corporation/TxDOT Obligations. TxDOT is responsible for the acquisition of certain right-of-way identified in the NEPA approvals (except that the cost of right-of-way is reimbursable by the Corporation in accordance with the terms of the Project Agreement). The total estimated cost of the H and I Project set forth in the 2018 Engineer's Report includes the estimated cost of the right-of-way for which the Corporation is responsible under the terms of the Design Build Agreement. See the 2018 Engineer's Report, which is incorporated herein by reference as described in "INTRODUCTION – Incorporation by Reference." The Corporation has received NEPA clearance for Segments H and I. TxDOT and the DB Contractor are at risk for any hazardous substance costs as follows: the first $3 million of costs are the DB Contractor's responsibility; costs greater than $3 million up to $4.5 million are shared equally between TxDOT and the DB Contractor; and costs greater than $4.5 million are TxDOT's responsibility. The Corporation is at risk for certain defined force majeure events and is required to provide certain cost and/or time relief for necessary changes in basic configuration, certain right-of-way acquisition delays, differing site conditions and changes to the H and I Project initiated by the Corporation. The determination of a force majeure event is subject to the terms of the Design Build Agreement, and any resulting change in price or schedule would require execution of a change order in accordance with the terms of the Design Build Agreement. TxDOT will have certain other obligations with respect to the construction of the H and I Project. See "– Project Agreement – Obligations of TxDOT."

Project Schedule. The DB Contractor is liable for and will pay to the Corporation liquidated damages with respect to any failure to achieve substantial completion and final acceptance by the applicable completion deadline. The amounts of such liquidated damages are as follows: $170,000 for each day after the applicable substantial completion deadline and through the date of substantial completion, but not to exceed 365 days; and $9,000 per day for each day after the final acceptance deadline and through the date of the final acceptance. The DB Contractor is also liable for liquidated damages with respect to any failure to complete the toll zone work (areas around gantries) by the applicable deadline. The amounts of such liquidated damages are $170,000 for each day after the applicable completion deadline (180 days prior to the substantial completion deadline) and through the date completion of the toll zone work actually occurs. Under the Trust Agreement, any liquidated damages are to be used to pay System development and construction costs or, if there are no such costs, debt service on the 2018 Bonds.

Insurance; Warranties. The DB Contractor is required to provide certain insurance coverages that are set forth in Exhibit 14 to the Design Build Agreement. TxDOT and the Corporation will be listed as additional insureds on all insurance policies except for professional liability. The Design Build Agreement includes a general warranty of the work that commences at substantial completion and ends one year after final acceptance. The warranty applies to any work that is corrected or replaced during the initial warranty period, and the warranty period will be extended for such repaired or replaced work for up to two years after final acceptance so that there is a one-year warranty on such work.

DB Contractor Defaults. The Design Build Agreement provides that certain events or breaches by the DB Contractor are the "DB Contractor Defaults" under the Design Build Agreement, including the failure to commence and complete work on time, the failure to comply with the Design Build Agreement and other contract documents, and the occurrence of certain bankruptcy-related events or of an event of default under the H and I Capital Maintenance Agreement. Certain DB Contractor Defaults entitle the DB Contractor to receive notice and opportunity to cure within certain time periods.

Remedies. At the end of any notice and cure period, the Corporation may declare that an "Event of Default" has occurred and shall then have the right to terminate the Design Build Agreement or a portion thereof, deduct certain amounts from payments due to the DB Contractor, perform the DB Contractor's obligations under the Design Build Agreement and other contract documents and exercise any other rights and remedies available under the Design Build Agreement or available at law or in equity, including making demand upon and enforcing the payment, performance, retainage and warranty bonds, as applicable. The DB Contractor and any guarantors are jointly and severally liable to the Corporation for all costs reasonably incurred by the Corporation or any person acting on the Corporation's behalf in completing the work or having the work completed by another person. In addition to collecting liquidated damages, the Corporation may terminate the Design Build Agreement for default if there are delays to the substantial completion date and there is no approved recovery schedule showing completion within 180 days after the then current substantial completion date.

Termination. The Corporation may, at any time, terminate the Design Build Agreement and the performance of the work by the DB Contractor, in whole or in part, if the Corporation determines, in its sole discretion, that a termination is in the Corporation's best interest. The DB Contractor also may terminate the Design Build Agreement for non-payment of more than 180 days.

The DB Contractor. The DB Contractor, Grand Parkway Infrastructure, LLC, is a Delaware limited liability company. The DB Contractor's members and their respective ownership interests are as follows: Ferrovial Agroman Texas, LLC (40%), Granite Construction Company ("*Granite*") (30%), and DBW Construction, LLC (30%). Ferrovial Agroman Texas, LLC is a Texas limited liability company, the sole member of which is Ferrovial Agroman US Corp. ("*Ferrovial Agroman*"). DBW Construction, LLC is a Texas limited liability company, the sole member of which is Webber, LLC ("*Webber*"). Each of Ferrovial Agroman, Granite and Webber have provided guarantees of the DB Contractor's obligations under the Design Build Agreement and the H and I Capital Maintenance Agreement pursuant to the respective terms of such agreements; however, such guarantees do not provide any support or guarantee for the payment of the debt service due on any Outstanding Obligations, or any other obligations not expressly incorporated into the Design Build Agreement, the H and I Capital Maintenance Agreement or the guarantees. Set forth below is additional information regarding each of Ferrovial Agroman, Granite and Webber, and none of Ferrovial Agroman, Granite, Webber, the Corporation or TxDOT have any obligation to update such information following the issuance of the 2020 Bonds. For a description of the undertakings of the Corporation and TxDOT, respectively, to provide certain information on a continuing basis, see "CONTINUING DISCLOSURE OF INFORMATION."

Ferrovial Agroman, through its affiliates, has been active in the North American transportation industry since 1999 with eight major design-build contracts in the US. These eight major design-build contracts are: (i) the ITR project in Indiana, (ii) the Texas SH-130 Segments 5 and 6 project in Texas, (iii) the NTE 1 and 2 project in Texas, (iv) the LBJ Express project in Texas, (v) the North Tarrant Express Segment 3A and 3B Facility, (vi) the I-77 Mobility Express Project, (vii) the California High Speed Rail Package 4, and (viii) the I-285/SR400 in Atlanta, Georgia.

Granite is headquartered in Watsonville, California. Incorporated in 1922 and publicly traded since 1990, Granite is one of the oldest and largest heavy civil contractors in the United States. The company is known for heavy civil transportation infrastructure projects including highways, hydroelectric dams, navigation locks, tunnels, bridges, mass transit facilities, pumping plants and airports. Granite also produces sand, gravel, ready-mix and asphalt concrete and other construction materials. Granite has maintained a presence in the Texas market since the 1980's and has been involved with over 30 projects in the State, including building or reconstructing over 225 miles of highway. Granite has one of the largest contractor-owned heavy construction equipment fleets in the United States. Ownership of these assets enables the firm to compete more effectively by ensuring the availability of equipment. Granite's equipment fleet includes more than 2,100 pieces of heavy construction equipment and 4,500 trucks, trailers and vehicles.

Headquartered in Houston, Webber has been a partner with TxDOT developing over 1,600 of the State's roadway projects over the last 30 years. Webber employs 1,900 Texans, has more than 300 pieces of equipment located in the State, and owns 19 yards including an asphalt plant, sand plant, 10 crushing plants and six soil stabilization plants. Since 1963, Webber has been a partner with TxDOT, HCTRA and other agencies on hundreds of hard-bid roadway and bridge projects in the Houston area.

Capital Maintenance Agreement for the H and I Project

TxDOT and the DB Contractor have also executed a Capital Maintenance Agreement relating to the H and I Project (the "*H and I Capital Maintenance Agreement*"), which has been assigned by TxDOT to the Corporation. Pursuant to the H and I Capital Maintenance Agreement, the DB Contractor will be responsible for the maintenance of roadways (including pavement, crossovers, concrete joints and curbs), structures, earthworks, embankments and cuttings of Segments H, I-1 and I-2B for an initial five-year term (subject to the Corporation's issuance of a notice to proceed to the DB Contractor) with two additional five-year terms at the Corporation's option. Should the Corporation fail to issue the notice to proceed for the first five-year term, the H and I Capital Maintenance Agreement will be deemed terminated for convenience and the Corporation will be responsible for certain costs relating to termination up to a maximum of $3 million. The DB Contractor is required to maintain Segments H, I-1, and I-2B in accordance with prescribed standards. The DB Contractor is required to provide either a letter of credit or payment and performance bonds, and a retainage bond, to the Corporation securing the DB Contractor's obligations under H and I Capital Maintenance Agreement and maintain such security in full force and effect. If at any time during the term of the H and I Capital Maintenance Agreement the total combined tangible net worth of the DB Contractor and its equity members and any guarantors is less than $200 million, the DB Contractor is required to provide one or more additional guarantees so that such combined tangible net worth is at least $200 million. Under the terms of the H and I Capital Maintenance Agreement, the DB Contractor will also have the responsibility to maintain the improvements constructed by the DB Contractor for Segment I-2A pursuant to the Design Build Agreement. The Corporation will be obligated to operate and maintain Segment I-2A upon substantial completion of the H and I Project in accordance with the terms of the Design Build Agreement.

Development Agreement for Segments F-1, F-2 and G

General. Segments F-1, F-2 and G were constructed pursuant to the Development Agreement between TxDOT and the Developer, which has been assigned by TxDOT to the Corporation. The Development Agreement contains the representations, commitments and obligations of the Developer and the Corporation related to the development, design, construction and maintenance of Segments F-1, F-2 and G. Segments F-1, F-2 and G have achieved final acceptance and are open to tolled traffic. While the Development Agreement has been assigned by TxDOT to the Corporation, TxDOT has certain obligations with respect to the construction of Segments F-1, F-2 and G, including right-of-way acquisition. See "CERTAIN PROJECT DOCUMENTS – Project Agreement – Obligations of TxDOT." As described in "THE INITIAL PROJECT OF THE CORPORATION – Segments F-1, F-2 and G of the Initial Project – Construction History" and "– Segments F-1, F-2 and G of the Initial Project – Remaining Costs," the Corporation has retained a portion of the proceeds of the Series 2013 Obligations to pay a retainage amount payable to the Developer under the terms of the Development Agreement, and to pay certain right-of-way acquisition costs that remain outstanding and are payable by the Corporation.

Guarantees; Retainage and Warranty Bonds. If at any time during the term of the Development Agreement the total combined tangible net worth of the Developer and its equity members and any guarantors is less than $200 million, the Developer is required to provide one or more guarantees so that such combined tangible net worth is at least $200 million. Under the terms of the Development Agreement, the Developer has provided a retainage bond to the Corporation in the amount of four percent of the contract price and a warranty bond to the Corporation in the amount of $100 million securing the Developer's obligations under the Development Agreement during the warranty period, which has expired but will remain in effect until certain warranty repairs are satisfactorily completed by the Developer.

F and G Capital Maintenance Agreement

TxDOT and the Developer have also executed a Capital Maintenance Agreement relating to Segments F-1, F-2 and G (the "*F and G Capital Maintenance Agreement*"), which has been assigned by TxDOT to the Corporation. See "CERTAIN PROJECT DOCUMENTS – Project Agreement." Pursuant to the F and G Capital Maintenance Agreement, the Developer is responsible for the maintenance of roadways (including pavement, crossovers, concrete joints and curbs), structures, earthworks, embankments and cuttings of Segments F-1, F-2 and G for a five-year term, which began on January 27, 2018. The Developer is required to maintain Segments F-1, F-2 and G in accordance with prescribed standards. The Developer is required to provide a maintenance performance bond, a maintenance payment bond and a retainage bond to the Corporation securing the Developer's obligations under the F and G Capital Maintenance Agreement and maintain such bonds in full force and effect. If at any time during the term of the F and G Capital Maintenance Agreement the total combined tangible net worth of the Developer and its equity members and any guarantors is less than $80 million, the Developer is required to provide one or more guarantees so that such combined tangible net worth is at least $80 million. The F and G Capital Maintenance Agreement originally provided for two additional five-year terms at the option of the Corporation; however, the F and G Capital Maintenance Agreement was subsequently amended to provide for only the initial five-year term that began on January 27, 2018 as described above.

Project Agreement

General. The Corporation and TxDOT entered into an Amended and Restated Project Agreement dated as of May 1, 2018 (the "*Project Agreement*"), which superseded and replaced the original Project Agreement dated as of July 17, 2013 (the "*Original Project Agreement*"), between the Corporation and TxDOT. The Project Agreement provides the terms and conditions on which the Corporation will undertake its responsibilities with respect to the System and on which TxDOT will provide toll collection and enforcement services and personnel and advisory support for the System.

TxDOT owns and will own during the term of the Project Agreement the roadway and all access roads and appurtenant facilities comprising the System and the rights-of-way related thereto. Pursuant to the Project Agreement, TxDOT will grant a license to the Corporation to use the rights-of-way for the purposes of performing the Corporation's responsibilities under the Project Agreement and related project documents.

TxDOT is entitled to reimbursement by the Corporation for its personnel costs and out-of-pocket expenses with respect to the development of the System, and for the provision of services and related expenses for the further costs of development, operations and maintenance. TxDOT has assigned, and the Corporation has assumed, all right, title and interest of TxDOT under the Development Agreement (relating to Segments F-1, F-2 and G), the F and G Capital Maintenance Agreement, the Design Build Agreement (relating to the H and I Project) and the H and I Capital Maintenance Agreement. The Corporation is responsible for the design and construction of the System, any expansion of the System as approved by the Commission during the term of the Project Agreement and the costs of System right-of-way acquisition. TxDOT is entitled to reimbursement by the Corporation for costs and expenses in respect of the maintenance and operation of the System for periods during which the Corporation is responsible for operation and maintenance of the related System Segment or portion thereof in accordance with the Project Agreement. TxDOT is responsible to perform its contractual operation and maintenance responsibilities relating to the System on the Corporation's behalf in accordance with the standards established under the Trust Agreement.

The Corporation and TxDOT have agreed in the Project Agreement that TxDOT will provide toll collection and enforcement services for the System, either directly or using the contractors and subcontractors that it is using at any time in question to provide such services to other toll roads and tolled lanes operated by TxDOT. The Corporation, or upon the Corporation's request, TxDOT acting on behalf of the Corporation, has the authority to enter into contracts with the Department of Public Safety, any of the Counties and any other authorized governmental jurisdiction for assistance with enforcement of toll operation and collection for the System, as long as the costs of such services have been included in the relevant annual budget of the Corporation adopted in accordance with the Trust Agreement and subject, in certain circumstances, to further approvals.

To the extent that TxDOT enters into agreements with third parties relating only to the System for the operation or maintenance of the System, installation of toll integration facilities and equipment, design and construction of buildings and improvements, access roadways, toll collection equipment and services, law enforcement, major maintenance and repair work or the procurement of any other facilities, improvements, equipment and services necessary for the operation and maintenance of the System, (i) TxDOT will assign its rights and responsibilities to the Corporation to the extent that the agreement relates to work to be performed by the third party counterparty with respect to the System; and (ii) the Corporation will direct the Trustee to pay all amounts payable to the counterparty when due for work performed with respect to the System.

Obligations of TxDOT. The Project Agreement contains provisions in which TxDOT agrees to remain financially responsible and liable for certain risks. Pursuant to these provisions, the assignment by TxDOT to the Corporation of its liabilities and obligations with respect to the design, development, construction, operation or maintenance of the System shall not include, and TxDOT shall perform or cause to be performed and discharge or cause to be discharged as and when due, any debts, liabilities and obligations, whether such debts, liabilities or obligations are initially charged to the Corporation, (i) that TxDOT specifically undertakes under the Project Agreement; (ii) arising with respect to the System prior to the date of the Original Project Agreement or the applicable assignment agreement, as applicable (except that such liabilities may be subject to reimbursement from the Corporation as set forth in the Original Project Agreement and the Project Agreement); (iii) with respect to any contracts or agreements or supplements thereto related to the System or System Segments that are not assigned or otherwise conveyed to the Corporation; (iv) under any environmental law arising out of or relating to the System not covered in the ordinary course; (v) with respect to any hazardous materials or waste or other contaminant present or released on or migrated or escaped from the System not covered in the ordinary course; (vi) obligations of TxDOT to acquire right-of-way (except the cost of right-of-way that is reimbursable by the Corporation in accordance with the Project Agreement); (vii) with respect to TxDOT's provision of maintenance services on behalf of the Corporation on any portion of any System Segment on which oversize/overweight vehicles are permitted to operate pursuant to the Project Agreement, upon the occurrence of an interruption in operation of any part of the System resulting from or aggravated by the failure of TxDOT to fully maintain, repair or reconstruct, in accordance with the Project Agreement, any System facilities subject to damage or excess wear and tear from the operation of permitted oversize/overweight vehicles on a System Segment; and (viii) with respect to any claims, losses, actions, suits, judgments, investigations, or other liabilities arising out of or relating to any materials testing performed for, or for the benefit of, the applicable contractor in relation to the System. With respect to the obligations or liabilities described in clauses (iv) and (v), the Corporation shall notify TxDOT, the applicable contractor, and the Trustee in writing of obligations or liabilities encountered by the Corporation that are not covered in the ordinary course TxDOT and the Corporation may separately agree to an assignment by TxDOT to the Corporation of any of the obligations or liabilities as specifically set forth in such agreement or amendment. The retained liabilities described in this paragraph do not apply in the case of the assignment by TxDOT of the Development Agreement (relating to Segments F-1, F-2 and G), the Design Build Agreement (relating to the H and I Project), the F and G Capital Maintenance Agreement or the H and I Capital Maintenance Agreement. Instead, provisions applicable specifically to these agreements are summarized in the paragraph below.

This paragraph applies to obligations or liabilities arising under the Development Agreement, the F and G Capital Maintenance Agreement, the Design Build Agreement and the H and I Capital Maintenance Agreement. The Project Agreement provides that upon assignment of the Development Agreement, the F and G Capital Maintenance Agreement, the Design Build Agreement or the H and I Capital Maintenance Agreement, TxDOT shall continue to perform or cause to be performed and discharge or cause to be discharged as and when due, any debts, liabilities and obligations, whether such debts, liabilities or obligations are initially charged to the Corporation, (i) that TxDOT specifically undertakes under the Project Agreement; (ii) arising with respect to the Development Agreement, all additional Contract Documents (as defined in the Development Agreement), the F and G Capital Maintenance Agreement and all additional CMA Documents (as defined in the F and G Capital Maintenance Agreement) prior to the date of the respective assignment agreement entered into by TxDOT and the Corporation relating to the Development Agreement and the F and G Capital Maintenance Agreement or the date of the Original Project Agreement, as applicable, (except that such liabilities may be subject to reimbursement from the Corporation); (iii) arising with respect to the Design Build Agreement and the H and I Capital Maintenance Agreement prior to the date of the respective assignment agreements entered into by the Corporation relating to the Design Build Agreement and the H and I Capital Maintenance Agreement or the date of the Project Agreement, as applicable (except that such may be liabilities subject to reimbursement by the Corporation as set forth in the Project Agreement); (iv) with respect to any contracts or agreements related to the System or System Segment that are not assigned or otherwise conveyed to the Corporation; (v) under any Environmental Law (as defined in the Development Agreement) arising out of or relating to the System not covered in the ordinary course; (vi) with respect to any Hazardous Materials (as defined in the Development Agreement) or other contaminant present or released on or migrated or escaped from the System not covered in the ordinary course; (vii) with respect to obligations to acquire right-of-way for Segments F-1, F-2 and G or Segments H and I (except that the cost of right-of-way may be subject to reimbursement from the Corporation); (viii) with respect to any increase in the amount of costs to be borne by a governmental owner of a project for relocation of a utility facility where such increase is due to a change in law that occurs after the date of the Design Build Agreement; and (ix) with respect to any claims, losses, actions, suits, judgments, investigations, or other liabilities arising out of or relating to any materials testing performed for, or for the benefit of, Developer, the DB Contractor or any maintenance contractor in relation to the System. With respect to the obligations or liabilities described in clauses (v) and (vi), the Corporation shall notify TxDOT in writing of obligations or liabilities encountered by the Corporation that are not covered in the ordinary course. TxDOT and the Corporation may separately agree that the Corporation shall be responsible for any of the obligations or liabilities set forth in this paragraph as specifically set forth in such agreement or amendment.

TxDOT will remain responsible for compliance with all environmental clearances, permits and other governmental approvals required to build and operate the System and will retain liability for any failure to comply with their respective terms, to the same extent as would have been the case absent any assignment of contracts under the Project Agreement or by separate assignment agreements, except to the extent the parties hereto have agreed that the Corporation will bear liability under any environmental law arising out of or relating to the System covered in the ordinary course; provided that the Corporation agrees to reasonably assist and cooperate with TxDOT in its compliance with such governmental approvals.

Subject to any assignment agreement or contract entered into by TxDOT and the Corporation in relation to the System, in the event the Corporation incurs an Unexpected Obligation (as defined below) at any time during the term of the Project Agreement, TxDOT, in its discretion, may elect to pay the Unexpected Obligation directly. The Corporation must deliver a request for payment to TxDOT setting forth a description of the Unexpected Obligation, the full amount payable by the Corporation, the date such amount is due and the amount requested to be paid by TxDOT. TxDOT shall respond promptly to any such request stating whether and to what extent TxDOT will pay such Unexpected Obligation. Any Unexpected Obligation paid by TxDOT shall be reimbursed by the Corporation in accordance with an agreed reimbursement schedule. In the event TxDOT elects, in its sole discretion, to pay any Unexpected Obligation, it is currently anticipated that any such payment would be made by TxDOT from the State Highway Fund. See "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND." "*Unexpected Obligation*" means any debts, liabilities and obligations initially charged to the Corporation with respect to any force majeure, unknown or unidentified utilities, geotechnical differing site conditions or similar situations arising in connection with the design, construction, operation and maintenance of the System not covered in the ordinary course and solely to the extent the Corporation has insufficient funds to satisfy any such debt, liability or obligation when due.

Covenant Against Sale or Encumbrance; Exception. Except as provided in this section, TxDOT covenants that, until the Obligations (including the 2020 Bonds) and interest thereon have been paid or provision for such payment shall have been made, and except upon the written request of the Corporation and as otherwise permitted in the Trust Agreement, TxDOT will not sell, lease or otherwise dispose of or encumber the System or any part thereof and will not create or permit to be created any charge or lien on the Revenues of the System derived therefrom; provided that TxDOT, upon the written request of the

Corporation, may lease or contract with respect to the operation of service stations or other facilities authorized by State law. TxDOT may, upon the written request of the Corporation, however, from time to time, sell, exchange or otherwise dispose of any machinery, fixtures, apparatus, tools, instruments or other movable property acquired from the proceeds of Obligations issued on account of the System or from the Revenues of the System or otherwise, if the Corporation shall determine that such articles are no longer needed or are no longer useful in connection with the construction or operation and maintenance of the System, and the proceeds thereof shall be applied to the replacement of the properties so sold or disposed of or shall be paid to the Trustee to be held for the credit of the Construction Fund, the Operation and Maintenance Reserve Fund, the Grand Parkway Enhancement Fund or the Debt Service Funds, as the Corporation may direct. TxDOT, at the written request of the Corporation, may, from time to time, sell, exchange or otherwise dispose of any real property or release, relinquish or extinguish any interest therein as the Corporation by resolution shall declare is not needed or serves no useful purpose in connection with the maintenance and operation of the System, and the proceeds thereof, if any, shall be applied as hereinabove provided for the proceeds of the sale or disposal of movable property. Notwithstanding the foregoing, it is acknowledged and agreed that nothing in the Project Agreement shall prevent TxDOT, at the written request of the Corporation, from re-conveying or allowing the reversion of property leased or otherwise acquired upon the termination of the lease or agreement pursuant to which such property was originally acquired.

Upon any disposition of property under the provisions of the Project Agreement described in this section, TxDOT and the Corporation shall notify the Trustee thereof and the amount and disposition of the proceeds thereof.

In the event TxDOT or the Corporation receives any payment or other proceeds in respect of a total or partial condemnation of the System, TxDOT and the Corporation shall cause such proceeds to be deposited to the Construction Fund and utilized for any repairs or modifications of the System necessary or desirable as a result of such condemnation. If no such repairs or modifications are necessary or desirable, the proceeds of such condemnation shall be deposited to the Revenue Fund and applied as provided in the Trust Agreement.

Right to Transfer System. TxDOT reserves the right to transfer all or any part of the System upon the prior written request of the Corporation and the satisfaction of the following conditions: (1) each Rating Agency then maintaining a rating on the Outstanding Obligations issues a letter to the Corporation and TxDOT to the effect that the transfer would not have the effect of causing the Rating Agency to lower the existing rating on any of the Obligations then Outstanding; (2) TxDOT delivers to the Corporation and the Trustee an opinion of general counsel of TxDOT or a law firm acting as counsel to TxDOT to the effect that the transfer is authorized by law; (3) the Corporation delivers an opinion of Bond Counsel to the Trustee to the effect that the transfer will not adversely affect the treatment for federal income tax purposes of interest on any Outstanding tax-exempt obligations; and (4) the Executive Director of TxDOT and the Corporation Representative deliver a certificate to the effect that (i) the Commission will be in compliance with the provisions of the rate covenant in the Toll Rate Agreement after giving effect to the proposed transfer, (ii) the Outstanding Obligations remaining outstanding, after giving effect to the proposed transfer, would comply with the requirements of the Trust Agreement regarding issuance of additional Obligations as if such obligations were being issued as Additional Obligations at the time of such transfer, and (iii) after giving effect to the proposed transfer, no default will have occurred and be continuing under the Trust Agreement. Such certificate shall be based upon the certifications of the General Engineering Consultant, the Traffic Consultant and the Corporation Representative required under the provisions of the Trust Agreement regarding issuance of additional Obligations.

Toll System Integrator Agreement

TxDOT and TransCore, LP ("*TransCore*"), TxDOT's statewide toll integrator, have entered into a Statewide Toll System Integration and Maintenance Agreement effective as of June 18, 2012 (as amended and supplemented, the "*Toll System Integrator Agreement*") that provides for the design, construction, installation, and maintenance of open-road toll collection systems on projects designated by TxDOT. TxDOT has designated all System Segments that comprise the Initial Project as projects under the Toll System Integrator Agreement and has entered into "Project Segment Supplements" to the Toll System Integrator Agreement with TransCore with respect to all such segments of the Initial Project. TransCore provides toll infrastructure for such segments of the System, the transmission of toll transactions to the statewide customer service center located in Austin, Texas, and is responsible for ensuring the toll collection system meets the performance requirements in its contract. TransCore also provides toll maintenance services, including the costs associated with maintaining the electronic toll collection system and the network control system.

The term of the Toll System Integrator Agreement with respect to additional projects through the execution and delivery of new "Project Segment Supplements" is scheduled to expire on June 18, 2021. TxDOT currently anticipates executing new Project Segment Supplements to include Segments H and I as being subject to the terms of the Toll System Integrator Agreement prior to the expiration of the term thereof relating to additional projects. The term of the Toll System Integrator Agreement with respect to maintenance services for the existing Project Segment Supplements that have been executed with respect to the Initial Project, and any new Project Segment Supplements that may be executed with respect to

Segments H and I, is scheduled to expire on June 18, 2027. The existing Project Segment Supplements with respect to the Initial Project have been, and any new Project Segment Supplements executed with respect to Segments H and I will be, assigned by TxDOT to the Corporation.

TxDOT may terminate the Toll System Integrator Agreement at any time and procure one or more new agreements to provide the services currently being provided by TransCore, as determined by TxDOT to be the most beneficial approach in terms of cost and other factors. Any new agreement would be assigned by TxDOT to the Corporation. See "CERTAIN PROJECT DOCUMENTS – Project Agreement."

RISK FACTORS

The following is a discussion of certain risk factors that should be considered in evaluating an investment in the 2020 Bonds. This discussion does not purport to be either comprehensive or definitive. The order in which risks are presented is not intended to reflect either the likelihood that a particular event will occur or the relative significance of such an event. Moreover, there are other risks associated with an investment in the 2020 Bonds in addition to those set forth herein.

General

The financial forecasts in this Official Statement are based generally upon certain assumptions and projections as to estimated revenues and operating expenses for the System. See "TRAFFIC AND REVENUE STUDY" and "ENGINEERING REPORTS." Inevitably, some underlying assumptions and projections used to develop the forecasts will not be realized, and unanticipated events and circumstances may occur. Accordingly, the actual results achieved during the forecast periods will vary from the forecasts, and such differences may be material.

Forward-Looking Statements

The statements contained in this Official Statement, including the Schedule and Appendices hereto and the documents incorporated herein by reference, that are not purely historical, are forward-looking statements, including statements regarding the Corporation's, Commission's and TxDOT's expectations, hopes, intentions or strategies regarding the future and the projections in the System T&R Report and the 2018 Engineer's Report. All forward-looking statements included in this Official Statement are based on information available to the Corporation, Commission and TxDOT on the date hereof, and none of the Corporation, Commission or TxDOT assume any obligation to update any such forward-looking statements.

The forward-looking statements contained in this Official Statement are necessarily based on various assumptions and estimates that are inherently subject to numerous risks and uncertainties, including risks and uncertainties relating to the possible invalidity of the underlying assumptions and estimates and possible changes or developments in social, economic, business, industry, market, legal and regulatory circumstances and conditions and actions taken or omitted to be taken by third parties, including customers, suppliers, business partners and competitors, and legislative, judicial and other governmental authorities and officials. Assumptions related to the foregoing involve judgments with respect to, among other things, future economic, competitive and market conditions and future business decisions, all of which are difficult or impossible to predict accurately and, accordingly, there can be no assurance that the forward-looking statements included in this Official Statement will prove to be accurate.

Traffic and Revenue Study

The revenue forecasts in the System T&R Report are based upon certain assumptions set forth or incorporated therein. See "TRAFFIC AND REVENUE STUDY." The System T&R Report is not a guarantee of any future events or trends and the forecasts therein are subject to future economic and social conditions and demographic developments that cannot be predicted with certainty. Further, the estimates and assumptions in the System T&R Report are inherently subject to significant economic and competitive uncertainties and contingencies, many of which are beyond the control of the Corporation. The revenue forecast in the System T&R Report is based in part on socioeconomic forecasts that CDM Smith believes are achievable as of the date of the System T&R Report, under economic conditions as discussed in Chapter 3 of the 2017 Traffic and Revenue Study and more recent information presented in the "Grand Parkway System Demographic Trends" section of the 2018 T&R Letter and the 2020 T&R Reliance Letter. Failure to achieve or realize any of the assumptions listed in the System T&R Report may have a material adverse effect upon the revenues actually realized from the System. See also, "– Motor Fuel Prices and Taxes" and "– Highway Network Improvements."

The 2017 Traffic and Revenue Study contains documentation of traffic and revenue impacts associated with changes to several key input variables, including socioeconomic growth, values of time and regional AVI (or ETC) shares. The sensitivity tests were performed at select interim years only and are intended to be for illustrative purposes and do not reflect the entire forecast horizon. One such sensitivity test assumed a 50% lower rate of economic growth throughout the Houston region from 2016 to 2022, and a 50% lower rate of economic growth from 2016 to 2035. This scenario resulted in a 9.4%

decrease in toll revenues in 2022, and a 29.9% decrease in toll revenues in 2035. Another sensitivity test assumed a 30% lower value of time resulted in 19.8% lower revenue in 2022 and 14.7% lower revenue in 2035 and a separate sensitivity test that assumed lower AVI shares resulted in 10.9% and 3.1% lower revenues in 2022 and 2035 respectively. CDM Smith also evaluated the impact of four new direct connectors at the SH 249/Grand Parkway intersection (referred to herein as the SH 249 Connectors). If constructed, the SH 249 Connectors are expected to result in a 1.1 percent and 0.7 percent increase in total System revenues in 2022 and 2035, respectively. See "THE INITIAL PROJECT OF THE CORPORATION – SH 249 Direct Connectors." See Chapter 5 of the 2017 Traffic and Revenue Study for the results of all sensitivity tests performed by CDM Smith. See also, "TRAFFIC AND REVENUE STUDY – 2018 T&R Letter" and "– 2020 T&R Reliance Letter."

Conditions Affecting TELA Advances by TxDOT

TxDOT TELA Obligations Subject to Appropriation. Subject to certain conditions and limitations with respect to the amounts requested by the Trustee and the purpose of the request for an advance, if toll revenues on the System fall short of expectations and there are inadequate balances in certain funds and accounts established under the Trust Agreement, TxDOT is required to make advances to the Trustee under the TELA in connection with debt service payments on the TELA Supported Bonds (which include the Taxable Series 2020B Bonds), certain TELA Supported Junior Operating Expenses (which consist of all Junior Operating Expenses for the System facilities that comprise the Initial Project), and certain Major Maintenance Expenses (for the System facilities that comprise the Initial Project and Segments H and I), subject in each instance to the TELA Limitations (as defined in "TOLL EQUITY LOAN AGREEMENT – Toll Equity Loan") and other provisions of the TELA. TxDOT currently intends to make advances pursuant to the terms of the TELA from the State Highway Fund, and such advances are subject to appropriation by the State Legislature of sufficient revenues from the State Highway Fund to make such advances under the TELA. The State Highway Fund is the source for a substantial portion of funding for the State highway system, TxDOT operations, and the administration of State laws relating to traffic and safety on public roads. TxDOT may elect to make advances pursuant to the TELA from lawfully available funds other than the State Highway Fund. However, any such election by TxDOT would not affect the nature of TxDOT's obligations, which would continue to be subject to appropriation of such funds by the State Legislature.

Any failure of the State Legislature to timely appropriate sufficient funds for the State Highway Fund, or the imposition by the State Legislature of any significant restrictions on TxDOT's ability to transfer other appropriations to the State Highway Fund, could result in insufficient funds being available to TxDOT for it to satisfy its obligation to make advances under the TELA. For more information on the State Highway Fund, see "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND."

TxDOT TELA Obligations Funded Partially With Federal Funds Subject to Reauthorization and Congressional Appropriation. TxDOT's advances under the TELA are expected to be paid from the State Highway Fund, which is funded in part from federal funds. Accordingly, TxDOT's ability to make payments pursuant to the terms of the TELA is subject in part to the availability of and appropriation by Congress of funds to the Federal Highway Administration to provide money to TxDOT that may be used in part to discharge TxDOT's obligations pursuant to the TELA. The Federal-Aid Highway Program is financed from the transportation user-related revenues deposited in the Highway Trust Fund ("*HTF*"). Federal government funding for infrastructure projects is usually accomplished through highway authorization bills, which establish funding over a multi-year period. On December 4, 2015, the "Fixing America's Surface Transportation Act" (the "*FAST Act*") became law, which funds surface transportation programs through September 30, 2020. If federal highway authorization legislation is enacted to extend FAST Act federal funding beyond September 30, 2020, such funding legislation will be subject to possible federal rescission of funds, which would have the effect of reducing the amount of federal funds provided by prior law. The FAST Act also contains a $7.5 billion rescission of unused contract authority at the end of the authorization period of 2020; however, in November 2019, Congress repealed the FAST Act rescission as part of the "Further Continuing Appropriations Act, 2020, and Further Health Extenders Act of 2019." Prior federal highway authorization legislation has been periodically subject to rescission, including reductions to funding under the previous authorization in each of the years 2006 through 2011. For additional information regarding the FAST Act and the funding of the Federal-Aid Highway Program, see "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND."

There can be no assurances that federal funding will be extended beyond the expiration of the FAST Act or that there will not be future federal rescission of funds or other changes in law, regulation, or policy, or the availability of revenues at the federal level which may materially adversely affect the future availability of federal transportation program funds. Additionally, a default under the 2014 TIFIA Loan Agreement or the 2019 TIFIA Loan Agreement may also adversely impact TxDOT's receipt of federal monies including funds from the HTF. In the event of a lapse or reduction in federal funding, the State Highway Fund will have to rely on state funding sources and borrowing in order to meet ongoing obligations of the State Highway Fund including any TELA advances. For more information on the State Highway Fund, see "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND." As described in "PLAN OF

FINANCE – General," a portion of the proceeds of the 2020 First Tier Bonds will be used to prepay the 2014 TIFIA Note in full.

Sequestration Effects on the State Highway Fund. Pursuant to the requirements of the Balanced Budget and Emergency Deficit Control Act of 1985, as amended (the "*Budget Act*"), certain automatic, annual reductions in federal spending (the "*Sequester Cuts*") took effect as of March 1, 2013. As a result of the Sequester Cuts for Fiscal Year 2019, TxDOT experienced a reduction of approximately $3.6 million in funding from the National Highway Performance Program, which is administered by the FHWA for highway projects that are located on the National Highway System.

The Sequester Cuts also affected the subsidy payments to be made by the federal government to issuers of "direct-pay" tax credit bonds, such as Build America Bonds ("*BABs*"). The Commission issued $1,500,000,000 of its State Highway Fund First Tier Revenue Bonds, Taxable Series 2010 (Build America Bonds - Direct Payment) (the "*Series 2010 SHF Bonds*") as taxable BABs and elected to receive a subsidy payment from the United States Treasury equal to 35% of the amount of each interest payment on the Series 2010 SHF Bonds. As a result of the Sequester Cuts, certain subsidy payments received by the Commission in respect of the Series 2010 SHF Bonds have been reduced. For additional information regarding the Sequester Cuts relating to the Series 2010 SHF Bonds, see "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND." In addition, emergency relief funds authorized from the Highway Trust Fund for certain disaster events are also subject to the Sequester Cuts. The Sequester Cuts were originally set to expire in 2021. However, on August 2, 2019, the Budget Act was amended by Congress to, among other things, extend the planned Sequester Cuts to September 30, 2029. There can be no assurances as to whether the Sequester Cuts will remain in effect and cause a reduction in receipt of federal funds for any future year.

The federal Statutory Pay-As-You-Go Act of 2010 (the "*PAYGO Act*"), enacted on February 12, 2010, requires that all new direct spending and revenue legislation enacted into law during a congressional session, taken together, must not increase projected deficits. Under the PAYGO Act, if the Office of Management and Budget ("*OMB*") determines that new legislation creates a net increase in the deficit under the mandated scorecard system, OMB is required to order a sequestration of non-exempt direct spending programs sufficient to eliminate the overage. If such sequestration under the PAYGO Act were to go into effect, the Commission may not receive all or a portion of the subsidy payments in respect of the Series 2010 SHF Bonds. In addition, a portion of the funding from the National Highway Performance Program that TxDOT receives and certain emergency relief funds authorized from the Highway Trust Fund and available to TxDOT may also be reduced if such sequestration under the PAYGO Act were to go into effect. There can be no assurances as to whether any new direct spending and revenue legislation will be enacted and result in sequestration of the aforementioned payments or funds under the PAYGO Act.

TxDOT did not experience any reduction in federal funds during Fiscal Year 2019 due to sequestration under the PAYGO Act. The total amount of federal funds that were available to TxDOT during Fiscal Year 2019 and subject to potential reduction from Sequester Cuts under the Budget Act or sequestration under the PAYGO Act (which was comprised of the subsidy payments in respect of the Series 2010 SHF Bonds, funding from the National Highway Performance Program and certain emergency relief funds authorized from the Highway Trust Fund), before giving effect to the Sequester Cuts under the Budget Act for such period, was approximately $83.0 million, which is approximately 1.0% of the total State Highway Fund revenues for Fiscal Year 2019 shown in Table 1 of Appendix A to this Official Statement. For additional information regarding the State Highway Fund, see "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND."

Sufficiency of Funds Available to TxDOT to Fund TELA Obligations. The revenues deposited into the State Highway Fund are comprised for the most part of federal transportation program funds (or reimbursements from federal funds), State motor fuel taxes and State motor vehicle registration fees. The level of such taxes and fees, and, therefore, the level of funds available in the State Highway Fund, is subject to fluctuations based on a variety of factors, including general national and State economic conditions, specific economic, competitive, or regulatory conditions affecting commercial enterprises that rely on motor vehicle transportation, and potential redirection of such taxes and fees to other purposes pursuant to changes in State or federal law or regulation. As described above, certain automatic, annual reductions in federal spending took effect beginning in 2013, which could lead to a loss of some revenue to the State Highway Fund. Other factors that may impact the amount of revenues deposited into the State Highway Fund include population growth, income and employment levels, levels of tourism, weather conditions, environmental regulation (including adverse impacts resulting from designation of large population centers within the State as non-attainment areas that do not meet Federal Clean Air Act standards, see "– Clean Air Act Non-Attainment and Conformity Risk; NEPA Environmental Litigation Risk"), fuel prices, road conditions, the availability of alternate modes of transportation and the development of alternative fuel vehicles and more fuel efficient vehicles. There can be no assurance that downturns in any of the numerous factors affecting these revenues will not significantly affect the future level of revenues available in the State Highway Fund. Certain amounts within the State Highway Fund are maintained in segregated accounts and subaccounts in recognition of certain constitutional and other restrictions on the use of such amounts and may be used only for the restricted purposes of those accounts and subaccounts. For additional information regarding the State Highway Fund, see "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND."

TxDOT Obligations Payable from the State Highway Fund. TxDOT's payments of amounts due under the TELA are expected to be paid from the State Highway Fund. TxDOT's payments of such amounts (together with payments under all other toll equity agreements and pass-through toll agreements) are not secured by a pledge of amounts held in the State Highway Fund and such payments are subject to the pledge and payment of amounts from the State Highway Fund in respect of any TxDOT State Highway Fund revenue bond and credit obligations outstanding and any short-term obligations (including commercial paper notes, direct lending obligations or tax and revenue anticipation notes outstanding); however, TxDOT's payments of amounts due under the TELA are *pari passu* with TxDOT's obligations in respect of pass-through toll agreements, other toll equity loan agreements (if any), payments made for the delivery of CDA projects and other obligations of the State Highway Fund. For additional information regarding the various TxDOT obligations payable from the State Highway Fund, see "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND – The State Highway Fund – State Highway Fund Obligations."

The Commission and TxDOT have the ability without the consent of any Owner to issue and incur additional bonds, credit agreements, and short-term obligations (including commercial paper notes, direct lending obligations or tax and revenue anticipation notes) that are senior to TxDOT's obligations under the TELA. Additionally, TxDOT has the ability to establish additional liens for obligations that may be senior to or on parity with its TELA obligations. TxDOT may also enter into other toll equity loan agreements, pass-through toll agreement obligations, CDAs and other obligations that are payable from the State Highway Fund without the consent of any Owner. Neither the Commission nor TxDOT has adopted any policy limiting the ability to enter into additional toll equity loan agreements or other agreements payable from the State Highway Fund.

Other TELA Issues. The Trustee may draw on the TELA to pay debt service on the TELA Supported Bonds (which include the Taxable Series 2020B Bonds) and to pay for certain TELA Supported Junior Operating Expenses (which consist of all Junior Operating Expenses for the System facilities that comprise the Initial Project), and certain Major Maintenance Expenses (for the System facilities that comprise the Initial Project and Segments H and I) in the event the Revenues of the System and certain fund balances under the Trust Agreement are insufficient, subject in each instance to the TELA Limitations and other provisions of the TELA. The TELA is not available to pay Senior Operating Expenses. The Corporation has structured the debt service for the TELA Supported Bonds so that in each year through the final maturity thereof, total debt service for the TELA Supported Bonds plus currently estimated TELA Supported Junior Operating Expenses for each year (as set forth in the 2018 Engineer's Report) do not exceed the Maximum Available Annual Amount for that year. Notwithstanding the foregoing, there are no assurances that the Maximum Available Annual Amount of the TELA will be sufficient to cover all TELA Supported Junior Operating Expenses that are actually incurred in any particular year in which (i) there is a draw under the TELA to pay all or a portion of the debt service due on the TELA Supported Bonds for that year and (ii) the actual TELA Supported Junior Operating Expenses that are incurred for that year exceed the estimated amount of such expenses for that year. While the TELA may be drawn upon to pay Major Maintenance Expenses, the Maximum Available Annual Amount under the TELA is not sufficient to cover the combination of total debt service for the TELA Supported Bonds plus currently estimated TELA Supported Junior Operating Expenses entitled to the benefit of the TELA plus Major Maintenance Expenses in any given year. Further, the Trustee may not draw upon the TELA to pay Major Maintenance Expenses unless the Corporation certifies in writing to the Trustee that, after such draw, there remains sufficient capacity in the unused portion of the Maximum Available Annual Amount for such Fiscal Year to pay any unpaid Debt Service Requirements of the Outstanding TELA Supported Bonds due through the end of such Fiscal Year. See "TOLL EQUITY LOAN AGREEMENT – Table 5 – Maximum Available Annual Amount and Annual TELA Supported Debt Service and TELA Supported Junior Operating Expenses."

The Trustee may not draw upon the TELA to pay the redemption price of any TELA Supported Bonds due as a result of an optional redemption of such TELA Supported Bonds by the Corporation or to pay the purchase price of such Bonds due as a result of a tender of such Bonds by the holders thereof for purchase. See "RISK FACTORS – Rising Interest Rate Risk and Effects of a Failed Remarketing on Mandatory Tender Date for Series 2018B Bonds." In addition, the Corporation may, subject to certain limitations, amend the TELA without the consent of any Owner, including amendments to reduce the Maximum Available Aggregate Amount. See "TOLL EQUITY LOAN AGREEMENT – Amendments."

Costs of Construction; Risk of Delay

In projects of the magnitude of toll facilities such as the System, there is a possibility of time delays and cost increases resulting from (i) design and construction problems and resulting change orders, (ii) environmental litigation or environmental administrative matters (see "– Clean Air Act Non-Attainment and Conformity Risk; NEPA Environmental Litigation Risk"), (iii) the unavailability or cost of acquiring right-of-way, (iv) archeological, historic and unidentified subsurface conditions, (v) utility relocation problems, (vi) hazardous materials, (vii) force majeure events, (viii) litigation, or (ix) inflation. As a result, there can be no assurance that the costs of completion for the H and I Project and other System projects will not exceed current estimates, or that the completion of such projects will not be delayed beyond the scheduled completion date. Variations in the costs to complete such projects and delays in construction could be material. Pursuant to the Design Build Agreement (and after giving effect to the change orders executed to the date of this Official Statement), the DB Contractor is obligated to obtain substantial completion of the H and I Project on February 27, 2022, which date is subject to extension for change orders and certain unidentified utility conflicts, as more specifically described herein. In the monthly progress report submitted by the DB Contractor to the Corporation for the month of December 2019, the DB Contractor's schedule (as of the date of such progress report), estimates that the DB Contractor will achieve substantial completion of the H and I Project on May 13, 2022, which estimated date is after the DB Contractor's deadline, set forth above, to achieve substantial completion under the terms of the Design Build Agreement. Based on the impact of Tropical Storm Imelda, the DB Contractor is in the process of preparing a Time Impact Analysis to support a potential extension of the substantial completion deadline under the terms of the Design Build Agreement. The 2018 T&R Letter assumes that the H and I Project will be substantially complete and open to tolled traffic on May 22, 2022. See "THE H AND I PROJECT – Status of Construction of H and I Project."

While the Design Build Agreement relating to the H and I Project shifts to the DB Contractor a significant amount of the risk and responsibility for time delays and cost increases associated with design, engineering, right-of-way acquisition, utility relocation and construction, the Design Build Agreement ultimately allows for increases in price and extensions of time for performance in certain cases involving hazardous materials, right-of-way, new utilities and force majeure events. The Design Build Agreement allows for a price increase, without any extension of time, for differing site conditions that result in an increase in certain costs that exceed certain threshold cost amounts. The Design Build Agreement provides for a price increase for certain increased costs that exceed certain threshold cost amounts and a time extension of up to ninety days in the aggregate for delays, for certain previously unidentified utilities. There is no assurance that the DB Contractor can design and engineer the H and I Project in a manner such that it reasonably can be constructed for the price payable to the DB Contractor, and by the required completion date, set forth in the Design Build Agreement. The DB Contractor is a special purpose entity with no activities unrelated to the Design Build Agreement. A failure of the equity and other team members of Grand Parkway Infrastructure, LLC to perform their respective obligations in support of the DB Contractor may delay or limit the DB Contractor's ability to complete construction of the H and I Project or to perform under the Design Build Agreement.

Further, the responsibility of the DB Contractor for all phases of design and engineering under the Design Build Agreement may increase the impact that any financial instability, insolvency or bankruptcy of the DB Contractor could have on the cost or completion date of the H and I Project. Any such delays and/or cost overruns could result in the delay or reduction in the collection of revenues and an increase in costs, thereby making it more difficult for the Corporation to generate sufficient revenues to pay debt service on the Obligations issued under the Trust Agreement.

There is also a possibility of insolvency or bankruptcy of the DB Contractor or any other contractor for the System during construction. While the DB Contractor and the other contractors for the System will be required to provide performance bonds and payment bonds, and the Design Build Agreement requires the provision of certain guarantees of the DB Contractor's obligations under the Design Build Agreement, there can be no assurance that such bonds or guarantees will be sufficient to assure timely completion of the H and I Project. Moreover, if a default occurs on the part of the DB Contractor, there is a possibility of litigation between the Corporation and the providers of the performance bonds and payment bonds and/or the DB Contractor and contractors, which could further delay construction and the opening of the H and I Project. A potential purchaser of the 2020 Bonds can have no assurance that any contractor or subcontractor, guarantor, surety or property insurer will be willing or capable of meeting its responsibilities in connection with the construction of the System (including the H and I Project) or that the issuer of any performance or payment bond, any guarantee or any property insurance policy will honor or will be able to honor a claim in a timely manner.

Notwithstanding the foregoing, it should be noted that the Trustee's ability to make draws under the TELA and to make transfers from the Rate Stabilization Fund is not conditioned upon the completion of the H and I Project or any other System project. However, TxDOT's obligation to advance funds under the TELA is subject to the TELA Limitations and other provisions of the TELA. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Rate Stabilization Fund," "TOLL EQUITY LOAN AGREEMENT" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT."

Liquidated Damages

The amount of liquidated damages the DB Contractor or any other contractor for the H and I Project or any other System project could be required to pay in connection with the construction thereof may be limited by contract and may not be sufficient to cover all of the Corporation's losses in the event of a delay or a failure to complete the required work in accordance with the plans and specifications, TxDOT standards and other requirements of the contract documents. Liquidated damages, if paid, may not be sufficient to enable the Corporation to pay the debt service on the obligations issued under the Trust

Agreement. See "CERTAIN PROJECT DOCUMENTS – Design Build Agreement for the H and I Project" for a description of the liquidated damages provisions of the Design Build Agreement. There are numerous events that could cause an extension of the schedule, and that could result in increased costs, for the construction of the H and I Project or any other System project. Notwithstanding the foregoing, TxDOT will remain obligated to advance funds under the TELA as described herein. However, TxDOT's obligation to advance funds under the TELA is subject to the TELA Limitations and other provisions of the TELA. See "TOLL EQUITY LOAN AGREEMENT" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT."

Events of Force Majeure

Construction and operation of the System are at risk from events of force majeure, such as earthquakes, tornados, flooding, hurricanes or other natural disasters, epidemics, blockades, rebellions, war, riots, acts of sabotage, terrorism or civil commotion, and spills of hazardous materials, among other events. Construction or operations may also be stopped or delayed from non-casualty events such as discovery of additional archaeological artifacts, changes in law, and litigation, among other things.

Operating Risks

The ability of the System to generate revenues in amounts sufficient to pay debt service on the Obligations issued under the Trust Agreement when due will be subject to and could be materially adversely affected by the risks inherent in the operation of any toll facility. The ability to repay such Obligations will be dependent on the volume of traffic that utilizes the System and the ability of the Corporation and the System's toll facilities (including the computer systems of TxDOT, its vendors and the partnering agencies under interoperability agreements) to accurately process data. Revenues to be generated and collected through the use of the System will be influenced by numerous factors, including, among other things, the ability to manage toll evasion and toll collection and enforcement practices; the ability to accurately record and process toll transactions and to collect toll revenues on a timely basis; population, employment and income trends within the region; the congestion on alternative freeways, highways, and streets; time savings experienced by motorists utilizing the toll facilities; the toll rates; the availability and price of fuel; the construction of new or improved competitive roadways or transit facilities; improvements to transportation technology; and the ability to control expenses. Notwithstanding the foregoing, TxDOT will remain obligated to advance funds under the TELA as described herein. However, TxDOT's obligation to advance funds under the TELA is subject to the TELA Limitations and other provisions of the TELA. See "TOLL EQUITY LOAN AGREEMENT" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT."

Ability to Maintain or Raise Rates; Tolls

The Commission may need to raise toll rates in the future to support the debt service requirements on the Obligations issued under the Trust Agreement. It is possible that any increase in rates could result in reduced usage of the toll facilities, resulting in decreased revenues. While the Market Valuation Waiver Agreement does not provide for a maximum rate for tolls, there can be no assurance that the Commission will take action to raise rates further if needed. Such risk is mitigated as a result of automatic increases to toll rates under the toll rate escalation methodology established by the Commission. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Toll Rates; Rate Covenant; Uniformity of Tolls." Legislation may be enacted that prohibits the charging of tolls or limits the toll rate during certain periods or with respect to certain groups of people. The Corporation cannot predict the impact that any such legislation could have on toll revenues of the System. Notwithstanding the foregoing, TxDOT will remain obligated to advance funds under the TELA as described herein. However, TxDOT's obligation to advance funds under the TELA is subject to the TELA Limitations and other provisions of the TELA. See "TOLL EQUITY LOAN AGREEMENT" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT."

Maintenance Costs

Successful operation of the System will require timely and complete maintenance and replacement of components of such facilities. No assurance can be given that sufficient funds will be available to maintain the toll facilities adequately over the long term. Any significant deterioration in the toll facilities may result in increased operating costs and in reduced usage, as well as temporary lane closures, and may adversely affect the amount of funds available to pay debt service on the Obligations issued under the Trust Agreement. Although the Corporation (as the assignee of TxDOT) has entered into the F and G Capital Maintenance Agreement and the H and I Capital Maintenance Agreement, and although the Trust Agreement requires the deposit of budgeted amounts to the Operation and Maintenance Reserve Fund, no assurance can be given that sufficient funds will be available to maintain the System adequately over the long term. Notwithstanding the foregoing, TxDOT will remain obligated to advance funds under the TELA as described herein in connection with certain TELA Supported Junior Operating Expenses (which consist of all Junior Operating Expenses for the System facilities that comprise the Initial Project) and certain Major Maintenance Expenses (for the System facilities that comprise the Initial Project and Segments H and I). However, TxDOT's obligation to advance funds under the TELA is subject to the TELA Limitations and other provisions of the TELA, and the TELA is not available to pay Senior Operating Expenses. See "TOLL EQUITY LOAN AGREEMENT" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT."

Motor Fuel Prices and Taxes

There is no assurance that motor fuel will remain in adequate supply or that motor fuel prices and federal and State motor fuel taxes will not increase. Increases in motor fuel prices could negatively impact the Revenues of the System. A sensitivity test was done in the June 2013 Comprehensive Traffic and Revenue Study for Grand Parkway Segments D through G where motor fuel prices assumes an increase to $5 per gallon (in 2013 dollars) from the assumed baseline price of $3 per gallon (in 2013 dollars) and a corresponding decrease in regional travel of approximately 4%. This scenario resulted in an estimated reduction in toll revenues by 5.4% in 2020, and 3.3% in 2035. Additionally, if motor fuel prices increase, it could have a material adverse effect on the economy of the Houston region and the Revenues of the System. Notwithstanding the foregoing, TxDOT will remain obligated to advance funds under the TELA as described herein. However, TxDOT's obligation to advance funds under the TELA is subject to the TELA Limitations and other provisions of the TELA. See "TOLL EQUITY LOAN AGREEMENT" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT."

Highway Network Improvements

The revenue forecasts in the System T&R Report are based on a number of assumptions, including that certain future highway network improvements will be constructed as currently assumed in the System T&R Report. It is anticipated that some of these network improvements will compete with the System for traffic, and that other network improvements will feed traffic to the System. Deviations in the actual implementation of these network improvements in terms of the number of lanes constructed or the timing of when such improvements are open to traffic may have a material adverse effect upon the revenues actually realized from the System.

No Security Interest in Toll Revenues from EZ Tag Transactions Until Received From HCTRA Under Interoperability Agreement

Approximately 77% of the total toll transactions for the System during Fiscal Year 2019 were attributable to customers using HCTRA's EZ Tags. Pursuant to the Central Interoperability Agreement, HCTRA generally disburses toll revenues on a monthly basis from EZ Tag transactions on the System occurring in the prior months to the Custodian under the Master Custodial Agreement for ultimate distribution to the Trustee; however, the timing of such disbursements by HCTRA to the Custodian may occur more than thirty days from the end of the month in which the related transactions occurred. See "THE GRAND PARKWAY SYSTEM – Interoperability" and "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS – Funds and Accounts – Master Custodial Agreement; Agreements with Other Turnpikes." On a daily basis for each EZ Tag transaction, including transactions occurring on the System, HCTRA withdraws the appropriate toll charge from HCTRA's EZ Tag prepaid customer accounts and deposits such toll charge into a general revenue fund of HCTRA comingled with HCTRA toll revenues earned for HCTRA toll road transactions. Neither the Corporation nor the Trustee has a security interest in such funds of HCTRA until the funds are disbursed by HCTRA to the Custodian. In the Project Agreement, TxDOT has agreed to enforce the Central Interoperability Agreement against HCTRA, to the extent permitted by law, including, if available, mandamus. See "RISK FACTORS – Limitation and Enforceability of Remedies – Enforceability of Remedies Against HCTRA under the Central Interoperability Agreement."

Cyber-Attack Risks

Computer hacking, cyber-attacks or other malicious activities could disrupt the operation of the System. Further, security breaches such as leakage and compromised personal and credit information of pre-paid ETC customers, loss of confidential or proprietary data and failure or disruption of information technology systems could materially and adversely affect the reputation and Revenues of the System, the Corporation, the Commission and TxDOT, which could lead to significant capital outlays and decreased performance of the System, or interruption or reduction in the receipt of Revenues of the System that could exceed the self-insurance resources of the System.

Rising Interest Rate Risk and Effects of a Failed Remarketing on Mandatory Tender Date for Series 2018B Bonds

The Series 2018B Bonds are the only Outstanding Obligations of the Corporation that bear interest at a Variable Rate and such Bonds constitute Put Obligations under the terms of the Trust Agreement. The Series 2018B Bonds were issued in an initial rate period that expires on September 30, 2023, are subject to mandatory tender for purchase on October 1, 2023 (the "*Initial Mandatory Tender Date*"), and are not supported by third-party liquidity. In the event that any Series 2018B Bonds cannot be remarketed to new purchasers on the Initial Mandatory Tender Date, the Corporation has no obligation to purchase the Series 2018B Bonds tendered on such date, the failed conversion and remarketing will not constitute an Event of Default under the Trust Agreement, the mandatory tender will be deemed to have been rescinded for that date, and holders of the Series 2018B Bonds will continue holding the Series 2018B Bonds at a stepped coupon rate (which is equal to 8.00% per annum) and, in such case, no assurance can be given when or if the Series 2018B Bonds may be remarketed. Substantially increased interest rates could adversely impact the ability of the Corporation to remarket or refund the Series 2018B Bonds on the Initial Mandatory Tender Date. If the Corporation is unable to remarket or refund the Series 2018B Bonds on such date, the interest rate on the Series 2018B Bonds will increase to the stepped coupon rate. The TELA is not available to pay the purchase price of the Series 2018B Bonds payable upon any mandatory tender thereof but is available to pay the debt service due on the Series 2018B Bonds, including at the stepped coupon rate, subject to the TELA Limitations and other provisions of the TELA. See "TOLL EQUITY LOAN AGREEMENT" and "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT."

Limitation and Enforceability of Remedies

*Limitation of Remedies under the Trust Agreemen*t. The remedies available to Owners of the 2020 Bonds upon an event of default under the Trust Agreement are limited to the seeking of specific performance in a writ of mandamus or other suit, action or proceeding compelling and requiring the Corporation and its officers to observe and perform any covenant, condition or obligation prescribed in the Trust Agreement. In no event will the Owners or the Trustee have the right to declare the principal of or interest on the 2020 Bonds to be immediately due and payable as a remedy upon the occurrence of an event of a default under the Trust Agreement. The enforcement of the remedy of mandamus may be difficult and time consuming. No assurance can be given that a mandamus or other legal action to enforce a default under the Trust Agreement would be successful.

Enforceability of Remedies. The remedies available under the Trust Agreement are in many respects dependent upon regulatory and judicial actions that are often subject to discretion and delay. Under existing law, such remedies may not be readily available. In addition, enforcement of such remedies (i) may be subject to general principles of equity which may permit the exercise of judicial discretion, (ii) are subject to the exercise in the future by the State and its agencies and political subdivisions of the police power inherent in the sovereignty of the State, (iii) are subject, in part, to the provisions of the United States Bankruptcy Act and other applicable bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or affecting the enforcement of creditors' rights generally, now or hereafter in effect, and (iv) are subject to the exercise by the United States of the powers delegated to it by the federal Constitution. The Corporation has not waived sovereign immunity from suit with respect to the 2020 Bonds. The various legal opinions to be delivered concurrently with the delivery of the 2020 Bonds will be qualified to the extent that the enforceability of certain legal rights related to the 2020 Bonds is subject to limitations imposed by sovereign immunity, bankruptcy, reorganization, insolvency or other similar laws affecting the rights of creditors generally and by equitable remedies and proceedings generally.

Texas courts have long held that neither the State nor any subdivision thereof may be sued under Texas law without consent, and then only in the manner indicated by that consent. The Texas sovereign immunity doctrine includes two distinct principles: immunity from suit and immunity from liability. With regard to breach of contract claims against the State, however, Texas courts have held that when the State enters into a contract with a private party, it waives immunity from liability but not immunity from suit. Immunity from suit deprives a court of subject matter jurisdiction, and can only be waived as specifically provided for by the State legislature, either by statute or by special resolution.

Enforceability of Remedies Against TxDOT under the TELA. Each party to the TELA may avail itself of any remedy existing at law or in equity, such remedies to be cumulative. TxDOT has not waived sovereign immunity from suit with respect to the TELA and therefore, the Corporation or the Trustee may be prevented from bringing a suit against TxDOT to adjudicate a claim to enforce TxDOT's obligations under the TELA or for damages for breach of the TELA. However, State courts have held that mandamus proceedings against a governmental unit, such as TxDOT, are not prohibited by sovereign immunity.

In addition, State law may be interpreted to allow the State to impair the obligations of contracts such as the TELA in a valid exercise of the State's inherent police powers. Assuming the application of such law, there can be no assurances given as to the enforceability of TxDOT's obligations to make advances which might impair or impede any current or future appropriation from the State Highway Fund. See "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT – TxDOT Obligations Subject to Appropriation."

Enforceability of Remedies Against HCTRA under the Central Interoperability Agreement. The issuance of a writ of mandamus may be sought if there is no other available remedy at law to compel performance of HCTRA's obligations under the Central Interoperability Agreement and such obligations are not uncertain or disputed. The remedy of mandamus is controlled by equitable principles and so rests with the discretion of the court, but may not be arbitrarily refused; provided, however, Texas case law suggests that a mandamus action to enforce a non-legislatively mandated contract may be unavailable. The Central Interoperability Agreement is likely not a legislatively mandated contract, and no assurance can be given that a mandamus or other legal action to enforce a default by HCTRA under the Central Interoperability Agreement would be available or successful.

Clean Air Act Non-Attainment and Conformity Risk; NEPA Environmental Litigation Risk

The federal Clean Air Act ("*CAA*") requires the United States Environmental Protection Agency (the "*EPA*") to adopt and periodically revise national ambient air quality standards ("*NAAQS*") for certain air pollutants that may reasonably be anticipated to endanger public health or welfare. The EPA has established NAAQS for six pollutants: ozone, carbon monoxide, particulate matter, sulfur dioxide, nitrogen oxides, and lead. Areas in which the monitored ambient air quality exceeds the NAAQS for a particular pollutant can be designated as "nonattainment" by the EPA. A nonattainment designation then triggers a process by which the affected state must develop and implement a plan to improve air quality and "attain" compliance with the appropriate standard. This State Implementation Plan ("*SIP*") establishes enforceable control measures and time frames.

Nonattainment areas are also subject to "transportation conformity" requirements under the CAA. The air quality provisions of the CAA and the transportation planning provisions of Title 23 and Title 49 of the United States Code are intended to ensure that integrated transportation and air quality planning occur in those areas. Transportation conformity requirements are designed to ensure that air quality in nonattainment areas is not negatively impacted by federal funding and approval of transportation activities. Transportation conformity requirements apply to transportation plans, transportation improvement programs, and projects funded or approved by the Federal Highway Administration ("*FHWA*") or the Federal Transit Administration ("*FTA*"). A transportation conformity determination is required within one year of an area being designated as a nonattainment area, and must be periodically revisited in nonattainment areas.

The Grand Parkway System is located within the Houston-Galveston-Brazoria ozone nonattainment area ("*HGB Nonattainment Area*"). The HGB Non-Attainment Area is comprised of the following eight counties: Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties. The HGB Nonattainment Area was initially designated as a "marginal" nonattainment area under the 2008 eight-hour ozone standard of 0.075 parts per million ("*ppm*") effective July 20, 2012. However, because the area's monitored "design value" for ozone has failed to demonstrate attainment with the 2008 ozone standard, the HGB Nonattainment Area has been reclassified. By rule effective September 23, 2019, the EPA reclassified the HGB nonattainment Area as a "serious" nonattainment area for the 2008 eight-hour ozone standard, with an attainment deadline of July 20, 2021.

On October 26, 2015, the EPA lowered the eight-hour ozone standard to 0.070 ppm. This action did not revoke or replace the 2008 eight-hour ozone standard. Under the CAA, the EPA was required to make final area designations under the 2015 eight-hour ozone standard of 0.070 ppm on or before October 1, 2017. For the 2015 eight-hour ozone standard, the HGB Nonattainment Area is comprised of six counties: Brazoria, Chambers, Fort Bend, Galveston, Harris, and Montgomery Counties. By rule effective August 3, 2018, the EPA designated the six-county 2015 eight-hour ozone HGB Nonattainment Area as a "marginal" nonattainment area for the 2015 ozone standard, with an attainment date of August 3, 2021. If the State is unable to demonstrate attainment for the HGB Nonattainment Area by an applicable deadline, the area will again be subject to a "bump-up" – that is, being reclassified to a more-restrictive ozone classification.

Transportation projects, including those of TxDOT and the Corporation, must comply with and conform to the CAA. On July 8, 2016, the FHWA and the FTA issued a joint conformity determination for the Houston-Galveston Area Council's ("*H-GAC's*") 2040 Regional Transportation Plan ("*RTP*") and 2015-2018 Transportation Improvement Program ("*TIP*"), after receiving letters from both the Texas Commission on Environmental Quality ("*TCEQ*") and the EPA supporting a positive conformity finding for the HGB Nonattainment Area. FHWA issued an updated conformity determination for the H-GAC's 2040 RTP and for the 2017-2020 TIP on April 18, 2018, and on August 2, 2019, FHWA issued a conformity determination for the H-GAC's 2045 RTP and the 2019-2022 TIP. All projects that currently comprise the System (which includes the Initial Project, the H and I Project and Segment I-2A) are included in the list of projects that are subject to transportation conformity requirements and that are covered by the July 8, 2016, April 18, 2018, and August 2, 2019 conformity determinations.

Should the HGB Nonattainment Area fail to achieve attainment, or should the HGB Nonattainment Area fail to satisfy the then-effective SIP, or for any other reason should a lapse in conformity with the CAA occur, the HGB Nonattainment Area may be subjected to sanctions pursuant to the CAA. The exact nature of sanctions or any potential SIP for the HGB Nonattainment Area in such circumstances is currently unknown. Nevertheless, it is possible that all or some of the transportation control measures ("*TCMs*") available as sanctions under the CAA may be imposed, which are strategies that seek to reduce transportation-related air pollution by improving traffic flow, improving public transit, and reducing vehicle use. TCMs are an optional control strategy under the CAA, although the implementation of TCMs is required under certain circumstances for a nonattainment area classified as "serious" or above. The CAA also provides for mandatory sanctions, including the suspension of highway funding, should the State fail to submit a proper SIP, or associated submissions, fail to revise or implement a SIP or fail to comply with an existing SIP. Subject to certain exceptions, if the HGB Nonattainment Area falls out of conformity and the mandatory highway funding suspension sanction is implemented, the U.S. Secretary of Transportation may be prohibited from approving or awarding transportation projects or grants within the area failing to conform to the CAA. It is not possible at this time to determine the exact nature of any sanctions or additional nonattainment SIP requirements that may apply to the HGB Nonattainment Area in the future.

A Final Environmental Impact Statement ("*FEIS*") was conducted for Segments H and I-1 of the Grand Parkway Project under the federal National Environmental Policy Act ("*NEPA*"). The FHWA signed the FEIS on April 8, 2014 and it was published in the Federal Register on May 9, 2014 with the comment period ending on June 9, 2014. On June 24, 2014, FHWA issued a Record of Decision ("*ROD*") for Segments H and I-1, which allows these segments of the H and I Project to proceed to final design and construction. Two FEIS re-evaluations for Segments H and I-1 were approved by TxDOT on January 25, 2016 and March 24, 2016, respectively.

A FEIS was conducted and completed in accordance with NEPA requirements for Segment I-2 of the Grand Parkway Project in May of 1997 and a ROD was issued by FHWA on August 13, 1998. Following the Segment I-2 approved FEIS, five re-evaluations were completed and approved in 2002, 2006, 2007 and 2012 and on July 7, 2016. Approvals of these environmental studies will allow the portion of the H and I Project within the Segment I-2 corridor to proceed to final design and construction.

The FHWA published a Notice of Final Federal Agency Actions on July 25, 2014, providing notice of federal agency approvals of Segments H and I-1 and establishing December 22, 2014 as the date by which any claim seeking judicial review of the federal agency actions on such segments must be filed. No claim seeking judicial review of the federal agency actions granting approvals for Segments H and I-1 was filed on or before such date. The ROD for Segment I-2 was obtained prior to current legislative requirements concerning the number of days from publishing a Notice of Final Federal Agency Actions by which any claim seeking judicial review of the federal agency actions must be filed. However, in accordance with federal law, the time period for filing a claim seeking judicial review of federal agency actions on Segment I-2 has expired.

On June 19, 2017, FHWA executed a letter documenting its concurrence with the award of the Design Build Agreement for the H and I Project to the DB Contractor. Based on the FHWA approval and concurrence for Segments H, I-1 and I-2, the Corporation anticipates that the H and I Project would be "grandfathered" as an approved project and allowed to proceed should the HGB Nonattainment Area experience a conformity lapse. FHWA's interpretation that projects receiving federal approval prior to a conformity lapse may proceed notwithstanding a conformity lapse could be nevertheless subject to challenge on the grounds that it conflicts with court decisions that have invalidated CAA conformation regulations that established similar "grandfather" protections for ongoing projects. If successfully challenged, completion of the H and I Project could be delayed due to a conformity lapse.

In addition, it is possible that nonattainment, a lapse in conformity under the CAA or other environmental issues may result in litigation involving injunctive or other relief that could give rise to delays and costs increases in the construction of road facilities in the State, including the H and I Project. Litigation under NEPA or other State or federal environmental laws may also result in injunctive or other relief and the possibility of delays in the construction or operation, as applicable, of the System.

State Legislative Issues

The State Legislature, operating under the biennial system, convenes its regular sessions at noon on the second Tuesday in January of odd-numbered years. The maximum duration of a regular session is 140 days. The State Legislature concluded its 86th regular legislative session on May 27, 2019. Under the Texas Constitution, the Governor has the authority to call additional special sessions of the State Legislature at any time, each for a duration of no more than thirty days, to address only those subjects designated by the Governor. While in session, the State Legislature may consider bills which could have a direct impact on the Commission, TxDOT and the State Highway Fund. The Corporation makes no representations or predictions with respect to whether the Governor will exercise his authority under the Texas Constitution to call additional special sessions of the State Legislature or concerning the substance or effect of any legislation that may be proposed and ultimately passed while the State Legislature is in session.

THE TAXABLE SERIES 2020A BONDS

Description

The Taxable Series 2020A Bonds will be issued as fully registered bonds, without coupons, in denominations of $5,000 or any integral multiple thereof and will be dated as of their Date of Delivery. Interest on the Taxable Series 2020A Bonds will accrue at the interest rates specified on page (iv) hereof, calculated on the basis of a 360 day year composed of twelve 30 day months, from the Date of Delivery and will be payable semiannually on April 1 and October 1 of each year, commencing October 1, 2020. Principal will come due on October 1 of the years and in the amounts set forth on page (iv) hereof or upon earlier redemption of the Taxable Series 2020A Bonds as described herein.

Redemption

Optional Redemption at Par. The Taxable Series 2020A Bonds maturing on and after October 1, 2030 are subject to redemption prior to their scheduled maturity, with funds derived from any available source, in whole or in part, at the option of the Corporation in authorized denominations, at the redemption price of par plus interest accrued to the date of redemption, and without premium, on April 1, 2030 (the "*2020A Par Call Date*"), or any date thereafter.

Optional Redemption at Make-Whole Redemption Price. The Taxable Series 2020A Bonds are subject to redemption, in whole or in part, at the option of the Corporation at the "Make-Whole Redemption Price" (as defined below), on any date prior to the 2020A Par Call Date. The Corporation will retain an independent certified public accountant or an independent municipal advisor to determine the Make-Whole Redemption Price and perform all actions and make all calculations required to determine the Make-Whole Redemption Price. The Trustee may conclusively rely on such independent certified public accountant's or independent municipal advisor's calculations in connection with, and its determination of, the Make-Whole Redemption Price, and neither the Corporation nor the Trustee will have any liability for such reliance. The determination of the Make-Whole Redemption Price by such independent certified public accountant or independent municipal advisor will be conclusive and binding on the Corporation, the Trustee and the holders of the Taxable Series 2020A Bonds absent manifest error.

The "*Make-Whole Redemption Price*" means the greater of (1) 100% of the principal amount of the Taxable Series 2020A Bonds to be redeemed or (2) the sum of the present value of the remaining scheduled payments of principal of and interest to the maturity date of such Taxable Series 2020A Bonds to be redeemed, not including any portion of those payments of interest thereon accrued and unpaid as of the date on which the Taxable Series 2020A Bonds are to be redeemed, discounted to the date on which the Taxable Series 2020A Bonds are to be redeemed on a semiannual basis, assuming a 360-day year consisting of twelve 30-day months, at the "Treasury Rate" (as defined below) plus 20 basis points, plus, in each case, accrued and unpaid interest on the Taxable Series 2020A Bonds to be redeemed on the date of redemption.

"*Treasury Rate*" means, with respect to any redemption date for a particular Taxable Series 2020A Bond, the yield to maturity as of such redemption date of the United States Treasury securities with a constant maturity (as compiled and published in the Federal Reserve Statistical Release H.15 (519) that has become publicly available at least two Business Days, but not more than 45 calendar days, prior to the redemption date (excluding inflation indexed securities) (or, if such Statistical Release is no longer published, any publicly available source of similar market data)) most nearly equal to the period from the redemption date to the maturity date of the Taxable Series 2020A Bond to be redeemed.

Mandatory Redemption. The Taxable Series 2020A Bonds maturing on October 1, 2039, October 1, 2049 and October 1, 2052 (collectively, the "*Taxable Series 2020A Term Bonds*") are subject to mandatory sinking fund redemption prior to maturity in the aggregate principal amounts and on the dates set forth in the following tables, at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to, but not including, the redemption date, as follows:

Taxable Series 2020A Term Bonds
Maturing October 1, 2039

Redemption Date (October 1)	Principal Amount
2035	$1,405,000
2036	1,485,000
2037	1,625,000
2038	1,825,000
2039[(1)]	2,090,000

(1)Final Maturity

[*Remainder of page intentionally left blank.*]

Taxable Series 2020A Term Bonds
Maturing October 1, 2049

Redemption Date (October 1)	Principal Amount
2040	$2,425,000
2041	2,835,000
2042	3,320,000
2043	3,880,000
2044	13,485,000
2045	15,100,000
2046	16,845,000
2047	18,725,000
2048	20,735,000
2049[(1)]	22,890,000

(1)Final Maturity

Taxable Series 2020A Term Bonds
Maturing October 1, 2052

Redemption Date (October 1)	Principal Amount
2050	$20,675,000
2051	18,010,000
2052[(1)]	42,890,000

(1)Final Maturity

The principal amount of the Taxable Series 2020A Term Bonds required to be redeemed on any redemption date pursuant to the operation of mandatory sinking fund redemption provisions will be reduced at the option of the Corporation, by the principal amount of any Taxable Series 2020A Term Bond scheduled for redemption on such redemption date or dates, which, at least 45 days prior to the mandatory sinking fund redemption date, (1) have been acquired by the Corporation and delivered to the Trustee for cancellation, (2) have been acquired and canceled by the Trustee, at the direction of the Corporation, at a price not exceeding the principal amount of such Taxable Series 2020A Term Bond plus accrued interest to the date of acquisition thereof, or (3) have been redeemed pursuant to the optional redemption provisions and not previously credited to a scheduled mandatory redemption.

If less than all of the Taxable Series 2020A Bonds are to be redeemed, the particular maturities of the Taxable Series 2020A Bonds or mandatory sinking fund installment in the case of Taxable Series 2020A Term Bonds, to be redeemed at the option of the Corporation will be determined by the Corporation in its sole discretion. If less than all of the Taxable Series 2020A Bonds of any maturity are to be redeemed, or mandatory sinking fund installments in the case of Taxable Series 2020A Term Bonds, the Trustee (or DTC while the Taxable Series 2020A Bonds are in book-entry-only form) shall be allocated on a pro rata pass-through distribution of principal basis. If the Taxable Series 2020A Bonds are registered in book-entry-only form and so long as DTC or a successor securities depository is the sole registered owner of such Taxable Series 2020A Bonds, the particular Series 2020A Bonds or portions thereof to be redeemed shall be allocated on a pro rata pass-through distribution of principal basis in accordance with DTC procedures. So long as the Taxable Series 2020A Bonds are held in book-entry form, the selection for redemption of Taxable Series 2020A Bonds shall be made in accordance with the operational arrangements of DTC then in effect, and, if the DTC operational arrangements do not allow for redemption on a pro rata pass-through distribution of principal basis, the Taxable Series 2020A Bonds will be selected for redemption, in accordance with DTC procedures, by lot. For purposes of calculation of the "pro rata pass-through distribution of principal," "pro rata" means, for any amount of principal to be paid, the application of a fraction to each denomination of the Taxable Series 2020A Bond where (a) the numerator of which is equal to the amount due to the respective owner on a payment date, and (b) the denominator of which is equal to the total original par amount of Taxable Series 2020A Bonds. The Corporation intends that redemption allocations made by DTC with respect to the Taxable Series 2020A Bonds be made on a pro rata pass-through distribution of principal basis as described above. However, neither the Corporation nor the Underwriters can provide any assurance that DTC, DTC's direct and indirect participants or any other intermediary will allocate the redemption of the Taxable Series 2020A Bonds on such basis. If the Taxable Series 2020A Bonds are no longer registered in book-entry-only form, each owner will receive an amount of Taxable Series 2020A Bonds, as applicable, equal to the original face amount then beneficially held by that owner, registered in such owner's name. Thereafter, in connection with the redemption of less than all of the Taxable

Series 2020A Bonds, the Taxable Series 2020A Bonds to be redeemed will be selected on a pro-rata basis, based on the portion of the original face amount of any such Taxable Series 2020A Bonds to be redeemed. If a Taxable Series 2020A Bond (or any portion thereof) shall have been called for redemption and notice of such redemption shall have been given, the Taxable Series 2020A Bond (or the principal amount thereof to be redeemed) shall become due and payable on such redemption date and interest thereon shall cease to accrue from and after the redemption date, provided funds for the payment of the redemption price and accrued interest thereon are held by the Trustee on the redemption date.

Notice of Redemption. At least 30 days prior to the date fixed for optional redemption of any Taxable Series 2020A Bonds or portions thereof prior to maturity, at the option of the Corporation, a written notice of such redemption is required to be sent by the Trustee by United States mail, first-class postage prepaid, to the registered Owner of each Taxable Series 2020A Bond to be redeemed at its address as it appeared in the registration books maintained by the Trustee on the 45th day prior to such redemption date; provided, however, that the failure to send, mail, or receive such notice, or any defect therein or in the sending or mailing thereof, will not affect the validity or effectiveness of the proceedings for the optional redemption of any Taxable Series 2020A Bond. The mailing of such notice as required above in connection with the redemption of Taxable Series 2020A Bonds prior to maturity at the option of the Corporation will be the only notice actually required in connection with or as a prerequisite to such optional redemption of any Taxable Series 2020A Bonds or portions thereof. All redemption notices for the Taxable Series 2020A Bonds are required to contain a description of the Taxable Series 2020A Bonds to be redeemed, including such items specified in the Trust Agreement.

If notice of redemption is given and if due provision for such payment is made, the Taxable Series 2020A Bonds or portions thereof which are to be redeemed thereby automatically will be treated as redeemed prior to their scheduled maturities, and they will not bear interest after the date fixed for redemption, and they will not be regarded as being outstanding except for the right of the registered Owners to receive the redemption price plus accrued interest from the Trustee out of the fund provided for such payment.

Conditional Notice of Redemption. In the case of an optional redemption of the Taxable Series 2020A Bonds, the notice may state (1) that it is conditioned upon the deposit of money, in an amount equal to the amount necessary to effect the redemption, with the Trustee no later than the redemption date or (2) that the Corporation retains the right to rescind such notice at any time prior to the scheduled redemption date if the Corporation delivers a certificate of a Pricing Officer to the Trustee instructing the Trustee to rescind the redemption notice (in either case, a "*Conditional Redemption*"), and such notice and optional redemption will be of no effect if such money is not so deposited or if the notice is rescinded as described in the paragraph below.

Any Conditional Redemption may be rescinded in whole or in part at any time prior to the redemption date if the Corporation delivers a certificate of a Pricing Officer to the Trustee instructing the Trustee to rescind the redemption notice. The Trustee is required to give prompt notice of such rescission or failure to deposit funds to the affected Owners. Any Taxable Series 2020A Bonds subject to Conditional Redemption where redemption has been rescinded or funds to effect the redemption have not been deposited will remain outstanding, and the rescission or failure to deposit funds will not constitute an Event of Default under the Trust Agreement.

Tax Status

The Taxable Series 2020A Bonds are not obligations described in Section 103(a) of the Code and thus interest on the Taxable Series 2020A Bonds is not excludable from gross income for federal income tax purposes. See "TAX MATTERS – Taxable 2020 Bonds."

THE TAXABLE SERIES 2020B BONDS

Description

The Taxable Series 2020B Bonds will be issued as fully registered bonds, without coupons, in denominations of $5,000 or any integral multiple thereof and will be dated as of their Date of Delivery. Interest on the Taxable Series 2020B Bonds will accrue at the interest rates specified on page (v) hereof, calculated on the basis of a 360 day year composed of twelve 30 day months, from the Date of Delivery and will be payable semiannually on April 1 and October 1 of each year, commencing October 1, 2020. Principal will come due on October 1 of the years and in the amounts set forth on page (v) hereof or upon earlier redemption of the Taxable Series 2020B Bonds as described herein.

Redemption

Optional Redemption at Par. The Taxable Series 2020B Bonds maturing on and after October 1, 2030 are subject to redemption prior to their scheduled maturity, with funds derived from any available source, in whole or in part, at the option of the Corporation in authorized denominations, at the redemption price of par plus interest accrued to the date of redemption, and without premium, on April 1, 2030 (the "*2020B Par Call Date*"), or any date thereafter.

Optional Redemption at Make-Whole Redemption Price. The Taxable Series 2020B Bonds are subject to redemption, in whole or in part, at the option of the Corporation at the "Make-Whole Redemption Price" (as defined below), on any date prior to the 2020B Par Call Date. The Corporation will retain an independent certified public accountant or an independent municipal advisor to determine the Make-Whole Redemption Price and perform all actions and make all calculations required to determine the Make-Whole Redemption Price. The Trustee may conclusively rely on such independent certified public accountant's or independent municipal advisor's calculations in connection with, and its determination of, the Make-Whole Redemption Price, and neither the Corporation nor the Trustee will have any liability for such reliance. The determination of the Make-Whole Redemption Price by such independent certified public accountant or independent municipal advisor will be conclusive and binding on the Corporation, the Trustee and the holders of the Taxable Series 2020B Bonds absent manifest error.

The "*Make-Whole Redemption Price*" means the greater of (1) 100% of the principal amount of the Taxable Series 2020B Bonds to be redeemed or (2)(a) for the Taxable Series 2020B Bonds maturing on or before October 1, 2030, the sum of the present value of the remaining scheduled payments of principal of and interest to the maturity date of such Taxable Series 2020B Bonds to be redeemed, not including any portion of those payments of interest thereon accrued and unpaid as of the date on which the Taxable Series 2020B Bonds are to be redeemed, discounted to the date on which the Taxable Series 2020B Bonds are to be redeemed on a semiannual basis, assuming a 360-day year consisting of twelve 30-day months, at the "Treasury Rate" (as defined below) plus 10 basis points, plus, in each case, accrued and unpaid interest on the Taxable Series 2020B Bonds to be redeemed on the date of redemption, and (b) for the Taxable Series 2020B Bonds maturing on or after October 1, 2031, the sum of the present value of the remaining scheduled payments of principal of and interest to the maturity date of such Taxable Series 2020B Bonds to be redeemed, not including any portion of those payments of interest thereon accrued and unpaid as of the date on which the Taxable Series 2020B Bonds are to be redeemed, discounted to the date on which the Taxable Series 2020B Bonds are to be redeemed on a semiannual basis, assuming a 360-day year consisting of twelve 30-day months, at the "Treasury Rate" (as defined below) plus 20 basis points, plus, in each case, accrued and unpaid interest on the Taxable Series 2020B Bonds to be redeemed on the date of redemption.

"*Treasury Rate*" means, with respect to any redemption date for a particular Taxable Series 2020B Bond, the yield to maturity as of such redemption date of the United States Treasury securities with a constant maturity (as compiled and published in the Federal Reserve Statistical Release H.15 (519) that has become publicly available at least two Business Days, but not more than 45 calendar days, prior to the redemption date (excluding inflation indexed securities) (or, if such Statistical Release is no longer published, any publicly available source of similar market data)) most nearly equal to the period from the redemption date to the maturity date of the Taxable Series 2020B Bond to be redeemed.

Mandatory Redemption. The Taxable Series 2020B Bonds maturing on October 1, 2039, October 1, 2049 and October 1, 2052 (collectively, the "*Taxable Series 2020B Term Bonds*") are subject to mandatory sinking fund redemption prior to maturity in the aggregate principal amounts and on the dates set forth in the following tables, at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to, but not including, the redemption date, as follows:

Taxable Series 2020B Term Bonds
Maturing October 1, 2039

Redemption Date (October 1)	Principal Amount
2036	$3,625,000
2037	3,735,000
2038	3,845,000
2039[(1)]	3,965,000

[(1)]Final Maturity

[*Remainder of page intentionally left blank.*]

Taxable Series 2020B Term Bonds
Maturing October 1, 2049

Redemption Date (October 1)	Principal Amount
2040	$4,090,000
2041	4,225,000
2042	4,360,000
2043	4,505,000
2044	4,650,000
2045	4,805,000
2046	4,960,000
2047	5,125,000
2048	48,050,000
2049[(1)]	72,520,000

[(1)]Final Maturity

Taxable Series 2020B Term Bonds
Maturing October 1, 2052

Redemption Date (October 1)	Principal Amount
2050	$264,515,000
2051	374,380,000
2052[(1)]	373,730,000

[(1)]Final Maturity

The principal amount of the Taxable Series 2020B Term Bonds required to be redeemed on any redemption date pursuant to the operation of mandatory sinking fund redemption provisions will be reduced at the option of the Corporation, by the principal amount of any Taxable Series 2020B Term Bond scheduled for redemption on such redemption date or dates, which, at least 45 days prior to the mandatory sinking fund redemption date, (1) have been acquired by the Corporation and delivered to the Trustee for cancellation, (2) have been acquired and canceled by the Trustee, at the direction of the Corporation, at a price not exceeding the principal amount of such Taxable Series 2020B Term Bond plus accrued interest to the date of acquisition thereof, or (3) have been redeemed pursuant to the optional redemption provisions and not previously credited to a scheduled mandatory redemption.

If less than all of the Taxable Series 2020B Bonds are to be redeemed, the particular maturities of the Taxable Series 2020B Bonds or mandatory sinking fund installment in the case of Taxable Series 2020B Term Bonds, to be redeemed at the option of the Corporation will be determined by the Corporation in its sole discretion. If less than all of the Taxable Series 2020B Bonds of any maturity are to be redeemed, or mandatory sinking fund installments in the case of Taxable Series 2020B Term Bonds, the Trustee (or DTC while the Taxable Series 2020B Bonds are in book-entry-only form) shall be allocated on a pro rata pass-through distribution of principal basis. If the Taxable Series 2020B Bonds are registered in book-entry-only form and so long as DTC or a successor securities depository is the sole registered owner of such Taxable Series 2020B Bonds, the particular Series 2020B Bonds or portions thereof to be redeemed shall be allocated on a pro rata pass-through distribution of principal basis in accordance with DTC procedures. So long as the Taxable Series 2020B Bonds are held in book-entry form, the selection for redemption of Taxable Series 2020B Bonds shall be made in accordance with the operational arrangements of DTC then in effect, and, if the DTC operational arrangements do not allow for redemption on a pro rata pass-through distribution of principal basis, the Taxable Series 2020B Bonds will be selected for redemption, in accordance with DTC procedures, by lot. For purposes of calculation of the “pro rata pass-through distribution of principal,” “pro rata” means, for any amount of principal to be paid, the application of a fraction to each denomination of the Taxable Series 2020B Bond where (a) the numerator of which is equal to the amount due to the respective owner on a payment date, and (b) the denominator of which is equal to the total original par amount of Taxable Series 2020B Bonds. The Corporation intends that redemption allocations made by DTC with respect to the Taxable Series 2020B Bonds be made on a pro rata pass-through distribution of principal basis as described above. However, neither the Corporation nor the Underwriters can provide any assurance that DTC, DTC’s direct and indirect participants or any other intermediary will allocate the redemption of the Taxable Series 2020B Bonds on such basis. If the Taxable Series 2020B Bonds are no longer registered in book-entry-only form, each owner will receive an amount of Taxable Series 2020B Bonds, as applicable, equal to the original face amount then beneficially held by that owner, registered in such owner’s name. Thereafter, in connection with the redemption of less than all of the Taxable

Series 2020B Bonds, the Taxable Series 2020B Bonds to be redeemed will be selected on a pro-rata basis, based on the portion of the original face amount of any such Taxable Series 2020B Bonds to be redeemed. If a Taxable Series 2020B Bond (or any portion thereof) shall have been called for redemption and notice of such redemption shall have been given, the Taxable Series 2020B Bond (or the principal amount thereof to be redeemed) shall become due and payable on such redemption date and interest thereon shall cease to accrue from and after the redemption date, provided funds for the payment of the redemption price and accrued interest thereon are held by the Trustee on the redemption date.

Notice of Redemption. At least 30 days prior to the date fixed for optional redemption of any Taxable Series 2020B Bonds or portions thereof prior to maturity, at the option of the Corporation, a written notice of such redemption is required to be sent by the Trustee by United States mail, first-class postage prepaid, to the registered Owner of each Taxable Series 2020B Bond to be redeemed at its address as it appeared in the registration books maintained by the Trustee on the 45th day prior to such redemption date; provided, however, that the failure to send, mail, or receive such notice, or any defect therein or in the sending or mailing thereof, will not affect the validity or effectiveness of the proceedings for the optional redemption of any Taxable Series 2020B Bond. The mailing of such notice as required above in connection with the redemption of Taxable Series 2020B Bonds prior to maturity at the option of the Corporation will be the only notice actually required in connection with or as a prerequisite to such optional redemption of any Taxable Series 2020B Bonds or portions thereof. All redemption notices for the Taxable Series 2020B Bonds are required to contain a description of the Taxable Series 2020B Bonds to be redeemed, including such items specified in the Trust Agreement.

If notice of redemption is given and if due provision for such payment is made, the Taxable Series 2020B Bonds or portions thereof which are to be redeemed thereby automatically will be treated as redeemed prior to their scheduled maturities, and they will not bear interest after the date fixed for redemption, and they will not be regarded as being outstanding except for the right of the registered Owners to receive the redemption price plus accrued interest from the Trustee out of the fund provided for such payment.

Conditional Notice of Redemption. In the case of an optional redemption of the Taxable Series 2020B Bonds, the notice may state (1) that it is conditioned upon the deposit of money, in an amount equal to the amount necessary to effect the redemption, with the Trustee no later than the redemption date or (2) that the Corporation retains the right to rescind such notice at any time prior to the scheduled redemption date if the Corporation delivers a certificate of a Pricing Officer to the Trustee instructing the Trustee to rescind the redemption notice (in either case, a "*Conditional Redemption*"), and such notice and optional redemption will be of no effect if such money is not so deposited or if the notice is rescinded as described in the paragraph below.

Any Conditional Redemption may be rescinded in whole or in part at any time prior to the redemption date if the Corporation delivers a certificate of a Pricing Officer to the Trustee instructing the Trustee to rescind the redemption notice. The Trustee is required to give prompt notice of such rescission or failure to deposit funds to the affected Owners. Any Taxable Series 2020B Bonds subject to Conditional Redemption where redemption has been rescinded or funds to effect the redemption have not been deposited will remain outstanding, and the rescission or failure to deposit funds will not constitute an Event of Default under the Trust Agreement.

Tax Status

The Taxable Series 2020B Bonds are not obligations described in Section 103(a) of the Code and thus interest on the Taxable Series 2020B Bonds is not excludable from gross income for federal income tax purposes. See "TAX MATTERS – Taxable 2020 Bonds."

THE SERIES 2020C BONDS

Description

The Series 2020C Bonds will be issued as fully registered bonds, without coupons, in denominations of $5,000 or any integral multiple thereof and will be dated as of their Date of Delivery. Interest on the Series 2020C Bonds will accrue at the interest rates specified on page (vi) hereof, calculated on the basis of a 360-day year composed of twelve 30-day months, from the Date of Delivery and will be payable semiannually on April 1 and October 1 of each year, commencing October 1, 2020. Principal will come due on October 1 of the years and in the amounts set forth on page (vi) hereof or upon earlier redemption of the Series 2020C Bonds as described herein.

Redemption

Optional Redemption. The Series 2020C Bonds are subject to redemption prior to their scheduled maturity, with funds derived from any available source, in whole or in part, at the option of the Corporation in authorized denominations, at the redemption price of par plus accrued interest to the date of redemption, and without premium, on April 1, 2030, or on any date thereafter.

Mandatory Redemption. The Series 2020C Bonds maturing on October 1, 2045 and October 1, 2049 (collectively, the "*Series 2020C Term Bonds*") are subject to mandatory sinking fund redemption prior to maturity in the aggregate principal amounts and on the dates set forth in the following tables, at a redemption price equal to 100% of the principal amount thereof, plus accrued interest to, but not including, the redemption date, as follows:

Series 2020C Term Bonds
Maturing October 1, 2045

Redemption Date (October 1)	Principal Amount
2041	$24,680,000
2042	33,475,000
2043	43,815,000
2044	55,730,000
2045(1)	69,450,000

(1)Final Maturity

Series 2020C Term Bonds
Maturing October 1, 2049

Redemption Date (October 1)	Principal Amount
2046	$84,835,000
2047	101,970,000
2048	120,780,000
2049(1)	141,385,000

(1)Final Maturity

The principal amount of the Series 2020C Term Bonds required to be redeemed on any redemption date pursuant to the operation of mandatory sinking fund redemption provisions will be reduced at the option of the Corporation, by the principal amount of any Series 2020C Term Bond scheduled for redemption on such redemption date or dates, which, at least 45 days prior to the mandatory sinking fund redemption date, (1) have been acquired by the Corporation and delivered to the Trustee for cancellation, (2) have been acquired and canceled by the Trustee, at the direction of the Corporation, at a price not exceeding the principal amount of such Series 2020C Term Bond plus accrued interest to the date of acquisition thereof, or (3) have been redeemed pursuant to the optional redemption provisions and not previously credited to a scheduled mandatory redemption.

If less than all of the Series 2020C Bonds are to be redeemed, the particular maturities of the Series 2020C Bonds or mandatory sinking fund installment in the case of Series 2020C Term Bonds, to be redeemed at the option of the Corporation will be determined by the Corporation in its sole discretion. If less than all of the Series 2020C Bonds of any maturity are to be redeemed, or mandatory sinking fund installments in the case of Series 2020C Term Bonds, the Trustee (or DTC while the Series 2020C Bonds are in book-entry-only form) shall determine by lot or other customary random method the Series 2020C Bonds, or portions thereof, within such maturity to be redeemed. If a Series 2020C Bond (or any portion thereof) shall have been called for redemption and notice of such redemption shall have been given, the Series 2020C Bond (or the principal amount thereof to be redeemed) shall become due and payable on such redemption date and interest thereon shall cease to accrue from and after the redemption date, provided funds for the payment of the redemption price and accrued interest thereon are held by the Trustee on the redemption date.

Notice of Redemption. At least 30 days prior to the date fixed for optional redemption of any Series 2020C Bonds or portions thereof prior to maturity, at the option of the Corporation, a written notice of such redemption is required to be sent by the Trustee by United States mail, first-class postage prepaid, to the registered Owner of each Series 2020C Bond to be redeemed at its address as it appeared in the registration books maintained by the Trustee on the 45th day prior to such redemption date; provided, however, that the failure to send, mail, or receive such notice, or any defect therein or in the sending or mailing thereof, will not affect the validity or effectiveness of the proceedings for the optional redemption of any Series 2020C Bond. The mailing of such notice as required above in connection with the redemption of Series 2020C Bonds prior to maturity at the option of the Corporation will be the only notice actually required in connection with or as a prerequisite to such optional redemption of any Series 2020C Bonds or portions thereof. All redemption notices for the Series 2020C Bonds are required to contain a description of the Series 2020C Bonds to be redeemed, including such items specified in the Trust Agreement.

If notice of redemption is given and if due provision for such payment is made, the Series 2020C Bonds or portions thereof which are to be redeemed thereby automatically will be treated as redeemed prior to their scheduled maturities, and they will not bear interest after the date fixed for redemption, and they will not be regarded as being outstanding except for the right of the registered Owners to receive the redemption price plus accrued interest from the Trustee out of the fund provided for such payment.

Conditional Notice of Redemption. In the case of an optional redemption of the Series 2020C Bonds, the notice may state (1) that it is conditioned upon the deposit of money, in an amount equal to the amount necessary to effect the redemption, with the Trustee no later than the redemption date or (2) that the Corporation retains the right to rescind such notice at any time prior to the scheduled redemption date if the Corporation delivers a certificate of a Pricing Officer to the Trustee instructing the Trustee to rescind the redemption notice (in either case, a "*Conditional Redemption*"), and such notice and optional redemption will be of no effect if such money is not so deposited or if the notice is rescinded as described in the paragraph below.

Any Conditional Redemption may be rescinded in whole or in part at any time prior to the redemption date if the Corporation delivers a certificate of a Pricing Officer to the Trustee instructing the Trustee to rescind the redemption notice. The Trustee is required to give prompt notice of such rescission or failure to deposit funds to the affected Owners. Any Series 2020C Bonds subject to Conditional Redemption where redemption has been rescinded or funds to effect the redemption have not been deposited will remain outstanding, and the rescission or failure to deposit funds will not constitute an Event of Default under the Trust Agreement.

Tax Status

In the opinion of Bond Counsel to the Corporation, interest on the Series 2020C Bonds will be excludable from gross income for federal income tax purposes under statutes, regulations, published rulings and court decisions existing on the date hereof, except as described in "TAX MATTERS – Series 2020C Bonds."

GENERAL INFORMATION REGARDING THE 2020 BONDS

Authority for Issuance

The 2020 Bonds are being issued by the Corporation pursuant to (i) the laws of the State, particularly Subchapters A through C of Chapter 431, Texas Transportation Code, as amended, the Business Organizations Code, as amended, related to non-profit corporations, including Chapter 22 thereof, and Chapter 1371, Texas Government Code, as amended (collectively, the "*Acts*"), (ii) a resolution adopted by the Board of Directors of the Corporation on December 19, 2019, and (iii) the Master Trust Agreement and the Eighth Supplemental Agreement.

Trustee

The Corporation has appointed U.S. Bank National Association to serve as Trustee under the Trust Agreement. Any trustee must be a bank or trust company duly organized and doing business under the laws of the United States of America and located in the State of Texas, authorized under such laws to exercise corporate trust powers and subject to examination by federal or state authority, of good standing, and having, at the time of its appointment, a combined capital and surplus aggregating not less than $100,000,000.

The Trustee is to carry out those duties assigned to it under the Trust Agreement. Except for the contents of this subheading, the Trustee has not reviewed or participated in the preparation of this Official Statement and assumes no responsibility for the contents, accuracy, fairness or completeness of the information set forth in this Official Statement or for the recitals contained in the Trust Agreement or the 2020 Bonds, or for the validity, sufficiency, or legal effect of any of such documents. Furthermore, the Trustee has no oversight responsibility, and is not accountable, for the use of any of the 2020 Bonds authenticated or delivered pursuant to the terms of the Trust Agreement or for the use or application of the proceeds of the 2020 Bonds by the Corporation. The Trustee has not evaluated the risks, benefits, or propriety of any investment in the 2020 Bonds and makes no representation, and has reached no conclusions, regarding the value or condition of any assets or revenues pledged or assigned as security for the 2020 Bonds, the technical or financial feasibility of any project, or the investment quality of the 2020 Bonds, about all of which the Trustee expresses no opinion and expressly disclaims the expertise to evaluate.

The Trustee may resign by notice in writing to the Corporation mailed to each Owner of record not less than 60 days before such resignation takes effect, but such resignation will take effect immediately upon the appointment of a new trustee, if the new trustee is appointed before the time limited by such notice and accepts such appointment; provided that such resignation will not become effective until a successor trustee is appointed and accepts appointment. The Trustee may be removed at any time by an instrument or instruments signed by the Owners of not less than a majority in principal amount of the Obligations secured under the Trust Agreement and then Outstanding. No removal of a trustee will be effective until a qualified successor trustee has been appointed and has accepted appointment. The Trustee may be removed at any time by the Corporation if the Corporation names a successor trustee and directs the successor trustee to mail written notice of change in trustee to each Owner on or before the next interest payment date or redemption date, whichever is first to occur.

If at any time a trustee resigns, is removed, is dissolved or otherwise becomes incapable of acting, or the bank or trust company acting as trustee is taken over by any governmental official, agency, department or board, the position of trustee will become vacant. If the position of trustee becomes vacant for any reason, the Corporation is required to appoint a trustee to fill such vacancy. At any time within one year after any such vacancy, the owners of a majority in principal amount of the Obligations then Outstanding under the Trust Agreement may appoint a successor trustee, which will supersede any trustee previously appointed by the Corporation. If no appointment of a successor trustee is made pursuant to the foregoing provisions, the Owner of any Obligation Outstanding under the Trust Agreement or any retiring trustee may apply to any court of competent jurisdiction to appoint a successor trustee.

Record Date

The Record Date for the payment of interest on the 2020 Bonds is the close of business on the fifteenth day of March and September of each year, regardless of whether such day is a Business Day.

In the event of a non-payment of interest on a scheduled payment date, and for thirty days thereafter, a new record date for such interest payment (a "*Special Record Date*") will be established by the Trustee, if and when funds for the payment of such interest have been received from the Corporation. Notice of the Special Record Date and of the scheduled payment date of the past due interest ("*Special Payment Date*", which must be fifteen days after the Special Record Date) will be sent at least five business days prior to the Special Record Date by United States mail, first class postage prepaid, to the address of each holder of a 2020 Bond appearing on the registration books of the Trustee at the close of business on the last business day next preceding the date of mailing of such notice. Notwithstanding the foregoing, during any period in which ownership of the 2020 Bonds is determined by a book entry at a securities depository for the 2020 Bonds, payments made to the securities depository, or its nominee, will be made in accordance with arrangements between the Corporation and the securities depository.

Payments in the Event of Holidays

If the date for payment of the principal of or interest on the 2020 Bonds is a Saturday, Sunday, legal holiday, or day on which banking institutions are required or authorized by law or executive order to remain closed in the city where the Trustee or the Corporation is located, then the date for such payment will be the next succeeding day which is not a Saturday, Sunday, legal holiday, or day on which such banking institutions are required or authorized by law to close. Payment on such later date will not increase the amount of interest due and will have the same force and effect as if made on the original date payment was due.

Transfers and Exchanges

Beneficial ownership of the 2020 Bonds registered in the name of Cede & Co. will initially be transferred as described in "APPENDIX I – DTC BOOK-ENTRY-ONLY SYSTEM."

The Corporation is required to keep or cause to be kept at a corporate trust office of the Trustee in the State of Texas books or records for the registration and transfer of the 2020 Bonds in accordance with the terms of the Trust Agreement.

Upon surrender of any 2020 Bonds at the corporate trust office of the Trustee, together with a written request therefor duly executed by the registered Owner or the assignee or assignees of such 2020 Bonds, or its or their duly authorized attorneys or representatives, with guarantee of signatures satisfactory to the Trustee, such 2020 Bonds may, at the option of the registered Owner or such assignee or assignees, as appropriate, be exchanged for fully registered 2020 Bonds, without interest coupons, in authorized denominations, in an aggregate principal amount equal to the unpaid or unredeemed principal amount of any 2020 Bonds so surrendered, and payable to the appropriate registered Owner, assignee, or assignees, as the case may be; provided that the Trustee is not required to make the transfers of registration of 2020 Bonds or any portion thereof (i) during the period commencing with the close of business on any Record Date and ending with the opening of business on the next following principal or interest payment date, or (ii) with respect to any 2020 Bonds or any portion thereof called for redemption prior to maturity, within 45 days prior to its redemption date.

The Corporation has covenanted to pay the Trustee's standard or customary fees and charges for transferring or exchanging any 2020 Bonds or any portion thereof, but the person requesting any such transfer or exchange is required to pay any taxes or governmental charges required to be paid with respect thereto.

Defeasance

Any 2020 Bond will be deemed to be paid and no longer Outstanding within the meaning of the Trust Agreement (a "*Defeased Debt*") and any applicable Supplemental Agreement, when payment of the principal of, redemption premium, if any, plus interest thereon to the due date thereof (whether such due date be by reason of maturity, upon redemption, mandatory or optional tender, or otherwise), either (i) has been made in accordance with the terms thereof, or (ii) has been provided by irrevocably depositing with the Trustee, in trust, and irrevocably set aside exclusively for such payment, (1) money sufficient to make such payment or (2) Government Obligations (defined below), certified by an independent public accounting firm of national reputation to mature as to principal and interest in such amount and at such times as will ensure the availability, without reinvestment, of sufficient money to make such payment, and all necessary and proper fees, compensation, and expenses of the Trustee and the Paying Agent pertaining to such Defeased Debt or the payment thereof provided for to the satisfaction of the Trustee. At such time as a Defeased Debt is deemed to be paid, it will no longer be secured by or entitled to the benefits of the Trust Agreement, as applicable, except for the purposes of any such payment from such money or Government Obligations.

Any money so deposited with the Trustee, may at the direction of the Corporation also be invested in Government Obligations, maturing in the amounts and times as set forth above, and all income from all Government Obligations in the hands of the Trustee as described herein which is not required for the payment of the 2020 Bonds, the redemption premium, if any, and interest thereon, with respect to which such money has been so deposited, is required to be turned over to the Corporation.

The term "*Government Obligations*" is defined in the Trust Agreement to mean (i) direct, noncallable obligations of the United States of America, including obligations that are unconditionally guaranteed by the United States of America, and (ii) noncallable obligations of an agency or instrumentality of the United States of America, including obligations that are unconditionally guaranteed or insured by the agency or instrumentality and that, on the date of the purchase thereof are rated as to investment quality by a nationally recognized investment rating firm not less than "AAA" or its equivalent.

Any determination not to redeem Defeased Debt that is made in conjunction with the payment arrangements specified above will not be irrevocable if the Corporation takes certain actions specified in the Trust Agreement.

Because the Trust Agreement provides that securities or obligation that may be authorized under future State law may also be used to defease 2020 Bonds, registered owners are deemed to have consented to defeasance with such other investments, notwithstanding the fact that such investments may not be of the same investment quality as those currently permitted under State law.

The Corporation has reserved the right to amend the Trust Agreement to provide for additional or different defeasance provisions applicable to obligations authorized by future Supplemental Agreements. See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT."

Book-Entry-Only System

See "APPENDIX I – DTC BOOK-ENTRY-ONLY SYSTEM." While the 2020 Bonds are in the book-entry-only system, reference in other sections of this Official Statement to Owners of such 2020 Bonds should be read to include any person for whom a Participant acquires an interest in the 2020 Bonds, but (i) all rights of ownership, as described herein, must be exercised through DTC and the book-entry-only system and (ii) notices that are to be given to registered Owners by the Trustee, will be given only to DTC. DTC is required to forward (or cause to be forwarded) the notices to the Participants by its usual procedures so that such Participants may forward (or cause to be forwarded) such notices to the Beneficial Owners.

LITIGATION

The Corporation

On the date of delivery of the 2020 Bonds to the Underwriters, the Corporation will execute and deliver to the Underwriters a certificate to the effect that no litigation or proceeding is pending against the Corporation of which the Corporation has notice and, to the best of its knowledge, no such litigation or proceeding is threatened against the Corporation, seeking to restrain or enjoin the issuance or delivery of the 2020 Bonds or which would affect the provisions made for their payment or security, or in any manner questions the validity of the 2020 Bonds.

As of the date of this Official Statement, the Corporation is not a party to any litigation or other proceeding pending or, to its knowledge, threatened, in any court, agency, or other administrative body (either state or federal) which, if decided adversely to the Corporation, could have a material adverse effect on the financial condition of the Corporation.

The Texas Department of Transportation

On the date of delivery of the 2020 Bonds to the Underwriters, TxDOT will execute and deliver a certificate to the Underwriters to the effect that no litigation or proceeding is pending against TxDOT of which TxDOT has notice and, to the best of its knowledge, no such litigation or proceeding is threatened in any court or administrative body, nor is there a basis for litigation, which would contest the due authorization, execution, delivery or enforceability of (a) the TELA, or (b) TxDOT's continuing disclosure obligations or attempt to limit, enjoin, or otherwise restrict or prevent TxDOT from performing its obligations thereunder, including its obligation to advance funds to the Corporation under the TELA. As of the date of this Official Statement, there is no action, suit or proceeding or investigation at law or in equity before or by any court, public board, or public body pending, or, to its knowledge, threatened against or affecting TxDOT relating to the execution, delivery, and performance by TxDOT of the TELA or the continuing disclosure agreement, or that could have a material adverse effect on the financial condition of TxDOT or TxDOT's ability to advance funds under the TELA.

TAX MATTERS

Certain Federal Income Tax Considerations

General. The following discussion is a summary of certain expected material federal income tax consequences of the purchase, ownership and disposition of the 2020 Bonds and is based on the Internal Revenue Code of 1986 (the "*Code*"), the regulations promulgated thereunder, published rulings and pronouncements of the Internal Revenue Service ("*IRS*") and court decisions currently in effect. There can be no assurance that the IRS will not take a contrary view, and no ruling from the IRS, has been, or is expected to be, sought on the issues discussed herein. Any subsequent changes or interpretations may apply retroactively and could affect the opinion and summary of federal income tax consequences discussed herein.

The following discussion is not a complete analysis or description of all potential U.S. federal tax considerations that may be relevant to, or of the actual tax effect that any of the matters described herein will have on, particular holders of the 2020 Bonds and does not address U.S. federal gift or estate tax or (as otherwise stated herein) the alternative minimum tax, state, local or other tax consequences. This summary does not address special classes of taxpayers (such as partnerships, or other pass-thru entities treated as a partnerships for U.S. federal income tax purposes, S corporations, mutual funds, insurance companies, financial institutions, small business investment companies, regulated investment companies, real estate investment trusts, grantor trusts, former citizens of the U.S., broker-dealers, traders in securities and tax-exempt organizations, individual recipients of Social Security or Railroad Retirement benefits, taxpayers who may be subject to branch profits tax or personal holding company provisions of the Code or taxpayers qualifying for the health insurance premium assistance credit) that are subject to special treatment under U.S. federal income tax laws, or persons that hold 2020 Bonds as a hedge against, or that are hedged against, currency risk or that are part of hedge, straddle, conversion or other integrated transaction, or persons whose functional currency is not the "U.S. dollar." This summary is further limited to investors who will hold the 2020 Bonds as "capital assets" (generally, property held for investment) within the meaning of Section 1221 of the Code. This discussion is based on existing statutes, regulations, published rulings and court decisions, all of which are subject to change or modification, retroactively.

As used herein, the term "*U.S. Holder*" means a beneficial owner of a 2020 Bond who or which is: (i) an individual citizen or resident of the United States, (ii) a corporation or partnership created or organized under the laws of the United States or any political subdivision thereof or therein, (iii) an estate, the income of which is subject to U.S. federal income tax regardless of the source; or (iv) a trust, if (a) a court within the U.S. is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have the authority to control all substantial decisions of the trust, or (b) the trust validly elects to be treated as a U.S. person for U.S. federal income tax purposes. As used herein, the term "*Non-U.S. Holder*" means a beneficial owner of a 2020 Bond that is not a U.S. Holder.

THIS SUMMARY IS INCLUDED HEREIN FOR GENERAL INFORMATION ONLY AND DOES NOT DISCUSS ALL ASPECTS OF THE U.S. FEDERAL INCOME TAXATION THAT MAY BE RELEVANT TO A PARTICULAR HOLDER OF 2020 BONDS IN LIGHT OF THE HOLDER'S PARTICULAR CIRCUMSTANCES AND INCOME TAX SITUATION. PROSPECTIVE HOLDERS OF THE 2020 BONDS SHOULD CONSULT THEIR OWN TAX ADVISORS AS TO THE TAX TREATMENT WHICH MAY BE ANTICIPATED TO RESULT FROM THE PURCHASE, OWNERSHIP AND DISPOSITION OF THE 2020 BONDS BEFORE DETERMINING WHETHER TO PURCHASE 2020 BONDS. THE FOLLOWING DISCUSSION IS NOT INTENDED OR WRITTEN TO BE USED TO AVOID PENALTIES THAT MIGHT BE IMPOSED ON THE TAXPAYER IN CONNECTION WITH THE MATTERS DISCUSSED THEREIN. INVESTORS SHOULD CONSULT THEIR OWN TAX ADVISORS CONCERNING THE TAX IMPLICATIONS OF RECENTLY

ENACTED LEGISLATION OR THE PURCHASE, OWNERSHIP OR DISPOSITION OF THE 2020 BONDS UNDER APPLICABLE STATE OR LOCAL LAWS, OR ANY OTHER TAX CONSEQUENCE.

FOREIGN INVESTORS SHOULD ALSO CONSULT THEIR OWN TAX ADVISORS REGARDING THE TAX CONSEQUENCES UNIQUE TO NON-U.S. HOLDERS.

Information Reporting and Backup Withholding. Subject to certain exceptions, information reports describing interest income, including original issue discount, with respect to the 2020 Bonds will be sent to each registered holder and to the IRS. Payments of interest and principal may be subject to withholding under sections 1471 through 1474 or backup withholding under Section 3406 of the Code if a recipient of the payments fails to furnish to the payor such owner's social security number or other taxpayer identification number ("*TIN*"), furnishes an incorrect TIN, or otherwise fails to establish an exemption from the backup withholding tax. Any amounts so withheld would be allowed as a credit against the recipient's federal income tax. Special rules apply to partnerships, estates and trusts, and in certain circumstances, and in respect of Non-U.S. Holders, certifications as to foreign status and other matters may be required to be provided by partners and beneficiaries thereof.

Taxable 2020 Bonds

Certain U.S. Federal Income Tax Consequences to U.S. Holders.

Periodic Interest Payments and Original Issue Discount. The Taxable Series 2020A Bonds and the Taxable Series 2020B Bonds (collectively, the "*Taxable 2020 Bonds*") are not obligations described in Section 103(a) of the Code. Accordingly, the stated interest paid on the Taxable 2020 Bonds or original issue discount, if any, accruing on the Taxable 2020 Bonds will be includable in "gross income" within the meaning of Section 61 of the Code of each owner thereof and be subject to federal income taxation when received or accrued, depending upon the tax accounting method applicable to such owner.

Disposition of Taxable 2020 Bonds. An owner will recognize gain or loss on the redemption, sale, exchange or other disposition of a Taxable 2020 Bond equal to the difference between the redemption or sale price (exclusive of any amount paid for accrued interest) and the owner's tax basis in the Taxable 2020 Bonds. Generally, a U.S. Holder's tax basis in the Taxable 2020 Bonds will be the owner's initial cost, increased by income reported by such U.S. Holder, including original issue discount and market discount income, and reduced, but not below zero, by any amortized premium. Any gain or loss generally will be a capital gain or loss and either will be long-term or short-term depending on whether the Taxable 2020 Bond has been held for more than one year.

Defeasance of the Taxable 2020 Bonds. Defeasance of any Taxable 2020 Bond may result in a reissuance thereof, for U.S. federal income tax purposes, in which event a U.S. Holder will recognize taxable gain or loss as described above.

State, Local and Other Tax Consequences. Investors should consult their own tax advisors concerning the tax implications of holding and disposing of the Taxable 2020 Bonds under applicable state or local laws, or any other tax consequence, including the application of gift and estate taxes. Certain individuals, estates or trusts may be subject to a 3.8% surtax on all or a portion of the taxable interest that is paid on the Taxable 2020 Bonds. PROSPECTIVE PURCHASERS OF THE TAXABLE 2020 BONDS SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE FOREGOING MATTERS.

Certain U.S. Federal Income Tax Consequences to Non-U.S. Holders. A Non-U.S. Holder that is not subject to U.S. federal income tax as a result of any direct or indirect connection to the U.S. in addition to its ownership of a Taxable 2020 Bond, will not be subject to U.S. federal income or withholding tax in respect of such Taxable 2020 Bond, provided that such Non-U.S. Holder complies, to the extent necessary, with identification requirements including delivery of a signed statement under penalties of perjury, certifying that such Non-U.S. Holder is not a U.S. person and providing the name and address of such Non-U.S. Holder. Absent such exemption, payments of interest, including any amounts paid or accrued in respect of accrued original issue discount, may be subject to withholding taxes, subject to reduction under any applicable tax treaty. Non-U.S. Holders are urged to consult their own tax advisors regarding the ownership, sale or other disposition of a Taxable 2020 Bond.

The foregoing rules will not apply to exempt a U.S. shareholder of a controlled foreign corporation from taxation on the U.S. shareholder's allocable portion of the interest income received by the controlled foreign corporation.

Series 2020C Bonds

Opinion. On the date of initial delivery of the Series 2020C Bonds, McCall, Parkhurst & Horton L.L.P., Bond Counsel to the Corporation, will render its opinion that, in accordance with statutes, regulations, published rulings and court decisions existing on the date thereof ("*Existing Law*"), (1) for federal income tax purposes, interest on the Series 2020C Bonds will be excludable from the "gross income" of the holders thereof and (2) the Series 2020C Bonds will not be treated as "specified private activity bonds" the interest on which would be included as an alternative minimum tax preference item under section 57(a)(5) of the Code. Except as stated above, Bond Counsel to the Corporation will express no opinion as to any other federal, state or local tax consequences of the purchase, ownership or disposition of the Series 2020C Bonds. See "APPENDIX J – FORMS OF BOND COUNSEL OPINIONS."

In rendering its opinion, Bond Counsel to the Corporation will rely upon (a) certain information and representations of the Corporation, including information and representations contained in the Corporation's federal tax certificate related to the Series 2020C Bonds, and (b) covenants of the Corporation contained in the Series 2020C Bond documents relating to certain matters, including arbitrage and the use of the proceeds of the Series 2020C Bonds and the property financed or refinanced therewith. Failure by the Corporation to observe the aforementioned representations or covenants could cause the interest on the Series 2020C Bonds to become taxable retroactively to the date of issuance.

The Code and the regulations promulgated thereunder contain a number of requirements that must be satisfied subsequent to the issuance of the Series 2020C Bonds in order for interest on the Series 2020C Bonds to be, and to remain, excludable from gross income for federal income tax purposes. Failure to comply with such requirements may cause interest on the Series 2020C Bonds to be included in gross income retroactively to the date of issuance of the Series 2020C Bonds. The opinion of Bond Counsel to the Corporation is conditioned on compliance by the Corporation with such requirements, and Bond Counsel to the Corporation has not been retained to monitor compliance with these requirements subsequent to the issuance of the Series 2020C Bonds.

Bond Counsel's opinion regarding the Series 2020C Bonds represents its legal judgment based upon its review of Existing Law and the reliance on the aforementioned information, representations and covenants. Bond Counsel's opinion related to the Series 2020C Bonds is not a guarantee of a result. Existing Law is subject to change by the Congress and to subsequent judicial and administrative interpretation by the courts and the Department of the Treasury. There can be no assurance that Existing Law or the interpretation thereof will not be changed in a manner which would adversely affect the tax treatment of the purchase, ownership or disposition of the Series 2020C Bonds.

A ruling was not sought from the IRS by the Corporation with respect to the Series 2020C Bonds or property financed with the proceeds of the Series 2020C Bonds. No assurances can be given as to whether or not the IRS will commence an audit of the Series 2020C Bonds, or as to whether the IRS would agree with the opinion of Bond Counsel. If an audit is commenced, under current procedures the IRS is likely to treat the Corporation as the taxpayer and the holders may have no right to participate in such procedure. No additional interest will be paid upon any determination of taxability.

Federal Income Tax Accounting Treatment of Original Issue Discount. The initial public offering price to be paid for one or more maturities of the Series 2020C Bonds may be less than the principal amount thereof or one or more periods for the payment of interest on the bonds may not be equal to the accrual period or be in excess of one year (the "*Original Issue Discount Bonds*"). In such event, the difference between (i) the "stated redemption price at maturity" of each Original Issue Discount Bond, and (ii) the initial offering price to the public of such Original Issue Discount Bond would constitute original issue discount. The "stated redemption price at maturity" means the sum of all payments to be made on the bonds less the amount of all periodic interest payments. Periodic interest payments are payments which are made during equal accrual periods (or during any unequal period if it is the initial or final period) and which are made during accrual periods which do not exceed one year.

Under Existing Law, any U.S. Holder who has purchased a Series 2020C Bond as an Original Issue Discount Bond in the initial public offering is entitled to exclude from gross income (as defined in section 61 of the Code) an amount of income with respect to such Original Issue Discount Bond equal to that portion of the amount of such original issue discount allocable to the accrual period. For a discussion of certain collateral federal tax consequences, see discussion set forth below. In the event of the redemption, sale or other taxable disposition of such Original Issue Discount Bond prior to stated maturity, however, the amount realized by such U.S. Holder in excess of the basis of such Original Issue Discount Bond in the hands of such U.S. Holder (adjusted upward by the portion of the original issue discount allocable to the period for which such Original Issue Discount Bond was held by such initial owner) is includable in gross income.

Under Existing Law, the original issue discount on each Original Issue Discount Bond is accrued daily to the stated maturity thereof (in amounts calculated as described below for each accrual period and ratably within each such accrual period) and the accrued amount is added to an initial owner's basis for such Original Issue Discount Bond for purposes of determining the amount of gain or loss recognized by such owner upon the redemption, sale or other disposition thereof. The amount to be added to basis for each accrual period is equal to (a) the sum of the issue price and the amount of original issue discount accrued in prior periods multiplied by the yield to stated maturity (determined on the basis of compounding at the close of each accrual period and properly adjusted for the length of the accrual period) less (b) the amounts payable as current interest during such accrual period on such Original Issue Discount Bond.

All U.S. Holders of Original Issue Discount Bonds should consult their own tax advisors with respect to the determination for federal, state and local income tax purposes of the treatment of interest accrued upon redemption, sale or other disposition of such Original Issue Discount Bonds and with respect to the federal, state, local and foreign tax consequences of the purchase, ownership, redemption, sale or other disposition of such Original Issue Discount Bonds.

Collateral Federal Income Tax Consequences. Under section 6012 of the Code, U.S. Holders of tax-exempt obligations, such as the Series 2020C Bonds, may be required to disclose interest received or accrued during each taxable year on their returns of federal income taxation.

Section 1276 of the Code provides for ordinary income tax treatment of gain recognized upon the disposition of a tax-exempt obligation, such as the Series 2020C Bonds, if such obligation was acquired at a "market discount" and if the fixed maturity of such obligation is equal to, or exceeds, one year from the date of issue. Such treatment applies to "market discount bonds" to the extent such gain does not exceed the accrued market discount of such bonds; although for this purpose, a de minimis amount of market discount is ignored. A "market discount bond" is one which is acquired by the holder at a purchase price which is less than the stated redemption price at maturity or, in the case of a bond issued at an original issue discount, the "revised issue price" (i.e., the issue price plus accrued original issue discount). The "accrued market discount" is the amount which bears the same ratio to the market discount as the number of days during which the holder holds the obligation bears to the number of days between the acquisition date and the final maturity date.

Future and Proposed Legislation. Tax legislation, administrative actions taken by tax authorities, or court decisions, whether at the Federal or state level, may adversely affect the tax-exempt status of interest on the Series 2020C Bonds under Federal or state law and could affect the market price or marketability of the Series 2020C Bonds. Any such proposal could limit the value of certain deductions and exclusions, including the exclusion for tax-exempt interest. The likelihood of any such proposal being enacted cannot be predicted. Prospective purchasers of the Series 2020C Bonds should consult their own tax advisors regarding the foregoing matters.

UNDERWRITING

As noted on the front cover page of this Official Statement, BofA Securities, Inc. is the bookrunner for the Taxable Series 2020A Bonds and the Taxable Series 2020B Bonds, and Goldman Sachs & Co. LLC is the bookrunner for the Series 2020C Bonds.

BofA Securities, Inc., as representative of the Underwriters of the Taxable Series 2020A Bonds and the Taxable Series 2020B Bonds shown on the front cover page of this Official Statement (collectively, the "*2020AB Underwriters*") has agreed to purchase the Taxable Series 2020A Bonds and the Taxable Series 2020B Bonds from the Corporation at an underwriting discount of $1,094,555.95 and $6,373,679.15, respectively, from the initial offering prices for the Taxable Series 2020A Bonds and the Taxable Series 2020B Bonds set forth on pages (iv) and (v) hereof, respectively. The 2020AB Underwriters will be obligated to purchase all of the Taxable Series 2020A Bonds and the Taxable Series 2020B Bonds, as applicable, if any of such respective obligations are purchased.

Goldman Sachs & Co. LLC, as representative of the Underwriters of the Series 2020C Bonds shown on the front cover page of this Official Statement (collectively, the "*2020C Underwriters*" and, together with the 2020AB Underwriters, the "*Underwriters*"), has agreed to purchase the Series 2020C Bonds from the Corporation at an underwriting discount of $3,974,282.11, from the initial offering prices for the Series 2020C Bonds set forth on page (vi) hereof. The 2020C Underwriters will be obligated to purchase all of the Series 2020C Bonds, if any of such obligations are purchased.

The obligation of the Underwriters to purchase any series of the 2020 Bonds from the Corporation is subject to certain customary conditions to delivery, including the sale and purchase of the other series of the 2020 Bonds to and by the Underwriters. The 2020 Bonds to be offered to the public may be offered and sold to certain dealers (including the Underwriters and other dealers depositing 2020 Bonds into investment trusts) at prices lower than the public offering prices of the 2020 Bonds and such public offering prices may be changed, from time to time, by the applicable Underwriters.

The Underwriters have provided the following paragraphs for inclusion in this Official Statement, and none of the Corporation, TxDOT or the Commission take any responsibility for the accuracy thereof.

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services.

Certain of the Underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to the Corporation and to persons and entities with relationships with the Corporation, including TxDOT, for which they received or will receive customary fees and expenses. Under certain circumstances, the Underwriters and their affiliates may have certain creditor and/or other rights against the Corporation and its affiliates in connection with such activities.

In the ordinary course of their various business activities, the Underwriters and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to assets, securities and/or instruments of the Corporation (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the Corporation. The Underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

BofA Securities, Inc., one of the Underwriters of the 2020 Bonds, has entered into a distribution agreement with its affiliate Merrill Lynch, Pierce, Fenner & Smith Incorporated ("*MLPF&S*"). As part of this arrangement, BofA Securities, Inc. may distribute securities to MLPF&S, which may in turn distribute such securities to investors through the financial advisor network of MLPF&S. As part of this arrangement, BofA Securities, Inc. may compensate MLPF&S as a dealer for their selling efforts with respect to the 2020 Bonds.

Citigroup Global Markets Inc., one of the Underwriters of the 2020 Bonds, has entered into a retail distribution agreement with Fidelity Capital Markets, a division of National Financial Services LLC (together with its affiliates, "*Fidelity*"). Under this distribution agreement, Citigroup Global Markets Inc. may distribute municipal securities to retail investors at the original issue price through Fidelity. As part of this arrangement, Citigroup Global Markets Inc. will compensate Fidelity for its selling efforts.

Jefferies LLC, one of the Underwriters of the 2020 Bonds, has entered into an agreement (the "*E*Trade Agreement*") with E*TRADE Securities LLC ("*E*TRADE*") for the retail distribution of municipal securities. Pursuant to the E*Trade Agreement, Jefferies LLC may sell a portion of the 2020 Bonds to E*TRADE and will share a portion of its selling concession compensation with E*TRADE.

J.P. Morgan Securities LLC ("*JPMS*"), one of the Underwriters of the 2020 Bonds, has entered into negotiated dealer agreements (each, a "*Dealer Agreement*") with each of Charles Schwab & Co., Inc. ("*CS&Co.*") and LPL Financial LLC ("*LPL*") for the retail distribution of certain securities offerings at the original issue prices. Pursuant to each Dealer Agreement, each of CS&Co. and LPL may purchase 2020 Bonds from JPMS at the original issue price less a negotiated portion of the selling concession applicable to any 2020 Bonds that such firm sells.

Morgan Stanley & Co. LLC, one of the Underwriters of the 2020 Bonds, has entered into a retail distribution arrangement with its affiliate Morgan Stanley Smith Barney LLC. As part of the distribution arrangement, Morgan Stanley & Co. LLC may distribute municipal securities to retail investors through the financial advisor network of Morgan Stanley Smith Barney LLC. As part of this arrangement, Morgan Stanley & Co. LLC may compensate Morgan Stanley Smith Barney LLC for its selling efforts with respect to the 2020 Bonds.

UBS Financial Services Inc. ("*UBS FSI*"), one of the Underwriters of the 2020 Bonds, has entered into a distribution and service agreement with its affiliate UBS Securities LLC ("*UBS Securities*") for the distribution of certain municipal securities offerings, including the 2020 Bonds. Pursuant to such agreement, UBS FSI will share a portion of its underwriting compensation with respect to the 2020 Bonds with UBS Securities. UBS FSI and UBS Securities are each subsidiaries of UBS Group AG.

Wells Fargo Bank, National Association, acting through its Municipal Finance Group ("*WFBNA*"), one of the Underwriters of the 2020 Bonds, has entered into an agreement (the "*WFA Distribution Agreement*") with its affiliate, Wells Fargo Clearing Services, LLC (which uses the trade name "Wells Fargo Advisors") ("*WFA*"), for the distribution of certain municipal securities offerings, including the 2020 Bonds. Pursuant to the WFA Distribution Agreement, WFBNA will share a portion of its underwriting compensation with respect to the 2020 Bonds with WFA. WFBNA has also entered into an agreement (the "*WFSLLC Distribution Agreement*") with its affiliate Wells Fargo Securities, LLC ("*WFSLLC*"), for the distribution of municipal securities offerings, including the 2020 Bonds. Pursuant to the WFSLLC Distribution Agreement, WFBNA pays a portion of WFSLLC's expenses based on its municipal securities transactions. WFBNA, WFSLLC, and WFA are each wholly owned subsidiaries of Wells Fargo & Company.

Wells Fargo Securities is the trade name for certain securities-related capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including Wells Fargo Bank, National Association, which conducts its municipal securities sales, trading and underwriting operations through the Wells Fargo Bank, NA Municipal Finance Group, a separately identifiable department of Wells Fargo Bank, National Association, registered with the Securities and Exchange Commission as a municipal securities dealer pursuant to Section 15B(a) of the Securities Exchange Act of 1934.

RATINGS

Each series of the 2020 First Tier Bonds have received ratings of "A+" by Fitch Ratings, Inc. ("*Fitch*") and "A2" by Moody's Investors Service, Inc. ("*Moody's*"). The Taxable Series 2020B Bonds have received ratings of "AA" by Fitch and "Aa1" by Moody's. The ratings on the Taxable Series 2020B Bonds are based in part on TxDOT's obligation to advance funds pursuant to the TELA.

An explanation of the significance of the ratings may be obtained from the company furnishing the rating. The ratings reflect only the respective views of such companies at the time the ratings were given, and the Corporation makes no representation as to the appropriateness of the ratings. There is no assurance that such ratings will continue for any given period of time or that they will not be revised downward or withdrawn entirely by such companies, if in the judgment of such companies, circumstances so warrant. Any such downward revision or withdrawal of the ratings may have an adverse effect on the market price of the 2020 Bonds. A securities rating is not a recommendation to buy, sell or hold securities and may be subject to revision or withdrawal at any time.

LEGAL MATTERS

Legal matters incident to the authorization, issuance and sale of the 2020 Bonds are subject to approval of legality by the Attorney General of the State, and of certain legal matters by McCall, Parkhurst & Horton L.L.P., Austin, Texas, Bond Counsel to the Corporation. Attached hereto, as APPENDIX J, are the forms of opinions that Bond Counsel will render in connection with the issuance of the 2020 Bonds. The legal opinions will accompany the 2020 Bonds deposited with DTC or will be printed on the 2020 Bonds in the event of the discontinuance of the book-entry-only system. The payment of certain legal fees to Bond Counsel in connection with the issuance of the 2020 Bonds is contingent on the sale and delivery of the 2020 Bonds. Bond Counsel was not requested to participate, and did not take part, in the preparation of this Official Statement, and such firm has not assumed any responsibility with respect hereto or undertaken independently to verify any of the information contained herein, except that in its capacity as Bond Counsel, such firm has reviewed the information in this Official Statement under the captions "INTRODUCTION – Security and Sources of Payment for the 2020 Bonds," "PLAN OF FINANCE – General," "– Refunded Obligations," "THE GRAND PARKWAY TRANSPORTATION CORPORATION" (but excluding the outstanding principal amount balances in "– Table 1 – Outstanding Obligations" and excluding "– Financial Reports" and "– Investment Authority and Practices of the Corporation"), "THE GRAND PARKWAY SYSTEM – Maintenance of the System" (but excluding the second paragraph thereof), "– Insurance for the System" (but only with respect to the first paragraph thereof), "SECURITY AND SOURCES OF PAYMENT FOR THE 2020 BONDS" (other than "– Funds and Accounts – Fund and Account Balances," "– Toll Rates; Rate Covenant; Uniformity of Tolls – Market Valuation Waiver Agreement" and "– Toll Rates; Rate Covenant; Uniformity of Tolls – Commission Toll Rate Escalation Policy"), "TOLL EQUITY LOAN AGREEMENT – Toll Equity Loan" (but only with respect to the second paragraph thereof), "– Control Rights," "– Amendments" (other than the first paragraph thereof), "THE TAXABLE SERIES 2020A BONDS," "THE TAXABLE SERIES 2020B BONDS," "THE SERIES 2020C BONDS," "GENERAL INFORMATION REGARDING THE 2020 BONDS," "TAX MATTERS," "LEGAL MATTERS" (but only with respect to the first paragraph thereof), "LEGAL INVESTMENTS IN TEXAS," "CONTINUING DISCLOSURE OF INFORMATION" (other than "– The Texas Department of Transportation – Compliance with Prior Undertakings"), "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT" and "APPENDIX J – FORMS OF BOND COUNSEL OPINIONS," and such firm is of the opinion that such information contained under such captions and in such appendices is a fair and accurate summary of the information purported to be shown therein and is correct as to matters of law.

Certain legal matters will be passed upon for the Corporation by Bracewell LLP, Austin, Texas, Disclosure Counsel to the Corporation, by Mayer Brown LLP, Houston, Texas, Special Counsel to the Corporation, and by employees within the General Counsel Division of TxDOT. Certain legal matters will be passed upon for TxDOT by the General Counsel to TxDOT. Certain legal matters will be passed upon for the Underwriters by their co-counsel, Locke Lord LLP, Austin, Texas, and Kassahn & Ortiz, P.C., San Antonio, Texas. The payment of certain legal fees to Disclosure Counsel, and the payment of legal fees to co-counsel for the Underwriters, in connection with the issuance of the 2020 Bonds is contingent on the sale and delivery of the 2020 Bonds. In connection with the issuance of the 2020 Bonds, each of Bond Counsel and Disclosure Counsel has been engaged by, and only represents, the Corporation. Bond Counsel and Disclosure Counsel each represent the Commission and TxDOT from time to time on matters not related to the 2020 Bonds.

The various legal opinions to be delivered concurrently with the delivery of the 2020 Bonds express the professional judgment of the attorneys rendering the opinions as to the legal issues explicitly addressed therein. In rendering a legal opinion, the attorney does not become an insurer or guarantor of the expression of professional judgment, of the transaction opined upon, or of the future performance of the parties to the transaction, nor does the rendering of an opinion guarantee the outcome of any legal dispute that may arise out of the transaction.

PROFESSIONAL ENGINEERS

The 2018 Engineer's Report and the H and I Progress Report of HNTB Corporation have been included in this Official Statement in reliance on their expertise as professional engineers, and HNTB Corporation has consented to the inclusion of such reports in this Official Statement. As described in "ENGINEERING REPORTS," HNTB has also delivered the 2020 O&M Certification Letter. The 2018 Engineer's Report, the H and I Progress Report and the 2020 O&M Certification Letter are referred to herein collectively as the "*Engineering Reports*." On the Date of Delivery of the 2020 Bonds, HNTB Corporation will execute and deliver a certificate to the Corporation and the Underwriters certifying to the effect that, among other matters, as of such date (i) the factual information in the Engineering Reports is true and accurate in all material respects, (ii) HNTB Corporation believes that the conclusions set forth in the Engineering Reports were reasonable as of the respective date of each such report and continue to be reasonable, subject to the assumptions and qualifications set forth therein, and (iii) HNTB Corporation is not aware of any significant or material plan, event or circumstance occurring after the respective date of each such report that would cause it to believe that the conclusions set forth therein are no longer reasonable.

FINANCIAL ADVISOR

Estrada Hinojosa & Company, Inc. is acting as Financial Advisor to the Corporation. The Financial Advisor, in such capacity, has not verified and does not assume any responsibility for the information, covenants, and representations contained in any of the legal documents with respect to the federal income tax status of the 2020 Bonds, or the possible impact of any present, pending, or future actions taken by any legislative or judicial bodies.

VERIFICATION OF MATHEMATICAL ACCURACY

AMTEC Corp. (the "*Verification Agent*") will verify from the information provided to them by the Financial Advisor, the mathematical accuracy as of the date of the closing on the 2020 Bonds of the computations contained in the provided schedules to determine that the anticipated receipts from the securities and cash deposits listed in the Financial Advisor's schedules, to be held in escrow by the Trustee for the Refunded Bonds, will be sufficient to pay, when due, the principal and interest requirements of the Refunded Bonds. The Verification Agent will express no opinion on the assumptions provided to them.

LEGAL INVESTMENTS IN TEXAS

Section 1201.041 of the Public Security Procedures Act (Chapter 1201, Texas Government Code) provides that the 2020 Bonds are negotiable instruments governed by Chapter 8, Texas Business and Commerce Code, and are legal and authorized investments for insurance companies, fiduciaries, and trustees, and for the sinking funds of municipalities or other political subdivisions or public agencies of the State. With respect to investment in the 2020 Bonds by municipalities or other political subdivisions or public agencies of the State, the Public Funds Investment Act, Chapter 2256, Texas Government Code, requires that the 2020 Bonds be assigned a rating of at least "A" or its equivalent as to investment quality by a national rating agency. In addition, various provisions of the Texas Finance Code provide that, subject to a prudent investor standard, the 2020 Bonds are legal investments for state banks, savings banks, trust companies with at least $1 million of capital, and savings and loan associations. The 2020 Bonds are eligible to secure deposits of any public funds of the State or a political subdivision of the State to the extent of the lesser of the face value of the 2020 Bonds or the market value of the 2020 Bonds. No review by the Corporation has been made of the laws in other states to determine whether the 2020 Bonds are legal investments for various institutions in those states.

The Corporation makes no representation that the 2020 Bonds will be acceptable to banks, savings and loan associations or public entities for investment purposes or to secure deposits of public funds. The Corporation has made no investigation of other laws, regulations or investment criteria that might apply to or otherwise limit the availability of the 2020 Bonds for investment or collateral purposes. Prospective purchasers are urged to carefully evaluate the investment quality of the 2020 Bonds and as to the acceptability of the 2020 Bonds for investment or collateral purposes.

CONTINUING DISCLOSURE OF INFORMATION

The Corporation

In the Eighth Supplemental Agreement, the Corporation has made the following agreements for the benefit of the holders and beneficial owners of the 2020 Bonds. The Corporation is required to observe the agreements for so long as it remains obligated to advance funds to pay the 2020 Bonds. Under the agreements, the Corporation will be obligated to provide certain updated financial information and operating data annually, and timely notice of specified events, to the MSRB. This information will be available from the MSRB's EMMA system, which may be accessed at https://www.emma.msrb.org.

Annual Reports. The Corporation will provide certain updated financial information and operating data to the MSRB. The Corporation will provide annually to the MSRB, (i) within six months after the end of each Fiscal Year, commencing with the Fiscal Year ending in 2020, all quantitative financial information and operating data with respect to the Corporation and the System of the general type included in this Official Statement under the headings "THE GRAND PARKWAY SYSTEM – Table 3 – Historical Revenues, Expenses and Debt Service Coverage," "TOLL EQUITY LOAN AGREEMENT – Table 5 – Maximum Available Annual Amount and Annual TELA Supported Debt Service and TELA Supported Junior Operating Expenses" and "TABLE 7 – PRO FORMA DEBT SERVICE REQUIREMENTS," including financial statements of the Corporation if audited financial statements are then available, and (ii) if not provided as part of such financial information and operating data, audited financial statements of the Corporation, when and if available. Any financial statements to be so provided will be (i) prepared in accordance with generally accepted accounting principles or such other accounting principles as the Corporation may be required to employ from time to time pursuant to the State law or regulation and (ii) audited, if the Corporation commissions an audit of such statements and the audit is completed within the period during which they must be provided. If the audit of such financial statements is not complete within twelve months after the fiscal year-end, then the Corporation will provide unaudited financial statements within such twelve-month period, and audited financial statements for the applicable Fiscal Year to the MSRB, when and if the audit report on such statements becomes available.

The current fiscal year-end for the Corporation is August 31. Accordingly, it must provide the updated financial information and operating data described above by the last day of February in each year, unless the Corporation changes its Fiscal Year. If the Corporation changes its Fiscal Year, it will notify the MSRB of the change (and of the date of the new fiscal year-end) prior to the next date by which the Corporation otherwise would be required to provide such financial information and operating data.

The financial information and operating data to be provided by the Corporation as described above may be set forth in full in one or more documents or may be included by specific reference to any document that is available to the public on the MSRB's internet web site or filed with the United States Securities and Exchange Commission ("*SEC*"). All documents provided by the Corporation to the MSRB will be in an electronic format and accompanied by identifying information as prescribed by the MSRB.

Event Notices. The Corporation will also provide timely notices of certain events to the MSRB. The Corporation will file notice of any of the following events with respect to the 2020 Bonds with the MSRB in a timely manner (but not in excess of ten business days after the occurrence of the event): (1) principal and interest payment delinquencies; (2) non-payment related defaults, if material; (3) unscheduled draws on debt service reserves reflecting financial difficulties; (4) unscheduled draws on credit enhancements reflecting financial difficulties; (5) substitution of credit or liquidity providers, or their failure to perform; (6) adverse tax opinions, the issuance by the IRS of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the 2020 Bonds, or other material events affecting the tax status of the 2020 Bonds; (7) modifications to rights of holders of the 2020 Bonds, if material; (8) 2020 Bond calls, if material, and tender offers; (9) defeasances; (10) release, substitution, or sale of property securing repayment of the 2020 Bonds, if material; (11) rating changes; (12) bankruptcy, insolvency, receivership or similar event of the Corporation; (13) the consummation of a merger, consolidation, or acquisition involving the Corporation or the sale of all or substantially all of the assets of the Corporation, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; (14) the appointment of a successor or additional trustee or the change of the name of a trustee, if material; (15) incurrence of a Financial Obligation of the Corporation, if material, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a Financial Obligation of the Corporation, any of which affect holders of the 2020 Bonds, if material; and (16) default, event of acceleration, termination event, modification of terms, or other similar events under the terms of a Financial Obligation of the Corporation, any of which reflect financial difficulties.

For these purposes, any event described in clause (12) of the immediately preceding paragraph is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent, or similar officer for the Corporation in a proceeding under the United States Bankruptcy Code or in any other proceeding under state or federal law in which a court of governmental authority has assumed jurisdiction over substantially all of the assets or business of the Corporation, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers of the Corporation in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement, or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the asset or business of the Corporation. For the purposes of the events described in clauses (15) and (16) of the immediately preceding paragraph, the term "Financial Obligation" is defined in the Eighth Supplemental Agreement.

See "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT –Definitions." The Eighth Supplemental Agreement further provides that the Corporation intends the words used in such clauses (15) and (16) in the immediately preceding paragraph, and in the definition of Financial Obligation, to have the meanings ascribed to them in SEC Release No. 34-83885 dated August 20, 2018.

In addition, the Corporation will provide timely notice of any failure by the Corporation to provide information, data, or financial statements in accordance with its agreement described above under "– Annual Reports." The Corporation will provide each notice described in this "– Event Notices" caption to the MSRB in an electronic format and accompanied by identifying information as prescribed by the MSRB.

Availability of Information from the MSRB. The Corporation has agreed to provide the foregoing information only to the MSRB. The information will be available to holders of the 2020 Bonds through the MSRB's EMMA system at https://www.emma.msrb.org.

Limitations and Amendments. The Corporation has agreed to update information and to provide notices of certain events only as described above. The Corporation has not agreed to provide other information that may be relevant or material to a complete presentation of its financial results of operations, condition, or prospects or agreed to update any information that is provided, except as described above. The Corporation makes no representation or warranty concerning such information or concerning its usefulness to a decision to invest in or sell the 2020 Bonds at any future date. The Corporation disclaims any contractual or tort liability for damages resulting in whole or in part from any breach of its continuing disclosure agreement or from any statement made pursuant to its agreement, although holders of 2020 Bonds may seek a writ of mandamus to compel the Corporation to comply with its agreement.

The Corporation may amend, supplement, or repeal its continuing disclosure agreements to adapt to changed circumstances that arise from a change in legal requirements, a change in law, or a change in the identity, nature, status, or type of operations of the Corporation, but only if (i) the agreement, as amended, would have permitted an underwriter to purchase or sell 2020 Bonds in the primary offering described herein in compliance with Rule 15c2-12 of the SEC (the "*Rule*"), taking into account any amendments or interpretations of the Rule to the date of such amendment, as well as such changed circumstances and (ii) either (a) the holders of a majority in aggregate principal amount of the outstanding 2020 Bonds consent to the agreement or (b) any person unaffiliated with the Corporation (such as nationally recognized bond counsel) determines that the amendment will not materially impair the interest of the holders and beneficial owners of the 2020 Bonds. The Corporation may also amend or repeal its continuing disclosure agreements if the SEC amends or repeals the application provisions of the Rule or a court of final jurisdiction enters judgment that such provisions of the Rule are invalid, but only if and to the extent that the provisions of this sentence would not prevent an underwriter from lawfully purchasing or selling the 2020 Bonds in the primary offering of the 2020 Bonds, giving effect to (a) such provisions as so amended and (b) any amendments or interpretations of the Rule. If the Corporation so amends the provisions of its continuing disclosure agreements, the Corporation shall include with any amended financial information or operating data next provided in accordance therewith an explanation, in narrative form, of the reasons for the amendment and of the impact of any change in the type of financial information or operating data so provided.

The Texas Department of Transportation

In the Continuing Disclosure Undertaking executed and delivered by TxDOT and relating to the Taxable Series 2020B Bonds (the "*Undertaking*"), TxDOT has made the following agreement for the benefit of the holders and beneficial owners of the Taxable Series 2020B Bonds. TxDOT is required to observe the Undertaking for so long as it remains obligated to make advances under the TELA. Pursuant to the Undertaking, TxDOT will be obligated to provide certain updated financial information and operating data annually to the MSRB.

Annual Reports. TxDOT will provide certain updated financial information and operating data to the MSRB annually, in an electronic format and accompanied by identifying information as prescribed by the MSRB. The information to be updated includes all quantitative financial information and operating data with respect to TxDOT of the general type included in (i) Tables 1 through 8 in "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND" to this Official Statement and (ii) unaudited, annual financial statements of TxDOT. TxDOT will update and provide this information within six months after the end of each fiscal year ending in or after 2020.

Any financial statements to be so provided will be (i) prepared in accordance with the generally accepted accounting principles applicable to governmental entities, or such other accounting principles as TxDOT may be required to employ from time to time pursuant to state law or regulation, and (ii) audited, if TxDOT commissions an audit of such statements and the audit is completed within the period during which they must be provided. However, the Undertaking should not be construed as a commitment by TxDOT to commission any audit of TxDOT's financial statements. In the event that TxDOT does elect to commission an audit of its financial statements, TxDOT will provide audited financial statements for the applicable fiscal year to the MSRB, when and if the audit report on such statements becomes available.

The financial information and operating data to be provided as described above may be set forth in full in one or more documents or may be included by specific reference to any document (including an official statement or other offering document), if it is available to the public on the MSRB's internet web site or filed with the SEC.

TxDOT will notify the MSRB, in an electronic format as prescribed by the MSRB, in a timely manner, of any failure by TxDOT to provide financial information or operating data as described above by the times required.

After the sale by TxDOT or the Commission of bonds or other obligations that are secured in whole or in part by the State Highway Fund, TxDOT has also agreed to notify the MSRB, in an electronic format as prescribed by the MSRB, in a timely manner, of any final official statement issued in connection with the offering and sale of such bonds or the offering and sale of such other obligations. For purposes of the immediately preceding sentence, TxDOT will have no obligation to notify the MSRB in connection with the sale of bonds or the sale of other obligations that are secured in whole or in part by the State Highway Fund that (i) are not offered and sold pursuant to a final official statement or (ii) are sold by entities other than TxDOT or the Commission. For the avoidance of doubt, obligations previously issued, or to be issued, by the Commission whereby the Commission has covenanted to provide funds for certain maintenance, operation and capital costs to the extent revenues of the particular project are insufficient to pay such costs are not secured by the State Highway Fund and do not require any notification or other action under the Undertaking.

TxDOT's current fiscal year end is August 31. Accordingly, it must provide updated information by the last day of February in each year, unless TxDOT changes its fiscal year. If TxDOT changes its fiscal year, it will notify the MSRB of the change (and of the date of the new fiscal year end) prior to the next date by which TxDOT otherwise would be required to provide financial information and operating data as described above.

Availability of Information. TxDOT has agreed to provide the foregoing information only to the MSRB. This information will be available to the holders of the Taxable Series 2020B Bonds through the MSRB's EMMA system at https://www.emma.msrb.org.

Limitations and Amendments. The provisions of the Undertaking are for the sole benefit of the holders and beneficial owners of the Taxable Series 2020B Bonds, and nothing in the Undertaking, express or implied, will give any benefit or any legal or equitable right, remedy, or claim hereunder to any other person. TxDOT undertakes to provide only the financial information, operating data, financial statements, and notices which it has expressly agreed to provide pursuant to the Undertaking and does not undertake to provide any other information that may be relevant or material to a complete presentation of TxDOT's financial results, condition, or prospects or undertake to update any information provided in accordance with the Undertaking or otherwise, except as expressly provided in the Undertaking. TxDOT does not make any representation or warranty concerning such information or its usefulness to a decision to invest in or sell Taxable Series 2020B Bonds at any future date.

Under no circumstances will TxDOT be liable to the holder or beneficial owner of any Taxable Series 2020B Bonds or any other person, in contract or tort, for damages resulting in whole or in part from any breach by TxDOT, whether negligent or without fault on its part, of any covenant specified in the Undertaking, but every right and remedy of any holder or beneficial owner of any such Taxable Series 2020B Bonds, in contract or tort, for or on account of any such breach will be limited to an action for mandamus or specific performance.

Should the Rule be amended to obligate TxDOT to make filings with or provide notices to entities other than the MSRB, TxDOT has agreed to undertake such obligation with respect to the Taxable Series 2020B Bonds in accordance with the Rule as amended.

The provisions of the Undertaking may be amended by TxDOT from time to time to adapt to changed circumstances that arise from a change in legal requirements, a change in law, or a change in the identity, nature, status, or type of operations of TxDOT, but only if (1) the Undertaking, as so amended, would have permitted an Underwriter to purchase or sell Taxable Series 2020B Bonds in a primary offering of such Taxable Series 2020B Bonds in compliance with the Rule, taking into account any amendments or interpretations of the Rule since such offering as well as such changed circumstances and (2) either (a) the holders of a majority in aggregate principal amount of the outstanding Taxable Series 2020B Bonds consent to such amendment or (b) a person that is unaffiliated with TxDOT (such as nationally recognized bond counsel) determines that such amendment will not materially impair the interest of the holders and beneficial owners of such Taxable Series 2020B Bonds. If TxDOT so amends the provisions of the Undertaking, it is required to include with any amended financial information or operating data next provided in accordance with the Undertaking, an explanation, in narrative form, of the reason for the amendment and of the impact of any change in the type of financial information or operating data so provided. TxDOT may also amend or repeal the Undertaking if the SEC amends or repeals the applicable provision of the Rule or a court of final jurisdiction enters judgment that such provisions of the Rule are invalid, and TxDOT also may amend the provisions of the Undertaking in its discretion in any other manner or circumstance, but in either case only if and to the extent that the provisions of this sentence would not prevent an Underwriter from lawfully purchasing or selling the Taxable Series 2020B Bonds in a primary offering thereof.

Compliance with Prior Undertakings. The Commission has previously entered into certain continuing disclosure agreements pursuant to the requirements of the Rule, related to bonds or other obligations issued directly by the Commission that are secured by or payable from various sources of funds. In addition, TxDOT has previously entered into certain continuing disclosure agreements (which are referred to herein collectively as the "*PT/TE Undertakings*") pursuant to the requirements of the Rule, related to bonds or other obligations issued by other entities, the payment of which is supported in whole or in part by payments made by TxDOT to such other entities pursuant to the terms of certain pass-through toll agreements or toll equity loan agreements (such as the TELA described herein), as applicable, entered into between such other entities and TxDOT. For additional information regarding these types of agreements, see "APPENDIX A – THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND – The State Highway Fund." During the previous five years, TxDOT has not fully complied with certain PT/TE Undertakings as described below (which information below is presented irrespective of materiality).

Pursuant to the terms of certain of the PT/TE Undertakings, after the sale by TxDOT of bonds or other obligations that are secured in whole or in part by the State Highway Fund, TxDOT is obligated to notify the MSRB, in a timely manner, of any final official statement in connection with the offering and sale of such bonds or other obligations. Certain of the PT/TE Undertakings obligate TxDOT to file only such final official statements with the MSRB, and certain of the PT/TE Undertakings obligate TxDOT to file both these final official statements and notice of such official statements with the MSRB. In addition, certain of the PT/TE Undertakings obligate TxDOT to provide identifying information as prescribed by the MSRB with respect to these filings, and certain of the PT/TE Undertakings do not obligate TxDOT to provide such identifying information. TxDOT previously interpreted the foregoing filing obligations under the PT/TE Undertakings as appropriately satisfied upon the timely filing of any such final official statements with the MSRB by the underwriters with respect to the bonds or other obligations that were offered and sold pursuant to such official statements. During the previous five years, the Commission has issued multiple series of bonds that are secured by and payable from certain revenues deposited to the credit of the State Highway Fund (collectively, the "*SHF Bonds*") and which were offered and sold pursuant to separate, final official statements. TxDOT did not file these final official statements, or separate notices of such official statements, with identifying information as required by certain of the PT/TE Undertakings. The final official statements relating to the SHF Bonds were, however, accessible on EMMA (through the filing thereof by the underwriters with respect to the SHF Bonds), and information regarding the issuance of the SHF Bonds was provided to investors through TxDOT's subsequent filings of annual financial information and operating data as required by the PT/TE Undertakings, though not made, in some instances, in a timely manner in respect of the date the SHF Bonds were offered and sold. TxDOT subsequently made a filing on EMMA in satisfaction of the foregoing filing obligations under the PT/TE Undertakings and has filed a related failure to file notice on EMMA with respect to the bonds for which TxDOT is obligated to provide such notice pursuant to the terms of the respective PT/TE Undertakings.

TxDOT's annual filings of financial information and operating data for Fiscal Years 2014 and 2015, as required by the PT/TE Undertakings, were accessible to investors through the annual filings made by TxDOT for those years with respect to the SHF Bonds, and to certain investors by accessing the financial disclosures tab under the homepage link for the respective issuers on EMMA. In addition, the final official statements provided to certain investors contained information (such as the six-digit CUSIP prefix) for how investors may access the annual filings made by TxDOT with respect to the SHF Bonds. However, TxDOT's annual filings of financial information and operating data for Fiscal Years 2014 and 2015, as required by the PT/TE Undertakings, did not reference the nine-digit CUSIP number for certain bonds and, accordingly, such filings were not accessible through the continuing disclosure tab for those bonds on EMMA. In addition, TxDOT's annual filing of financial information and operating data for Fiscal Year 2016 was not filed in a timely manner for certain bonds as required by the PT/TE Undertakings. TxDOT subsequently linked such annual filings for Fiscal Years 2014 and 2015 on EMMA to the nine-digit CUSIP numbers of the bonds for which such annual filings were not made and has filed a failure to file notice on EMMA related to the foregoing matters.

The PT/TE Undertakings obligate TxDOT to provide its financial statements on an annual basis. TxDOT filed its audited financial statements for Fiscal Year 2016 on EMMA in a timely manner with respect to the SHF Bonds. TxDOT intended to incorporate by reference the previously filed Fiscal Year 2016 audited financial statements in its annual filing for Fiscal Year 2016 (the "*TxDOT 2016 Annual Filing*"), which contains updated annual financial information and operating data required by the PT/TE Undertakings. The TxDOT 2016 Annual Filing stated that TxDOT's audited financial statements for Fiscal Year 2016 were previously filed with the MSRB on December 30, 2016 with respect to the outstanding SHF Bonds, and that such financial statements may be accessed using the MSRB's EMMA system at www.emma.msrb.org. The TxDOT 2016

Annual Filing also provided the six-digit CUSIP prefix for the SHF Bonds, for which TxDOT's financial statements had been previously filed on EMMA in a timely manner as described above. Further, the final official statements provided to certain investors contained information (such as the six-digit CUSIP prefix) for how investors may access the annual filings made by TxDOT with respect to the SHF Bonds. Although the TxDOT 2016 Annual Filing did not contain a hyperlink or web address specific to the location of TxDOT's audited financial statements for such period on the MSRB's EMMA system, TxDOT does not believe that the failure to provide such hyperlink or web address constitutes a failure to comply with the PT/TE Undertakings, due to the facts and circumstances described above. TxDOT subsequently submitted a filing on EMMA that provides a hyperlink to the specific location of TxDOT's audited financial statements for Fiscal Year 2016 on the MSRB's EMMA system.

OTHER MATTERS

The financial data and other information contained herein have been obtained from the Corporation's records, financial statements, and other sources that are believed to be reliable. There is no guarantee that any of the assumptions or estimates contained herein will be realized. All of the summaries do not purport to be complete statements of such provisions and reference is made to such documents for further information. Reference is made to original documents in all respects. Copies may be obtained from the Corporation.

The Corporation has approved this Official Statement and authorized its further use in the reoffering of the 2020 Bonds by the Underwriters.

GRAND PARKWAY TRANSPORTATION CORPORATION

By: /s/ Brian D. Ragland
President
Grand Parkway Transportation Corporation

SCHEDULE I

REFUNDED OBLIGATIONS[1]

Grand Parkway Transportation Corporation
Grand Parkway System First Tier Toll Revenue Bonds, Series 2013A

Maturity Date	Interest Rate	Principal Amount	Redemption Date	Redemption Price
April 1, 2053	5.500%	$152,270,000	October 1, 2023	100%

Grand Parkway Transportation Corporation
Grand Parkway System Subordinate Tier Toll Revenue Bonds, Series 2013B (TELA Supported)

Maturity Date	Interest Rate	Principal Amount	Redemption Date	Redemption Price
October 1, 2051	5.250%	$575,000,000	October 1, 2023	100%
April 1, 2053	5.000%	562,935,000	October 1, 2023	100%

Grand Parkway Transportation Corporation
Grand Parkway Project (TIFIA Project Number-2013-1011A) Second Tier Toll Revenue Promissory Note

Maturity Date	Interest Rate	Principal Amount[2]	Prepayment Date	Prepayment Price
October 1, 2050	3.650%	$944,104,524.42	February 27, 2020	100%

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(1) The prepayment or refunding, as applicable, of any of the Refunded Obligations is contingent upon the delivery of the 2020 Bonds. See "PLAN OF FINANCE – Refunded Obligations."

(2) Amount shown includes the outstanding principal amount and accreted interest through February 27, 2020, the anticipated Date of Delivery of the 2020 Bonds.

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APPENDIX A

THE TEXAS DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY FUND

TxDOT

The Texas Department of Transportation ("*TxDOT*") is a public authority and body politic and corporate created in 1917 as the "Texas Highway Department" by an act of the Texas Legislature (the "*State Legislature*") to administer federal funds for highway construction and maintenance. In 1975, the State Legislature merged the Texas Highway Department with the "Texas Mass Transportation Commission" to form the "State Department of Highways and Public Transportation," and in 1991, the State Legislature combined the State Department of Highways and Public Transportation, the Department of Aviation, and the Texas Motor Vehicle Commission to create TxDOT. In 2009, the State Legislature created the Texas Department of Motor Vehicles (the "*TxDMV*") as a separate agency of the State of Texas (the "*State*"), and moved vehicle title and registration; motor carrier registration and enforcement; licensing of motor vehicle dealers, manufacturers, distributors, and other similar entities; and auto theft reduction efforts from TxDOT to the TxDMV. Capitalized terms used in this Appendix A and not otherwise defined herein shall have the meaning given to such terms in the forepart of this Official Statement or in "APPENDIX D – DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT" to this Official Statement.

The Commission

The Texas Transportation Commission (the "*Commission*") is the policy-making body governing TxDOT and is composed of five commissioners appointed by the Governor of the State (the "*Governor*") with the advice and consent of the Texas Senate. Commissioners serve staggered six year terms. One member is designated by the Governor as the Chair and serves as the presiding officer of the Commission. A person is not eligible to be a member of the Commission if the person or the person's spouse is employed by or manages a business that is regulated by or receives funds from TxDOT; directly or indirectly owns or controls more than a 10% interest in a business that is regulated by or receives funds from TxDOT; uses or receives a substantial amount of goods, services, or funds from TxDOT; or is registered, certified, or licensed by TxDOT.

The State Legislature created the "State Highway Commission" on April 4, 1917, for the purpose of adopting and implementing a comprehensive system of State highways and promoting the construction of a State highway system by cooperation with counties or independently by the State Highway Commission. In 1975, the State Legislature changed the name of the State Highway Commission to the "State Highway and Public Transportation Commission." In 1991, the State Legislature changed the name again to the "Texas Transportation Commission," as it remains today.

The current members of the Commission are listed below. Their terms end on the dates specified on page vii of this Official Statement.

J. Bruce Bugg, Jr., Chairman

Mr. Bugg was appointed to the Commission by Governor Abbott on February 13, 2015. Mr. Bugg is chairman and trustee of The Tobin Endowment, a private charitable foundation, in San Antonio, Texas and chairman and co-founder of the Bexar County Performing Arts Center Foundation, owner of the $205 million Tobin Center for the Performing Arts in San Antonio. Mr. Bugg currently serves as a member of the board of directors of the San Antonio Chamber of Commerce, the board of trustees of the Texas Biomedical Research Institute and board of trustees of St. Mary's Hall, a private school in San Antonio, Texas, and chairman of the Endowment Investment Committee and a member of the board of directors of The Santa Fe Opera in Santa Fe, New Mexico. He is former chairman of the board of Governors of Cancer Therapy & Research Center, former officer and trustee of the Texas Research and Technology Foundation, and a trustee emeritus of the board of Trustees of the McNay Art Museum. Mr. Bugg is also chairman, president and chief executive officer of Southwest Bancshares, Inc., a Texas bank holding company for The Bank of San Antonio, and chairman of The Bank of San Antonio; and chairman, president and chief executive officer of Texas Hill Country Bancshares, Inc., a Texas bank holding company for Texas Hill Country Bank. In addition, Mr. Bugg also serves as chairman of San Antonio Capital & Trust Co., L.L.C. and chairman and chief executive officer of Argyle Investment Co., L.L.C., a private investment firm. Mr. Bugg was appointed to serve as chairman and president of the Texas Economic Development Corporation and a senior advisor to Governor Perry on the State of Texas' economic development strategies and initiatives from 2012 to May, 2014. Prior to this appointment, Mr. Bugg was appointed to serve as the Governor's appointee on the board of directors of Humanities Texas in Austin, Texas. Mr. Bugg is a member of the State Bar of Texas and holds Juris Doctorate and Bachelor of Business Administration degrees from Southern Methodist University.

Alvin New, Commissioner

Mr. New was appointed to the Commission by Governor Abbott on February 20, 2018. Mr. New is a business investor, rancher and former Mayor of the City of San Angelo, Texas. He is a life-long resident of West Texas and was born in Brownfield, Texas. Mr. New has lived mostly in or near San Angelo since 1981. Mr. New spent most of his career with Town & Country Food Stores. He started as a clerk while getting his business administration degree from Angelo State University. Mr. New worked his way up to chief executive officer and part owner. He and his partners sold their stake in the convenience store chain about a decade ago. Mr. New currently serves as a member of the Texas Tech University Foundation Board and the Goodfellow Air Force Base Advisory Council. Mr. New earned his bachelor's degree in business administration in management from Angelo State University.

Laura Ryan, Commissioner

Ms. Ryan was initially appointed to the Commission by Governor Abbott in July of 2016 and was reappointed to the Commission by Governor Abbott in March of 2017. Ms. Ryan is vice president of market representation and dealer development for Gulf States Toyota, Inc. She previously served as a member of the TxDMV Board and was also designated by the Governor as chair of the TxDMV Board. During her tenure as chair of the TxDMV Board, Ms. Ryan initiated many processes to make the TxDMV more innovative, customer-oriented, and efficient. Ms. Ryan has held various executive level positions during her twenty-plus years in the automotive industry, including both manufacture and retail operations. Ms. Ryan is involved with her community through several volunteer and charity organizations such as Boys and Girls Country, Operation Interdependence, and National Charity League. Ms. Ryan attended Penn State University and has been engaged in the following continuous executive education programs: Gallup Organization Strengths Training, University of Texas Future Leaders, and Columbia University - Finance.

Victor Vandergriff, Commissioner(1)

Mr. Vandergriff was appointed to the Commission by Governor Perry in March of 2013. Mr. Vandergriff is an attorney and private businessman specializing in business development and legislative issues. From 2009 to 2013, Mr. Vandergriff served as the chairman of the TxDMV Board. He was also a board member for the North Texas Tollway Authority from 2007 to 2013 and served as chairman from 2010 to 2011. He formerly served as Vice President of V.T., Inc. and Automotive Investment Group, the largest private retail automotive group in the United States. He was involved as an owner, dealer and executive manager in the automobile industry for more than 25 years. Mr. Vandergriff and his family have owned and operated automobile dealerships for more than 80 years in the Dallas-Fort Worth region. Mr. Vandergriff attended The University of Southern California, where he received a degree from the School of Public Administration in Public Affairs. He received his law degree from Southern Methodist University in Dallas.

Robert C. Vaughn, Commissioner

Mr. Vaughn was appointed to the Commission by Governor Abbott on August 12, 2019. Mr. Vaughn is the owner of Vaughn Capital Partners LLC and Vaughn Petroleum Ltd. He has served as chair of the TexNet Technical Advisory Committee. He is a member of the University of Texas System Chancellor's Council Executive Committee and the University of Texas at Austin McDonald Observatory and Department of Astronomy Board of Visitors. He is a life member of the University of Texas at Austin Development Board and serves on the Longhorn Foundation Advisory Council. Mr. Vaughn serves on a variety of nonprofit boards, including the Culver Educational Foundation and Perot

(1) Mr. Vandergriff resigned as Commissioner on February 9, 2018. Pursuant to State law, Mr. Vandergriff continues to perform the duties of Commissioner until the earlier of (i) the date such Commissioner's successor shall be duly appointed and qualified or (ii) the last day of the first regular session of the State Legislature that begins after the expiration of such Commissioner's term (which date is May 31, 2021).

Museum of Nature and Science, and as a trustee for The First Tee. He holds a Bachelor of Business Administration from the University of Texas at Austin.

General Information Concerning TxDOT

The mission of TxDOT is "Connecting You With Texas." TxDOT's core goals and objectives are: to implement effective planning and forecasting processes that deliver the right projects on time and on budget; to focus on the customer because people are at the center of everything TxDOT does; to foster stewardship by ensuring efficient use of State resources; to optimize system performance by developing and operating an integrated transportation system that provides reliable and accessible mobility and enables economic growth; to preserve its assets by delivering preventative maintenance for TxDOT's system and capital assets to protect its investments; to champion a culture of safety; and to value its employees by respecting and caring for their well-being and development.

The Texas Sunset Act (Chapter 325, Texas Government Code) (the "*Sunset Act*") provides that virtually all agencies of the State, including TxDOT, are subject to periodic review by the State Legislature, and that each agency subject to sunset review will be abolished unless the State Legislature specifically determines to continue its existence. TxDOT will be subject to its next sunset review in 2029. Pursuant to the Sunset Act, the State Legislature specifically recognizes the State's continuing obligation to pay bonded indebtedness and all other obligations incurred by TxDOT. Accordingly, in the event that a sunset review results in TxDOT being abolished, the Governor would be required by law to designate an appropriate state agency that would continue to carry out all covenants contained in TxDOT's bonded indebtedness (and in all other obligations) and the performance of all other obligations to complete the construction of projects or the performance of other obligations of TxDOT, including lease, contract and other written obligations. The designated State agency would provide payment from the sources of payment of TxDOT's bonded indebtedness in accordance with the terms thereof and would provide payment from the sources of payment of all other obligations in accordance with their terms, until the principal of and interest on such bonded indebtedness are paid in full and all other obligations, including lease, contract and other written obligations, are performed and paid in full.

TxDOT's comprehensive annual financial report for the fiscal year ending August 31, 2019 was audited by Crowe Horwath, LLP and is attached to this Official Statement as APPENDIX B. Crowe LLP has not been engaged to perform, and has not performed, any procedures on such financial statements since the date of its report included thereon. Crowe LLP also has not performed any procedures relating to this Official Statement. TxDOT is currently not required to commission an annual audit of its financial statements, however, TxDOT could elect or be required to have audited financial reports prepared in the future. Under current State law, the State Auditor's Office has the first right to perform audits requested by TxDOT and if it declines, TxDOT can select an external auditor. No assurances can be given as to whether any such financial reports of TxDOT will be audited in the future. The fiscal year of the State and TxDOT is currently September 1 through August 31 of the following year (each, a "*Fiscal Year*").

TxDOT is headquartered in Austin, Texas, with 34 divisions and 25 district offices located throughout the State. Each district is responsible for the planning, design, construction, operation and maintenance of its area's transportation systems. TxDOT is managed by an Executive Director, subject to and under the direction of the Commission. The Executive Director and other key TxDOT personnel are listed below.

James M. Bass, Executive Director

Effective January 1, 2016, James M. Bass was appointed Executive Director by the Commission on December 17, 2015. Under the direction of the Commission, Mr. Bass manages, directs and implements TxDOT policies, programs and operating strategies. Mr. Bass also represents TxDOT before the State Legislature and other entities. Prior to his appointment as Executive Director, Mr. Bass served as TxDOT's Chief Financial Officer. Mr. Bass began his career with TxDOT in 1985 in the Fort Worth District where he maintained records and audited field measurements. He also worked part-time as an engineering aide for the Austin District while earning his bachelor's degree in accounting from The University of Texas at Austin. After graduation in 1991, Mr. Bass served as an accounting clerk in TxDOT's financial planning operations division (the "*Finance Division*"). In 1997, Mr. Bass became a manager in the Budget and Forecasting Branch, and in that position was responsible for preparation of TxDOT's Legislative Appropriations Request and Operating Budget, and working with the Texas Legislative Budget Board, State Auditor's Office, and the Comptroller of Public Accounts of the State. He also worked on TxDOT's Cash Forecasting System for the State Highway Fund. Mr. Bass was named Finance Division Director in 1999 and his title was changed to Chief Financial Officer in 2005. Mr. Bass also served as Interim Executive Director of TxDOT from January 17, 2014 to April 23, 2014.

Marc D. Williams, P.E., Deputy Executive Director

As Deputy Executive Director, Mr. Williams is responsible for assisting the Executive Director in all phases of directing, managing, and implementing TxDOT's policies, programs, and operating strategies. He assists in oversight of the management and operation of all transportation systems for which the agency is responsible to ensure that systems are adequate, safe, and constructed and maintained for the traveling public in the most cost-effective manner. Mr. Williams started with TxDOT in February 2012 as the Director of Planning within TxDOT's Planning and Projects Office. His career experience in transportation planning and program efforts includes public and private-sector organizations involving state, county and local jurisdictions. Mr. Williams has served in leadership positions with two state departments of transportation as well as worked with national private-sector transportation engineering organizations. His professional assignments have included directing statewide transportation planning and programming efforts as well as managing project specific highway and multimodal transportation plans and programs. Mr. Williams has worked extensively with public and agency outreach, transportation plans of various modes, regional and corridor-level plans and programs, environmental planning and approval, economics and finance, project design and development, along with work in the areas of construction management, operations and maintenance. Mr. Williams received both a Master's degree in Civil Engineering and a Bachelor's degree in Civil Engineering from Texas A&M University.

Brian D. Ragland, Chief Financial Officer

Mr. Ragland was selected as TxDOT's Chief Financial Officer on March 11, 2016. Mr. Ragland has financial oversight responsibility for TxDOT including TxDOT's Financial Management Division; Project Finance, Debt and Strategic Contracts Division; and Toll Operations Division. Mr. Ragland began his career with The University of Texas System Administration as an accountant/auditor in their Oil and Gas department and then became the Financial Manager of their Employee Group Insurance section where he served until 1996. He then became Chief Financial Officer for the State Preservation Board where he oversaw all financial, human resources, enterprise, and information resource functions of that agency. Mr. Ragland began his career with TxDOT as the Director of TxDOT's Claims Management Section of the Financial Management Division in 2003. He left TxDOT in 2005 to pursue an opportunity as Senior Vice President and Chief Financial Officer of Walden Affordable Group, LLC, an affordable housing management firm but returned to TxDOT in 2008 as the Director of the Financial Management Division. Mr. Ragland served as an elected trustee of the Employees Retirement System of Texas from September 1, 2011 until August 31, 2017. Mr. Ragland received a bachelor's degree in Accounting from The University of Texas at Austin in 1990 and a Masters of Business Administration degree from Southwest Texas State University in 1999. He is a licensed Certified Public Accountant and a member of the American Institute of CPAs (AICPA), the Texas State Agency Business Administrators Association (TSABAA) and the State Agency Coordinating Council (SACC).

Benjamin H. Asher, Director, Project Finance, Debt and Strategic Contracts Division

As director of the Project Finance, Debt and Strategic Contracts Division, Mr. Asher is responsible for the management of TxDOT's project financing, debt management and strategic contracts programs. This includes the management of TxDOT's various debt and financial assistance programs, including TIFIA loan activity, the State Infrastructure Bank, toll equity, and pass-through financings, as well as several aspects of TxDOT's alternative delivery programs, including procurement and contract processes. Mr. Asher and his team partner with TxDOT districts and State and local entities to finance and deliver major transportation projects throughout the State. Prior to joining TxDOT in June 2012, Mr. Asher worked for Public Resources Advisory Group, an independent financial advisory firm, most recently as a partner and senior managing director in New York. Previously, Mr. Asher worked in investment banking on a broad range of financings. Mr. Asher received his Bachelor of Arts in history from Columbia University and an M.B.A. in finance from Columbia University Graduate School of Business.

Stephen Stewart, Director, Financial Management Division

As TxDOT's Director of the Financial Management Division, Mr. Stewart is responsible for the management and control of budget, revenue, disbursements, and accounting for TxDOT as well as letting management of all transportation projects. Mr. Stewart has over 16 years of state governmental experience and has been involved with many key initiatives since he began with TxDOT in March of 2012. Mr. Stewart has held previous roles as Manager of Financial Reporting and Director of Accounting positions within the Financial Management Division. Within each of those roles, he has worked to collaborate with other districts, divisions, and other State agencies to produce required audited financial statements and statutory reports needed for TxDOT as well as assisting with the implementation of the PeopleSoft Financial Supply Chain Management (FSCM) system. Prior to joining TxDOT, Mr. Stewart worked for the Comptroller of Public Accounts of the State of Texas assisting in the production of the State's Comprehensive Annual Financial Report where he gained insight and experience working with various agencies across the State. Aside from governmental accounting, Mr. Stewart has also gained business and management experience from owning his own CPA firm which focused on bookkeeping and tax services. Prior to his accounting experiences, Mr. Stewart worked at Texas State University in the information technology division as a network administrator and systems programmer where he was responsible for administration of Active Directory domains consisting of over 70,000 users and various SAP, e-mail, and database servers. Mr. Stewart received a Bachelor's degree in Computer Science from Southwest Texas State University in 2003 and a Master's degree in Accounting from Texas State University in 2007. He is a licensed Certified Public Accountant and a member of the American Institute of CPAs (AICPA).

Jeff Graham, General Counsel

Mr. Graham assumed the position of General Counsel on July 16, 2012. Under his direction, the General Counsel Division renders legal advice to the Commission and TxDOT. He also drafts TxDOT rules, reviews legislation, and serves as counsel at Commission meetings. Previously, Mr. Graham served as Division Chief for the Financial and Taxation Litigation Division, under Texas Attorney General Greg Abbott. Prior to that, he served as the Division Chief for the Financial Litigation Division of the Office of Attorney General. In 2011, the Taxation Division and the Texas Workforce Commission Section were added to the Financial Litigation Division, resulting in the combined Financial and Taxation Litigation Division. In 2012, the Charitable Trust Section was also added to his portfolio. Jeff began his career at the Office of the Attorney General in 1997, and has lived in Austin since 1986. He is a graduate of Washington University School of Law in St. Louis, Missouri and The University of Texas at Austin.

The State Highway Fund

General

The State Highway Fund is the general source for a substantial portion of funding for the State highway system, TxDOT and the administration of State laws relating to traffic and safety on public roads. The State Highway Fund receives revenue from a variety of sources, including, without limitation, certain federal transportation program funds received from the United States Department of Transportation (the "*USDOT*"), State motor fuels tax funds, State motor vehicle registration funds and State motor lubricants tax funds.

Pursuant to Article VIII, Section 7-a of the Texas Constitution, (i) 75% of the net revenues generated from the State motor fuels tax (net of enforcement, administrative and refund charges), (ii) the State tax on motor lubricants and (iii) the net revenues generated from the State motor vehicle registration fees (net of collection charges and the portion of such fees that is reserved for counties within the State) are dedicated for acquiring rights-of-way; constructing, maintaining, and policing public roadways; and for the administration of laws pertaining to the supervision of traffic and safety on such roads. Also, pursuant to Article VIII, Section 7-b of the Texas Constitution, all revenues received from the federal government as reimbursement for State expenditures of funds that are themselves dedicated for acquiring rights-of-way and constructing, maintaining and policing public roadways are constitutionally dedicated and may be used only for those purposes.

The State Highway Fund is the general operating fund of TxDOT through which, generally, all revenues dedicated or appropriated to the purposes of TxDOT are deposited and all of TxDOT's administration, maintenance and operating expenses are paid. In prior years, certain expenses of the Texas Mobility Fund were processed through the State Highway Fund, whereby the Texas Mobility Fund transferred amounts for such expenses to the State Highway Fund prior to such expenses being paid (except in situations where the Texas Mobility Fund was reimbursing the State Highway Fund for expenses incurred by the State Highway Fund). Beginning in Fiscal Year 2013, these expenditures are reported as capital outlays from the Texas Mobility Fund instead of transfers to the State Highway Fund. TxDOT's ongoing "pay as you go" construction program is also paid from the State Highway Fund. Such expenses include payroll, repairs and maintenance, costs of materials and supplies, professional fees or commitments, utilities, rent and lease payments and intergovernmental payments. To accomplish all of these purposes, money in the State Highway Fund is appropriated by the State Legislature to TxDOT and certain other agencies of the State.

Except as described herein, and with the exception of certain restricted funds held in special accounts or subaccounts in the State Highway Fund (collectively, "*Restricted Revenues*"), amounts deposited into the State Highway Fund are pledged to secure payment of Senior Obligations (as defined under the caption "– State Highway Fund Obligations") and such amounts may also be used to pay debt service on and other costs associated with certain subordinate obligations issued or incurred by the Commission or TxDOT. See "– Uses of the State Highway Fund" and "– State Highway Fund Obligations" below.

Restricted Revenues include amounts held in the State Infrastructure Bank account established as an account in the State Highway Fund pursuant to Subchapter D of Chapter 222, Texas Transportation Code, which had a balance of approximately $356 million as of August 31, 2019, and amounts held in special accounts or subaccounts established pursuant to Section 228.012, Texas Transportation Code, for payments received by TxDOT under comprehensive development agreements ("*CDA's*"), surplus revenues of certain toll projects or systems (not including the Grand Parkway System), and payments received under former Section 228.0111(g)(2) and (i)(2) of the Texas Transportation Code (which was repealed by legislation enacted in 2011) for the right to develop, finance, construct and operate toll projects. TxDOT has created subaccounts in the State Highway Fund in accordance with Section 228.012, Texas Transportation Code, and certain of those subaccounts have the following balances as of August 31, 2019: (i) under the State Highway 130 CDA for segments 5 and 6 totaling approximately $34 million, (ii) from the North Texas Tollway Authority for the right to develop, finance, design, construct, operate, and maintain the State Highway 121 toll project totaling approximately $623 million and the State Highway 161 toll project (also known as the Chisholm Trail Parkway project) totaling approximately $44 million, (iii) under the State Highway 288 CDA totaling approximately $12 million, and (iv) under the North Tarrant Express CDA totaling approximately $10 million, pending distribution of such funds from time to time for their designated purposes. Restricted Revenues must be used for certain limited purposes and are not available to pay debt service on Senior Obligations or to make advances under any toll equity loan agreement with TxDOT, including the "TELA" (as defined in the forepart of this Official Statement), between TxDOT and the Grand Parkway Transportation Corporation (the "*Corporation*"). See "– Toll Equity Obligations" below.

The Commission's current policy is designed to accelerate the development and construction of public highways by using available funds to deliver such projects as quickly as possible. A recognized result of this policy is that the balance of the State Highway Fund, at each fiscal year-end, may be a nominal or negative amount, as the Commission utilizes available funds for development and construction of projects.

In November 2014, State voters approved an amendment to the State Constitution ("*Proposition 1*") transferring a portion of certain oil and natural gas production tax revenues to the State Highway Fund. As a result of Proposition 1, approximately $440 million, $734 million and $1.38 billion of oil and natural gas production tax revenues were transferred to the State Highway Fund for Fiscal Years 2017, 2018 and 2019, respectively. Amounts deposited in the State Highway Fund pursuant to Proposition 1 may only be used for constructing, maintaining and acquiring rights-of-way for public roadways other than toll roads. In recognition of the more restrictive limitations on the permitted uses of amounts transferred to the State Highway Fund pursuant to Proposition 1 (relative to the permitted purposes for which Senior Obligations may be and have been issued), TxDOT created a special account in the State Highway Fund to segregate such amounts from State Highway Fund revenues, and such amounts are not pledged to secure, or available to make payments on, Senior Obligations or to make advances under any toll equity loan agreement with TxDOT, including the TELA.

In November 2015, State voters approved an amendment to the State Constitution ("*Proposition 7*"), which added Section 7-c to Article VIII thereof ("*Section 7-c*"). Section 7-c directs the Comptroller of Public Accounts of the State (the "*Comptroller*") to deposit to the credit of the State Highway Fund, for each State Fiscal Year specified therein, net revenues in the amounts specified therein derived from (i) the imposition of State sales and use tax on the sale, storage, use or other consumption in the State of taxable items under Chapter 151 of the Texas Tax Code (or its successor), and (ii) the tax authorized by Chapter 152 of the Texas Tax Code (or its successor) and imposed on the sale, use, or rental of a motor vehicle. As a result of Proposition 7, approximately $939 million and $4.06 billion were transferred to the State Highway Fund for Fiscal Years 2018 and 2019, respectively. Amounts deposited in the State Highway Fund pursuant to Proposition 7 may only be used for constructing, maintaining or acquiring rights-of-way for public roadways other than toll roads or for repaying principal and interest on general obligation bonds issued pursuant to Article III, Section 49-p of the State Constitution. In recognition of the more restrictive limitations on the permitted uses of amounts transferred to the State Highway Fund pursuant to Proposition 7 (relative to the permitted purposes for which Senior Obligations may be and have been issued), TxDOT created a special account in the State Highway Fund to segregate such amounts from State Highway Fund revenues, and such amounts are not pledged to secure, or available to make payments on, Senior Obligations or to make advances under any toll equity loan agreement with TxDOT, including the TELA.

Unless extended by the State Legislature, the transfers to the State Highway Fund pursuant to Proposition 1 and Proposition 7 are scheduled to expire in certain future years. Further, such transfers pursuant to Proposition 1 are subject to the Economic Stabilization Fund achieving a certain threshold balance, and such transfers pursuant to Proposition 7 are subject to the applicable revenue streams exceeding certain threshold amounts, in each case, which are subject to amendment by the State Legislature. Accordingly, no assurances can be provided regarding the amount of any future transfers to the State Highway Fund pursuant to Proposition 1 and Proposition 7.

Previously, certain money in the State Highway Fund was appropriated to the Department of Public Safety ("*DPS*") to police the State highway system and to administer State laws relating to traffic and safety on public roads. House Bill 20 ("*HB 20*"), which was approved during the 84th regular legislative session and became effective June 3, 2015, ended such diversions to the DPS from the State Highway Fund. See "– Uses of the State Highway Fund – Capital Planning and Funding" below.

Sources of Revenue in the State Highway Fund

The following Table 1 displays the amount of total State Highway Fund Revenues, which are derived from each of the following sources for the last five Fiscal Years: State motor fuels tax, State motor vehicle registration fees, other State revenue sources, and reimbursements from federal funds. Such sources are affected by a number of economic, demographic and environmental factors, including population growth in the State. See "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT" in the forepart of this Official Statement. Revenues in the following tables are presented on the modified accrual basis of accounting, unless otherwise indicated, and exclude Restricted Revenues. The table below reflects "Pledged Revenues" as reported in total within the notes of TxDOT's annual financial statements. Total State Highway Fund Revenues have increased at an average annual rate of approximately 4.9% over the last five Fiscal Years.

Table 1 - State Highway Fund Revenues by Source
For Fiscal Years Ended August 31
(in millions)

	2015	2016	2017	2018	2019
State Motor Fuels Tax	$2,538.3	$2,580.9	$2,631.0	$2,697.3	$2,759.2
State Motor Vehicle Registration Fees	1,386.2	1,426.5	1,442.8	1,501.1	1,584.7
Other State Revenue Sources(1)	340.9	323.5	594.3	362.9	392.3
Subtotal, excluding Federal Reimbursements	4,265.4	4,330.9	4,668.1	4,561.3	4,736.2
Reimbursements from Federal Funds(2)	3,161.5	3,935.9	3,781.9	3,845.3	4,207.8
Total Fund Revenues	$7,426.9	$8,266.8	$8,450.0	$8,406.6	$8,944.0

(1) Excludes Proposition 1 funding, Proposition 7 funding, loan repayments received by the State Infrastructure Bank and amounts credited to the State Highway Fund from the Texas Mobility Fund for payment to contractors. For administrative purposes, expenses of the Texas Mobility Fund are paid through the State Highway Fund and reimbursed from the Texas Mobility Fund. Other State Revenue Sources include numerous separate and miscellaneous revenue sources that fluctuate from year to year and in the aggregate may increase or decrease significantly from one year to the next. For a description of such Other State Revenue Sources and a description of Proposition 1 and Proposition 7 receipts, see "– The State Highway Fund – General" and "– The State Highway Fund – Sources of Revenue in the State Highway Fund – Other State Revenue Sources."

(2) Reimbursements from Federal Funds fluctuate from year to year due to the amount of expenditures for major construction projects that are eligible for federal reimbursement and the timing of when such costs are incurred and when reimbursements are received. See "– The State Highway Fund – Sources of Revenue in the State Highway Fund – Federal Funds." Excludes funds received for projects financed through the American Recovery and Reinvestment Act (ARRA) for Fiscal Years 2015 through 2017.

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The following Table 2 displays the amount of each source of State Highway Fund revenues as a percentage of total State Highway Fund revenues (excluding reimbursements from federal funds) for the last five Fiscal Years.

Table 2 - State Highway Fund Revenues as a Percentage of Total Fund Revenues (Excluding Federal Funds) For Fiscal Years Ended August 31

	2015	2016	2017	2018	2019
State Motor Fuels Tax	59.5%	59.6%	56.4%	59.1%	58.3%
State Motor Vehicle Registration Fees	32.5%	32.9%	30.9%	32.9%	33.5%
Other State Revenue Sources	8.0%	7.5%	12.7%	8.0%	8.3%

The following Table 3 displays the amount of each source of State Highway Fund revenues as a percentage of total State Highway Fund revenues (including reimbursements from federal funds) for the last five Fiscal Years.

Table 3 - State Highway Fund Revenues as a Percentage of Total Fund Revenues (Including Federal Funds) For Fiscal Years Ended August 31

	2015	2016	2017	2018	2019
State Motor Fuels Tax	34.2%	31.2%	31.1%	32.1%	30.9%
State Motor Vehicle Registration Fees	18.7%	17.3%	17.1%	17.9%	17.7%
Other State Revenue Sources	4.6%	3.9%	7.0%	4.3%	4.4%
Reimbursements from Federal Funds	42.5%	47.6%	44.8%	45.7%	47.0%

State Motor Fuels Tax. The State currently levies a motor fuels tax of $0.20 per gallon on gasoline and diesel fuel, and $0.15 per gallon equivalent on liquefied natural gas and compressed natural gas. Sales of motor fuels for the exclusive use of the federal government or a public school district in the State are exempt, and sales of liquefied natural gas for the exclusive use of the federal government, local county government or a public school district in the State are exempt. The Comptroller retains 1% of the gross receipts for administration and enforcement, and after providing for refunds or non-highway use collections, distributes the remainder as hereinafter described. Pursuant to Article VIII, Section 7-a of the Texas Constitution, 25% of the net revenues generated from the State motor fuels tax (net of enforcement, administrative and refund charges) are deposited to the credit of the "Available School Fund" in support of the State's primary and secondary schools, and 50% of such revenues are deposited to the credit of the State Highway Fund. The remaining 25% is deposited to the county and road district highway fund, which is administered by the Comptroller, until a maximum of $7.3 million annually has been deposited, after which the remaining amount is deposited to the State Highway Fund. See Tables 1, 2 and 3 above for information regarding the amount of the State motor fuels tax credited to the State Highway Fund for the last five Fiscal Years.

The State motor fuels tax on gasoline and diesel fuel is imposed (i) upon the removal of fuel from a storage and distribution facility through a rack mechanism to a transport vehicle, railcar or other transfer means outside the bulk transfer/terminal system (no tax is imposed on qualified bulk transfers); (ii) upon the importation of fuel into the State for delivery in the State, other than by qualified bulk transfer; (iii) upon the removal of fuel from the bulk transfer/terminal system; (iv) upon fuel brought into the State in fuel supply tanks of an interstate trucker; and (v) upon the fuel used in the blending of fuel not in the bulk transfer/terminal system. The tax is due to the Comptroller on or before the 25th day of the month following a calendar month (except the tax from interstate truckers which is due after each calendar quarter). Licensed distributors and importers of the motor fuels tax on gasoline and diesel fuel that remit the tax in a timely manner may retain 1.75% of the tax. Suppliers that remit the tax on gasoline and diesel fuel may retain 2% of the tax. Licensed dealers and interstate truckers that remit the tax on liquefied natural gas and compressed natural gas in a timely manner may retain 1% and 0.5% of the tax, respectively. Certain taxpayers that remit the tax in a timely manner are entitled to retain 1.75% of the tax they pay to cover administrative expenses.

The State motor fuels tax on liquefied gas is imposed upon the user of the vehicle using such fuel and is collected by a licensed dealer at the time of delivery into a motor vehicle's fuel supply tank.

The State motor fuels tax on compressed natural gas and liquefied natural gas is imposed (i) on the dealer upon the sale of sale of compressed natural gas or liquefied natural gas that is delivered into the fuel supply tank of a motor vehicle in connection with a sale of the compressed natural gas or liquefied natural gas and (ii) on a fleet user or other dealer upon the delivery of compressed natural gas or liquefied natural gas into the fuel supply tank of a motor vehicle by a fleet user or other dealer not in connection with a sale of the compressed natural gas or liquefied natural gas.

Total motor fuel consumption has increased at an average annual rate of approximately 2.4% over the past five Fiscal Years, with gasoline consumption increasing at an average annual rate of approximately 2.1% and diesel consumption increasing at an average annual rate of approximately 3.5% during such period. The following Table 4 shows the amount of the taxable gasoline and diesel fuel consumption in the State for the last five Fiscal Years.

Table 4 - Taxable Gasoline and Diesel Fuel Consumption in Texas
(in millions of gallons)

Fiscal Year	Gasoline	Diesel
2015	13,720.6	5,209.9
2016	14,190.2	5,132.5
2017	14,337.6	5,539.2
2018	14,588.7	5,797.5
2019	14,886.6	5,965.6

State Motor Vehicle Registration Fees. The State currently charges motor vehicle registration fees under a number of statutory provisions. The TxDMV shares motor vehicle registration responsibilities with county governments that assist with this function. Revenues from vehicle registrations are shared between the State Highway Fund and the counties. The total amount of State motor vehicle registration and license fees credited to the State Highway Fund, as a percentage of the total amount of such fee collections net of refunds, for the State, counties, and for specialty license plates, was approximately 77%, 77%, 78%, 78% and 78% for Fiscal Years 2015, 2016, 2017, 2018 and 2019, respectively. See Tables 1, 2 and 3 above for information regarding the amount of the State motor vehicle registration fees credited to the State Highway Fund for the last five Fiscal Years.

Effective September 1, 2011, the base vehicle registration fee for cars and light trucks was changed to $50.75 per vehicle, regardless of the age or weight of the vehicle. For trucks other than light trucks, higher fees apply based on weight. Prior to September 1, 2011, the base registration fee for cars and light trucks ranged from approximately $29 to $59, depending on the age (for cars) or weight (for light trucks) of the vehicle.

Every owner of a motor vehicle, unless otherwise exempted, is required to register such vehicle each year the vehicle is used or is to be used on the public roads of the State. Registration fees are collected by the tax assessor-collector of the county in which the owner of a vehicle resides. The collecting county annually retains 100% of such registration fees collected up to an amount equal to: (i) $60,000 plus (ii) $350 for each mile of county road maintained by such county, not to exceed 500 miles. After such amount is retained by the county, the collecting county then shall retain an additional amount equal to 50% of State vehicle registration fees collected until the amount retained for the calendar year equals $125,000 and the remaining 50% (i.e., $125,000) shall be deposited to the credit of the State Highway Fund. After this second amount of $125,000 is retained by the collecting county, 100% of State vehicle registration fees are to be remitted to the credit of the State Highway Fund. Counties are also authorized to impose an additional road and bridge fee, not to exceed $10 for most counties, for registering a vehicle in the county, and retain the revenue from said fee. In 2013, the 83rd State Legislature passed House Bill 2202 ("*HB 2202*"), which authorized the TxDMV to collect a processing and handling fee to cover the expenses of collecting registration fees. The TxDMV adopted rules establishing the new processing and handling fee effective January 1, 2017. Pursuant to HB 2202, such fee replaces $1.90 of each registration fee that was previously retained by county tax assessor-collectors pursuant to Chapter 520 of the Texas Transportation Code. As a result, $1.90 of each registration fee is instead deposited to the credit of the State Highway Fund, which began in January 2017 when the new processing and handling fee became effective.

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The following Table 5 shows the number of vehicles registered in the State for the last five Fiscal Years, which has increased at an average annual rate of 1.4% over the last five Fiscal Years.

Table 5 - Vehicles Registered in Texas
(in millions)

Fiscal Year	Number of Vehicles
2015	23.8
2016	24.1
2017	24.6
2018	24.9
2019	25.1

In 2013, the 83rd State Legislature passed House Bill 2305 (amending Chapter 548 of the Texas Transportation Code), which replaced the former dual certification system of separate motor vehicle inspection and registration decals with a single, combined certification system, known as the "single sticker rule." Beginning March 1, 2015, vehicles are no longer issued a separate inspection decal, and a single registration decal for each motor vehicle will signify that the vehicle has passed the required inspection and is registered in the State. Drivers who cannot pass an inspection cannot obtain a registration decal under the single sticker rule.

Other State Revenue Sources. The State also generates or receives funds from a variety of sources that are credited to the State Highway Fund. Such sources of funds include, without limitation, sales taxes on motor lubricants, funds from local governments that are participating in State highway projects, interest earnings on the dedicated funds deposited to the credit of the State Highway Fund, oversize and overweight trailer permit fees, vehicle title certificate fees, revenues from Texas Highways magazine, and other reimbursements received by TxDOT. With the exception of the sales tax on motor lubricants and interest earnings on dedicated funds, these other revenue sources are not dedicated or committed by constitutional provision to the State Highway Fund. See Tables 1, 2 and 3 above for information regarding the amount of funds generated from these sources and credited to the State Highway Fund for the last five Fiscal Years.

For a description of amounts deposited to the State Highway Fund from Proposition 1 and Proposition 7, see "– The State Highway Fund – General" above. Amounts deposited to the State Highway Fund from Proposition 1 and Proposition 7 are not pledged to secure, or available to make payments on, Senior Obligations or to make advances under any toll equity loan agreement with TxDOT, including the TELA.

Federal Funds. Federal transportation funds are made available to the State by the federal government. The Federal-Aid Highway Program ("*FAHP*") is an "umbrella" term that encompasses most of the federal programs providing highway funds to the states. The Federal Highway Administration ("*FHWA*") is the federal agency within the USDOT responsible for administering the FAHP. The FAHP is financed from the transportation user-related revenues deposited in the Federal Highway Trust Fund ("*HTF*"). Federal government funding for infrastructure projects is usually accomplished through federal highway authorization legislation, which establishes funding over a multi-year period.

The FAHP is a reimbursement program. Once projects are approved by FHWA and funds are obligated, the federal government makes payments to the states for costs as they are incurred on projects, which may include debt service on obligations issued to finance a project. With few exceptions, the federal government does not pay for the entire cost of a federal-aid project. Federal reimbursements are typically to be matched with state and/or local funds. The maximum federal share is specified in the federal legislation authorizing the program. Under current law, most projects have an 80 percent federal share, while Highway Safety Improvement Program projects, as well as certain interstate highway construction projects, are funded with a 90 percent federal share.

Funding under the FAHP is provided to states through a multi-step funding cycle that includes: (i) multi-year or short-term authorization by Congress of the funding for various highway programs; (ii) apportionment and allocation of funds to the states each federal fiscal year ("*FFY*") according to statutory formulas or, for some funding categories, through administrative action; (iii) obligation of funds, which is the federal government's legal commitment (or promise) to pay or reimburse states for the federal share of a project's eligible costs; (iv) appropriations by Congress specifying the amount of funds available for the year to liquidate and meet its obligations; (v) program implementation which covers the programming and authorization phases; and (vi) reimbursement by the federal government of the eligible project costs. The FAHP is subject to federal rescission of funds enacted by federal law which reduces the amount of funds available under an existing appropriation or authorization act.

The primary source of revenues in the HTF is derived from federal excise taxes on motor fuels, including certain alternative fuels. The HTF is a dedicated federal fund with revenues dedicated for reimbursement of expenditures by the states, including Texas, for costs of eligible transportation projects, including highway projects, and was created as a user-supported fund intended to finance highways with taxes paid by users of highways. Deposits of such taxes into the HTF must periodically be reauthorized by Congress. Historically, the HTF and its constituent taxes have been authorized to operate for limited periods of time.

Failure to replenish the HTF expeditiously and maintain the flow of federal revenues to states may have an adverse impact on TxDOT and the Commission. In addition, funding appropriations may be revised and federal funding for infrastructure projects may be reduced which may impact the funding available to TxDOT for payment of its obligations, including obligations to developers pursuant to pass-through toll agreements and obligations to advance funds as required by and subject to the limitations under toll equity agreements, including the TELA, and obligations to support the operations of the Central Texas Turnpike System. See "– State Highway Fund Obligations" below.

The current federal highway authorization legislation, the "Fixing America's Surface Transportation Act" (the "*FAST Act*"), became law on December 4, 2015 and reauthorizes the FAHP through September 30, 2020. Prior to the enactment of the FAST Act, the last multi-year authorization of the FAHP was the "Moving Ahead for Progress in the 21st Century Act" ("*MAP-21*"), which provided funding through September 30, 2014. MAP-21 replaced the "Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users" ("*SAFETEA-LU*"), which expired in 2009, but was reauthorized through passage of temporary short-term extensions until June 30, 2012. In periods between multi-year authorizations, Congress consistently has used short-term authorizations to fund the FAHP.

Prior federal highway authorization and appropriation legislation has included rescissions of unused contract authority, including reductions to funding under SAFETEA-LU and multiple appropriation bills in each of the years 2006 through 2011. MAP-21 did not include a rescission. The FAST Act put in place a $7.5 billion rescission of unused contract authority at the end of the authorized period in 2020; however, in November 2019, Congress repealed the FAST Act rescission as part of the "Further Continuing Appropriations Act, 2020, and Further Health Extenders Act of 2019." In addition, the Balanced Budget and Emergency Deficit Control Act of 1985, as amended, required certain automatic reductions in federal spending that impacted MAP-21 funding. See "– Sequestration Effects on the State Highway Fund" below.

State law currently provides that federal funds appropriated for public road construction in the State may only be spent by and under the supervision of TxDOT. Such funds are deposited to the credit of the State Highway Fund as reimbursements. See Tables 1, 2 and 3 above for information regarding the amount of federal reimbursement funds credited to the State Highway Fund for the last five Fiscal Years.

The Equity Bonus Program in SAFETEA-LU was removed from MAP-21. In its place, MAP-21 made an adjustment to part of the apportionment formula (which was carried forward through the FAST Act), such that no state receives less than a 95% share of the state's attributed share of highway user tax revenue contributed to the Highway Account of the HTF. Due to recent federal general revenue transfers to the HTF, almost every state is now receiving more funds than were deposited into the HTF. Texas is the only state still below the 100% threshold of funds received. Funds from the HTF support a variety of federal transportation programs that, for purposes of this discussion, are grouped into three broad categories: (i) funds distributed proportionally to states through a dedicated formula program ("*Guaranteed Highway Programs*"); (ii) discretionary funds ("*Discretionary Programs*") and (iii) Transit Programs.

The allocation of funds using a formula provided in law is called apportionment. Most federal-aid funds are formula allocated to states through apportionment. Each FFY, the FHWA has responsibility for apportioning authorized funding for the various highway programs among the states according to formulas established in the authorizing statute, currently the FAST Act. When there are no formulas in law, the non-formula allocation (discretionary) of funds may be made at any time during the FFY. In most cases, non-formula allocated funds are divided among states with qualifying projects applying general administrative criteria provided in the law. The annual apportionments to TxDOT under SAFETEA-LU, MAP-21, extensions of MAP-21 and the FAST Act were $3.3 billion, $3.57 billion, $3.81 billion, $3.83 billion and $3.79 billion in FFY 2015 through 2019, respectively. The

FAST Act contains a $7.5 billion rescission at the end of the authorization period in 2020; however, in November 2019, Congress repealed the FAST Act rescission as part of the "Further Continuing Appropriations Act, 2020, and Further Health Extenders Act of 2019." It is possible for additional rescissions to be added to the one included in the FAST Act via the appropriations process.

The following Table 6 provides a history of the apportionments and allocations, as applicable, to TxDOT for certain federal highway funding programs in the State for the last five FFYs. The data for the following table was obtained from the USDOT. Such table includes federal funds apportioned and allocated for the State's Guaranteed Highway Programs, Transit Programs and Discretionary/Allocated Highway Programs, but excludes the State's Aviation and Ferry Boat Programs. The amounts shown for Transit Programs reflect funds that are administered by or flow through TxDOT and awarded to sub-recipients; funds given directly to sub-recipients in the State are excluded.

Table 6 - Federal Transportation Funds Apportioned and Allocated to TxDOT
(in millions)

Federal Fiscal Year	Guaranteed Highway Programs	Discretionary/ Allocated Highway Programs	Transit Programs	Total
2015	$3,342.5	$10.2	$64.4	$3,417.1
2016	3,511.8	19.5	65.6	3,596.9
2017	3,828.4	9.9	66.9	3,905.2
2018	3,850.9	9.5	71.4	3,931.8
2019	3,812.7	2.9	67.6	3,883.2

Obligation authority is the commitment (or promise) of the federal government to pay, through reimbursement to a state, the federal share of an approved project's eligible costs, which may include debt service on obligations issued to finance a project. This process is important to the states because it allows states to award contracts with assurance that the federal government will reimburse its share of incurred costs. Once an obligation is made, the federal government is to reimburse the states when bills or payments become due. However, Congress places a restriction or "ceiling" on the amount of federal assistance that may be obligated (promised) in an individual year. This is a statutory budgetary control that does not affect the apportionment or allocation of funds. Rather, it controls the rate at which these funds can be used.

FHWA distributes obligation authority to states proportionately based on each state's share of apportioned and allocated revenues. During the FFY, states submit requests to FHWA to obligate funds, representing the federal share of specific projects. As a state obligates funds, its balance of obligation authority is reduced. A state's obligation authority (unlike its apportionments and allocations of authorized funding) must be used before the end of the FFY for which it is made available; if not, it will be distributed to other states to ensure that the total limitation nationwide will be used. Although a ceiling on obligations restricts how much funding may be used in a FFY, the state has flexibility within the overall limitation to mix and match the type of program funds it obligates, based on its individual needs, as long as it does not exceed the ceiling in total.

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The following Table 7 provides a history of the obligation authority to TxDOT for Guaranteed Federal Highway Programs in the State for the last five FFYs. The data for the following table was obtained from the USDOT. The following table excludes obligation authority limitation for the State's Aviation and Ferry Boat Programs.

Table 7 - Federal Transportation Obligation Authority for TxDOT Guaranteed Highway Programs
(in millions)

FFY	Amount[1]
2015	$3,333.8
2016	3,408.4
2017	3,820.1
2018	3,758.5
2019	3,916.6

(1) The overall obligation authority limitation received for the Guaranteed Highway Program has historically been less than the apportionment for such Program.

The amounts shown in Table 6 above represent federal funds that have been "apportioned" or "allocated" to the State pursuant to federal legislation. Amounts shown in Table 7 above represent federal funds that have been "obligated" to the State by the FHWA pursuant to federal legislation, but do not represent funds actually credited to TxDOT for any given period. For federal reimbursements credited to TxDOT during the last five Fiscal Years, see Table 1 above.

Uses of the State Highway Fund

General. Funds that are required to be used for public roadways by State or federal law and that are deposited to the credit of the State Highway Fund, may be used only (i) to improve the State highway system or (ii) to mitigate adverse environmental effects that result directly from the construction or maintenance of a state highway by TxDOT. Money in the State Highway Fund that is not so restricted may be used for any functions performed by TxDOT, including expenses relating to TxDOT's "pay as you go" construction program, payroll, repairs and maintenance expenses, costs of materials and supplies, professional fees or commitments, utilities, rents and lease payments and intergovernmental payments. Debt service on State Highway Fund revenue bonds and other obligations and financial commitments are also paid from the State Highway Fund. To accomplish these purposes, money in the State Highway Fund is appropriated by the State Legislature to TxDOT and certain other State agencies. See "– General" and "– State Highway Fund Obligations."

The following Table 8 sets out the appropriation of funds by the State Legislature to TxDOT for the five most recent State biennia, including the current State biennium and the approximate percentage of total appropriations from the State Highway Fund represented by such appropriations.

Table 8 - Appropriations to TxDOT from the State Highway Fund
(dollar amounts shown in millions)

State Biennium	Amount Appropriated[1]	Percentage of Total State Highway Fund Appropriations
2012-13	$12,060.3	87.97%
2014-15[2]	16,491.4	92.86
2016-17[3]	17,208.3	100.00
2018-19[3]	19,933.5	100.00
2019-20	21,277.5	100.00

(1) Amounts include appropriations made to other State agencies (e.g., the Employees Retirement System of Texas) for the benefit of TxDOT. Minor revisions reflect final adjustments to the State's General Appropriations Act.
(2) TxDOT received an increase in State Highway Fund appropriations in State Biennium 2014-2015 mainly due to increased federal funds, and higher registration fee revenue.
(3) Previously, certain money in the State Highway Fund was appropriated to DPS to police the State highway system and to administer State laws relating to traffic and safety on public roads. House Bill 20, which was approved during the 84th regular legislative session and became effective June 3, 2015, ended such diversions to the DPS from the State Highway Fund. See "– General" above.

Budget Process. TxDOT operates under a two-year budget cycle. In preparing its Legislative Appropriations Request ("*LAR*"), TxDOT relies upon its cash flow forecast for the State Highway Fund, which delineates current and future obligations of TxDOT and forecasts the monthly revenue, expenditure, lowest daily balance, and ending balance for the State Highway Fund. From the forecast, the amount of expenditures (appropriations) that can be handled by the State Highway Fund can be determined. After accounting for existing obligations, the Commission then allocates the projected available resources among the competing needs identified by the various TxDOT offices, including obligations under pass-through toll agreements and toll equity agreements. Once these funding priorities have been determined, the data is entered into TXDOT's LAR and submitted to the State Legislature for consideration in enacting the State appropriations bill. Once the appropriations bill takes effect, it is implemented as the State budget for the next two-year biennium, taking effect on the next September 1. Though it is not codified and does not otherwise appear in Vernon's Texas Statutes, the budget is law and State agencies are bound by it. The Legislative Budget Board and the State Auditor's Office are responsible for monitoring compliance.

Capital Planning and Funding. As required by various State and federal laws, the funding priorities of the Commission are outlined in various transportation plans approved by the Commission and various metropolitan planning organizations ("*MPOs*") within the State. The statewide transportation plan ("*Statewide Transportation Plan*") is a long-range plan outlining the transportation goals of the Commission over a 25-year period. From such plan, the Commission develops the Unified Transportation Program ("*UTP*") that covers transportation projects over a period of 10 years. The UTP contains "Construct" transportation projects to be constructed over the next four years and for which funding is firm and "Develop" transportation projects to be developed over the following six years and for which full funding is yet to be authorized. At the same time, the 25 MPOs each approve a four-year Transportation Improvement Program ("*TIPs*"). The TIPs approved by MPOs are used to create the Statewide Transportation Improvement Program ("*STIP*") for projects to be constructed by the Commission over the next four year period as part of the "Construct" UTP projects. All projects funded by TxDOT and reimbursed by the FHWA must be included in the STIP.

The Commission has funded a greater number of highway projects, through its Strategic Priority Funds, by funding projects over a 15 to 20 year time frame (and committing the use of the Strategic Priority Funds over such longer period), thereby decreasing the annual cost by extending the period in which a project will be paid. The Commission has used a number of different financing mechanisms to implement this strategy, including pass-through toll agreements and toll equity agreements. The Commission has also accelerated development and construction of highways through the issuance of obligations secured by and payable from the State Highway Fund and general revenues of the State. See "– General" and "– State Highway Fund Obligations."

During the 84th regular legislative session the State Legislature passed HB 20, which requires the Commission, by rule, to implement a performance-based planning and programming process dedicated to providing State executive and legislative branches with indicators that quantify and qualify progress toward attaining all TxDOT goals and objectives established by the State Legislature. HB 20 requires the Commission, by rule, to develop and implement performance metrics and performance measures as part of the review of strategic planning in the Statewide Transportation Plan, rural transportation plans and the UTP. The Commission must also, by rule, implement performance metrics and performance measures as part of the evaluation of decision-making on projects selected for funding in the UTP, the STIP and for project delivery for projects in TxDOT's letting schedule. Additionally, HB 20 requires each MPO or, for an area that is not within the boundaries of an MPO, the TxDOT district that serves the area to develop a 10-year transportation plan for the use of the funding allocated to such area plan under the UTP as well as develop project recommendation criteria.

The Commission has the ability to finance its continuing construction program through a number of methods. Pursuant to Section 222.003, Texas Transportation Code (the "*State Highway Fund Revenue Bond Act*"), the State Legislature has authorized the Commission to issue up to $6 billion in aggregate principal amount of bonds and other public securities to finance (i) State highway improvement projects, (ii) reserve and contingency funds for such bonds and other public securities and (iii) the costs of issuing such bonds or securities and entering into credit agreements related to such bonds and securities. The State Highway Fund Revenue Bond Act provides that such bonds and public securities issued, and credit agreements entered into, are secured by a pledge of and payable from revenues deposited to the credit of the State Highway Fund and amounts needed for payments due on such bonds, public securities, and credit agreements are appropriated from the State Highway Fund by Section 49-n (as defined below) for that purpose. No authorized amount currently remains under the State Highway Fund Revenue Bond Act for new money purposes, unless such Act is amended by the State Legislature to modify or remove such limitation. The Commission may issue bonds or other public securities during the next twelve months as additional Senior Obligations for refunding purposes. See "– State Highway Fund Obligations – Senior Obligations" below. The Commission may also issue State general obligation indebtedness to refinance a portion of the Commission's capital program. In addition, the Commission may enter into certain agreements and commitments, including pass-through toll agreements, toll equity agreements and multi-year construction contracts and agreements, to finance, assist in the financing, or outright develop and construct, highway projects. See "– State Highway Fund Obligations – Subordinate Obligations" and "– State Highway Fund Obligations – Other State Highway Fund Obligations and Commitments."

State Highway Fund Obligations

Senior Obligations. Section 49-n of Article III, Texas Constitution, as approved by voters in the State in 2003 ("*Section 49-n*"), permits the State Legislature to authorize the Commission to issue bonds and other public securities to fund State highway improvement projects payable from certain revenues deposited to the credit of the State Highway Fund. The State Highway Fund Revenue Bond Act was amended by the State Legislature in 2007 to increase the maximum principal amount of bonds and other public securities, if any (collectively, "*Senior Obligations*"), that may be issued by the Commission pursuant to Section 49-n. The Commission is currently authorized to issue Senior Obligations in an aggregate principal amount not to exceed $6 billion; provided that the Commission may not issue more than $1.5 billion aggregate principal amount of Senior Obligations in any year. Further, the State Highway Fund Revenue Bond Act currently provides that Senior Obligations may not have a principal amount or terms that, at the time Senior Obligations are issued, are expected by the Commission to cause annual debt service expenditures with respect to Senior Obligations to exceed 10% of the amount deposited to the credit of the State Highway Fund in the immediately preceding year. Section 49-n does not restrict the authority of the State Legislature to modify or remove the limitations on the issuance of Senior Obligations contained in the State Highway Fund Revenue Bond Act. As described above, no authorized amount currently remains under the State Highway Fund Revenue Bond Act for new money purposes, unless such Act is amended by the State Legislature to modify or remove such limitation.

As of January 1, 2020, approximately $3.83 billion in aggregate principal amount of Senior Obligations in the form of State Highway Fund Revenue Bonds was outstanding. Senior Obligations are currently rated "Aaa" by Moody's Investors Service, Inc. and "AAA" by S&P Global Inc.

Subordinate Obligations. The Texas Constitution (Article III, Section 49-m) and the Texas Transportation Code (Section 201.115) currently authorize the Commission to borrow money from any source to carry out the functions of TxDOT. A loan incurred pursuant to Section 201.115 may be in the form of an agreement, a note, a contract, or another form, as determined by the Commission. The term of a loan may not exceed two years, and the amount of a loan, combined with any other loans issued and outstanding pursuant to Section 201.115, may not exceed an amount that is two times the average monthly revenue deposited to the State Highway Fund for the 12 months preceding the month in which the loan is made. A loan incurred pursuant to Section 201.115 is payable from legislative appropriation of amounts on deposit in the State Highway Fund for that purpose. As of the date of this Official Statement, TxDOT has no outstanding loan balances pursuant to Section 201.115.

Additionally, the Texas Transportation Code (Sections 201.961, et seq.) currently authorizes the Commission to issue highway tax and revenue anticipation notes ("*HTRANs*") if the Commission anticipates a temporary cash flow shortfall in the State Highway Fund during any Fiscal Year. The HTRANs are subject to the approval of the Cash Management Committee (consisting of the Governor, the Lieutenant Governor, the Speaker of the House (a non-voting member) and the Comptroller), which also approves cash flow borrowings for the State. HTRANs must mature during the fiscal biennium in which they are issued, and HTRAN proceeds must be placed in a special fund in the State Treasury and transferred as necessary to the State Highway Fund to pay authorized expenditures. HTRANs and related credit agreements are payable from amounts on deposit in the State Highway Fund. To date, the Commission has not issued, and does not expect to issue, any HTRANs.

The obligation of TxDOT to pay debt service on any obligations incurred pursuant to Section 201.115 (or Sections 201.961, et seq., relating to HTRANs) is (i) subordinate to the pledge of State Highway Fund revenues securing Senior Obligations and (ii) prior to the pecuniary obligations of the Commission and TxDOT in respect of other State Highway Fund obligations described below under "– Other State Highway Fund Obligations and Commitments."

Other State Highway Fund Obligations and Commitments. In addition to Senior Obligations and any subordinate obligations (described above), TxDOT has the ability to issue and incur additional bonds, credit agreements, short-term obligations (including commercial paper notes, direct lending obligations or tax and revenue anticipation notes) that are senior to its obligations under toll equity loan agreements, including the TELA. Additionally, TxDOT has the ability to establish additional liens for obligations that may be senior to or on parity with its obligations under any toll equity loan agreement, including the TELA. TxDOT may also enter into other toll equity loan agreements, pass-through toll agreement obligations, CDAs and other obligations that are payable from the State Highway Fund. Some of these long-term obligations and commitments are described below.

Neither the Commission nor TxDOT have adopted any policy limiting the ability to enter into toll equity or other agreements payable from the State Highway Fund.

Central Texas Turnpike System

The Commission has a toll equity commitment with the Central Texas Turnpike System (the "*CTTS*"), subject to the appropriation of available funds, to pay operation and maintenance expenses, current capital expenditures and certain unusual or extraordinary maintenance costs as determined by the Commission ("*CTTS Reserve Maintenance*"), all of which constitute subordinate obligations (as described above) to the extent the CTTS toll revenues are not sufficient to pay such expenses. However, the Commission does not currently anticipate making unreimbursed payments pursuant to such commitment for any CTTS operation and maintenance expenses or CTTS Reserve Maintenance from the State Highway Fund.

SH 249 System

The Commission has covenanted in connection with the State Highway 249 System ("*SH 249*"), subject to the appropriation of available funds, to (i) pay costs necessary to complete SH 249 if the initial obligations issued in the aggregate principal amount of $249,251,954.40 and other funds made available are not sufficient, (ii) pay operating and maintenance expenses to the extent of any deficiency in revenues to pay such costs, and (iii) maintain the required balance in the major maintenance account to the extent such balance is insufficient to pay the required expenditures. The SH 249 commitments constitute subordinate obligations (as described above) to the extent SH 249 toll revenues are not sufficient to pay such costs and expenses.

Austin Campus Consolidation Project

The Commission has authorized TxDOT to request and obtain financing from the Texas Public Finance Authority ("*TPFA*") for the purpose of constructing and equipping the Austin Campus Consolidation Project (the "*Campus Project*") on land owned or to be owned by TxDOT in Austin, Texas for such purpose. The Campus Project is anticipated to include the construction of multiple buildings and structures to support the relocation of over 2,000 TxDOT employees and contractors. TPFA is authorized to issue revenue bonds or other obligations on behalf of TxDOT in an amount not to exceed $326 million for the purpose of constructing and equipping the Campus Project. The State Legislature has appropriated $4.2 million in Fiscal Year 2020 and $19.6 million in Fiscal Year 2021 from the State Highway Fund to be used by TxDOT to make lease payments to TPFA for debt service payments on the revenue bonds or other obligations issued by TPFA to construct the Campus Project. No assurances can be provided that TPFA will issue any such obligations for the Campus Project or that the Campus Project will eventually be constructed.

Toll Equity Obligations

TxDOT is authorized to spend money from any available source, including the State Highway Fund, for the construction, maintenance, and operation of toll facilities. Under Texas Transportation Code, Section 222.103, as amended ("*Section 222.103*"), and pursuant to the terms and conditions established by the Commission, TxDOT may participate in the acquisition, construction, maintenance, or operation of a toll facility with a public or private entity authorized by State law to construct or maintain a toll facility. Prior to its amendment by Senate Bill 312 ("*SB 312*"), which was signed into law by the Governor on June 9, 2017, Section 222.103 required the Commission to recoup any money spent by TxDOT for the cost of a toll facility owned by a private entity, but provided the Commission with the option of requiring repayment of any money spent by TxDOT for the cost of a publicly owned toll facility. Thus, moneys provided by TxDOT under Section 222.103 (prior to its amendment by SB 312) may have been in the form of loans (to either public or private entities) or grants (to public entities only). SB 312 amended Section 222.103 and added Texas Transportation Code, Section 372.002 to provide that any contributions provided by TxDOT on or after September 1, 2017 as participation in the cost of a toll project must be repaid; provided, however, toll project entities (including regional tollway authorities, regional mobility authorities and certain counties) are not required to repay funds contributed by TxDOT for a toll project from a subaccount created under Transportation Code, Section 228.012, or if a toll project entity commenced the environmental review process for the project on or before January 1, 2014.

Transportation Code Section 222.103 limits the amount of money that TxDOT may grant each Fiscal Year to no more than the amount that, together with amounts granted for the preceding four Fiscal Years, results in an average annual expenditure of $2 billion. Toll equity loans under Section 222.103 are not included in the calculation of the limitation. The Commission anticipates entering into additional toll equity agreements in the future, and it is currently anticipated that all toll equity obligations will be funded from the State Highway Fund. All toll equity obligations (including the TELA with the Corporation) are subject to the appropriation of lawfully available funds to make such payments; and such payments are subordinate to (i) Senior Obligations, which have a prior lien on and pledge of the revenues deposited into the State Highway Fund, (ii) obligations issued or incurred pursuant to Section 201.115, Texas Transportation Code, and (iii) HTRANs.

As of August 31, 2019, the Commission had outstanding toll equity grant commitments and toll equity loan commitments payable from the State Highway Fund totaling approximately $173.4 million and $9.4 billion, respectively. The outstanding amount for toll equity loan commitments relates solely to the TELA with the Corporation. As of the date of this Official Statement, TxDOT has no outstanding toll equity loan commitments other than the TELA with the Corporation. As described above, TxDOT may enter into additional toll equity loan agreements in the future, and neither the Commission nor TxDOT have adopted any policy limiting the ability to enter into toll equity or other agreements payable from the State Highway Fund.

The TELA with the Corporation, which was originally approved by the Commission on September 27, 2012 (and was amended in connection with the issuance of the 2018 Bonds) authorizes an original maximum aggregate principal loan amount (referred to therein as the "*Maximum Available Aggregate Amount*") of approximately $9.6 billion (with an outstanding commitment of approximately $9.243 billion as of the Date of Delivery of the 2020 Bonds), payable as advances made from time to time on the terms and conditions set forth in the TELA. Pursuant to the terms of the TELA, TxDOT has committed to provide funds to the Corporation to pay for certain costs relating to the development, construction, operation, maintenance and financing of certain Segments (or portions thereof) of the Grand Parkway System, and a negotiated maximum amount each year (referred to therein as the "*Maximum Available Annual Amount*") should Revenues of the System and certain fund balances under the Trust Agreement be insufficient to cover debt service on outstanding TELA Supported Bonds, certain TELA Supported Junior Operating Expenses (which consist of all Junior Operating Expenses for the System facilities that comprise the Initial Project), and certain Major Maintenance Expenses (for the System facilities that comprise the Initial Project and Segments H and I), subject to the TELA Limitations and other provisions of the TELA. The Maximum Available Annual Amounts under the TELA for each year equal or exceed the total debt service for the TELA Supported Bonds plus currently estimated TELA Supported Junior Operating Expenses described above for each such year. Notwithstanding the foregoing, there are no assurances that the Maximum Available Annual Amount of the TELA will be sufficient to cover all TELA Supported Junior Operating Expenses that are actually incurred in any particular year, as more specifically described in "TOLL EQUITY LOAN AGREEMENT" in the forepart of this Official Statement. While Major Maintenance Expenses are an Eligible Cost under the TELA, the Maximum Available Annual Amount under the TELA is not sufficient to cover the combination of total debt service for the TELA Supported Bonds plus currently estimated TELA Supported Junior Operating Expenses entitled to the benefit of the TELA plus Major Maintenance Expenses in any given year. See "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT" in the forepart of this Official Statement. As of the date of this Official Statement, no drawdowns of funding have been requested by the Corporation under the TELA.

Once established, the Maximum Available Aggregate Amount under the TELA with the Corporation may not be increased unless approved by the Commission. Therefore, the maximum amount of money that can be paid by TxDOT under the TELA is equal to the aggregate amount of costs that are authorized under Article 3, Section 52-b of the Texas Constitution and Section 222.103 of the Texas Transportation Code, *i.e.*, the "Eligible Costs." Periodic advances under the TELA with the Corporation, when combined with all previous advances thereunder, are limited to an amount not to exceed (i) the Maximum Available Aggregate Amount under the TELA and (ii) the aggregate amount of Eligible Costs under the TELA, taking into account all prior advances thereunder, as described in the TELA. In addition, draws under the TELA with the Corporation in any year cannot exceed the Maximum Available Annual Amount under such agreement for that period, and if the total amount of periodic draws in any year is less than the Maximum Available Annual Amount under the TELA, the difference will not be carried forward, and will not be available for future periodic draws under the TELA. See "TOLL EQUITY LOAN AGREEMENT" in the forepart of this Official Statement for additional information concerning the TELA with the Corporation.

Pursuant to the terms of the Trust Agreement, the Corporation, without the consent of any Owner, reserves the right to amend or supplement any Toll Equity Note and the related Toll Equity Loan Agreement (including the TELA with the Corporation), in any manner provided that, as certified by the Corporation Representative, (i) the annual Debt Service Requirements for all Outstanding First Tier TELA Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations and the estimated TELA Supported Junior Operating Expenses (as certified by the General Engineering Consultant) for the current Fiscal Year and in each Fiscal Year any Toll Equity Loan Supported Obligations are Outstanding is less than or equal to the applicable aggregate Maximum Available Annual Amount for each such Fiscal Year as set forth in any outstanding Toll Equity Loan Agreements (including the TELA with the Corporation), as amended or supplemented or (ii) if prior to any amendment or supplement, there is any Fiscal Year (including the then current Fiscal Year) in which the applicable aggregate Maximum Available Annual Amount for such Fiscal Year as set forth in any outstanding Toll Equity Loan Agreements (including the TELA with the Corporation) is less than the annual Debt Service Requirements for all Outstanding First Tier TELA Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations and the estimated TELA Supported Junior Operating Expenses (as certified by the General Engineering Consultant for the current Fiscal Year and in each Fiscal Year any Toll Equity Loan Supported Obligations are Outstanding) for any such Fiscal Year (in each such Fiscal Year, a "*TELA Coverage Deficit*"), then the amendment or supplement to any outstanding Toll Equity Loan Agreements (including the TELA with the Corporation) must (A) reduce the TELA Coverage Deficit in each Fiscal Year such a deficit occurs and (B) for all other Fiscal Years that do not have a TELA Coverage Deficit, not create a TELA Coverage Deficit in any such Fiscal Year. Pursuant to the TELA with the Corporation, the TELA may be amended in a written instrument signed and delivered by the Corporation and TxDOT, it being understood that any such amendment may require Commission action. Additional restrictions and requirements related to amending the TELA are set forth in the Trust Agreement and are described in "TOLL EQUITY LOAN AGREEMENT – Amendments" in the forepart of this Official Statement.

If a request were made for a loan advance under the TELA with the Corporation, TxDOT expects to have sufficient advance notice to ensure funds are available to make such advances. TxDOT has budgetary flexibility to plan for expected draws in advance of such draw requests including deferring, reducing or eliminating construction lettings for projects throughout the State and deferring or reducing the amount of planned pass through financing commitments. Because TxDOT's budget does not provide appropriations for specific expenditures, TxDOT also has the flexibility to reprogram funds during each Fiscal Year in the biennium. As described above, TxDOT's annual obligations under the TELA with the Corporation are limited, which provides greater certainty with respect to its ability to plan for future draws. Further, if reductions in project lettings or reprogramming of funds are insufficient to make advances requested under the TELA, TxDOT currently has the authority to issue HTRANs and other short-term obligations pursuant to Section 201.115. See "– State Highway Fund Obligations – Subordinate Obligations." See also, "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT" in the forepart of this Official Statement.

The disbursements by TxDOT pursuant to any toll equity loan agreement (including the TELA) will be subject to appropriation and such payments are subordinate to (i) Senior Obligations, which have a prior lien on State Highway Fund revenues, (ii) obligations issued or incurred pursuant to Section 201.115, Texas Transportation Code, and (iii) HTRANs.

The following Table 9 shows the expected deposits to and uses of revenues in the State Highway Fund during the term of the TELA with the Corporation. See also, "TOLL EQUITY LOAN AGREEMENT – Table 5 – Maximum Available Annual Amount and Annual TELA Supported Debt Service and TELA Supported Junior Operating Expenses" in the forepart of this Official Statement, which sets out the Maximum Available Annual Amount under the TELA with the Corporation and the estimated aggregate amount of debt service on the TELA Supported Bonds and TELA Supported Junior Operating Expenses in each year through the final maturity of the TELA Supported Bonds.

Table 9 - Analysis of Impact of Toll Equity Obligations on the State Highway Fund

Fiscal Year Ending 8/31	Total Forecasted SHF Revenues[1][2]	SHF Senior Obligations Debt Service[3]	Other Existing Obligations[1][4]	Other Agencies[1][5]	Current Letting Cashflow Commitments[1]	Revenue After All Obligations[6]	Grand Parkway TELA MAAA[7]	% TELA MAAA Total Forecasted SHF Revenues	% TELA MAAA Revenue After All Obligations
	A	B	C	D	E	F=A-B-C-D-E	G	H=G/A	I=G/F
2020	$10,901,423,041	$ 428,246,850	$1,471,617,727	$492,802,663	$5,198,106,771	$ 3,310,649,031	$118,667,530	1.09%	3.58%
2021	9,823,120,752	428,240,302	1,021,877,973	492,140,621	2,919,278,026	4,961,583,829	120,147,530	1.22	2.42
2022	9,509,903,942	427,563,272	578,737,981	493,771,083	1,349,755,176	6,660,076,430	120,981,530	1.27	1.82
2023	9,106,705,723	426,896,447	452,567,808	495,307,833	752,909,914	6,979,023,722	166,027,780	1.82	2.38
2024	8,958,315,791	425,748,086	333,498,221	496,860,500	533,935,536	7,168,273,448	269,511,479	3.01	3.76
2025	8,747,045,973	425,392,364	80,441,422	498,428,250	366,746,978	7,376,036,959	199,855,318	2.28	2.71
2026	8,751,639,987	425,218,184	57,254,237	500,011,917	229,480,133	7,539,675,515	201,487,632	2.30	2.67
2027	8,890,944,003	424,889,479	44,426,728	501,611,583	174,243,819	7,745,772,393	203,331,150	2.29	2.63
2028	8,928,709,953	421,210,477	23,096,330	503,227,250	70,096,995	7,911,078,901	205,363,747	2.30	2.60
2029	9,025,739,523	415,523,295	17,336,146	504,858,917	39,946,570	8,048,074,594	207,206,260	2.30	2.57
2030	9,155,669,036	409,399,671	8,471,662	506,506,583	15,149,062	8,216,142,057	211,097,735	2.31	2.57
2031	9,301,395,152	218,698,981	1,107,293	508,171,167	661,644	8,572,756,067	226,468,940	2.43	2.64
2032	9,469,946,987	184,044,379	-	509,851,833	-	8,776,050,774	236,491,556	2.50	2.69
2033	9,649,517,042	181,868,250	-	511,549,417	-	8,956,099,375	244,249,037	2.53	2.73
2034	9,839,337,459	181,865,250	-	513,264,000	-	9,144,208,209	257,142,974	2.61	2.81
2035	10,039,618,642	-	-	514,995,583	-	9,524,623,058	270,303,810	2.69	2.84
2036	10,244,528,623	-	-	516,745,083	-	9,727,783,540	281,436,738	2.75	2.89
2037	10,455,713,572	-	-	518,511,667	-	9,937,201,905	289,387,258	2.77	2.91
2038	10,676,196,952	-	-	520,296,167	-	10,155,900,785	298,980,719	2.80	2.94
2039	10,904,159,999	-	-	522,098,667	-	10,382,061,332	304,461,056	2.79	2.93
2040	11,143,306,842	-	-	523,919,167	-	10,619,387,675	307,224,020	2.76	2.89
2041	11,375,439,184	-	-	525,757,667	-	10,849,681,518	309,008,225	2.72	2.85
2042	11,612,210,641	-	-	527,614,167	-	11,084,596,474	308,072,519	2.65	2.78
2043	11,786,393,801	-	-	527,614,167	-	11,258,779,634	287,509,340	2.44	2.55
2044	11,963,189,708	-	-	527,614,167	-	11,435,575,541	243,463,612	2.04	2.13
2045	12,142,637,553	-	-	527,614,167	-	11,615,023,387	309,508,410	2.55	2.66
2046	12,324,777,117	-	-	527,614,167	-	11,797,162,950	307,070,585	2.49	2.60
2047	12,509,648,773	-	-	527,614,167	-	11,982,034,607	301,161,395	2.41	2.51
2048	12,697,293,505	-	-	527,614,167	-	12,169,679,338	299,492,190	2.36	2.46
2049	12,887,752,908	-	-	527,614,167	-	12,360,138,741	292,563,770	2.27	2.37
2050	13,081,069,201	-	-	527,614,167	-	12,553,455,035	280,400,710	2.14	2.23
2051	13,277,285,239	-	-	527,614,167	-	12,749,671,073	457,303,300	3.44	3.59
2052	13,476,444,518	-	-	527,614,167	-	12,948,830,351	557,252,667	4.14	4.30
2053	13,678,591,186	-	-	527,614,167	-	13,150,977,019	549,885,627	4.02	4.18
Total / Avg	$ 366,335,672,326	$5,424,805,288	$4,090,433,528	$17,502,057,618	$11,650,310,625	$327,668,065,268	$9,242,516,151	2.52%	2.82%

(1) Source: TxDOT, as of September 1, 2019.

(2) Excludes Proposition 1 and Proposition 7 revenues; includes federal subsidy associated with the Commission's Series 2010 Bonds. A 5.9% reduction in federal subsidy payments has been announced by the federal government for the federal fiscal year ending September 30, 2020 and, in Table 9 above, is assumed to apply to the federal subsidy payments beginning with the April 1, 2020 payment and continuing through the federal fiscal year ending September 30, 2029 (October 1, 2029 payment). See "– Sequestration Effects on the State Highway Fund."

(3) Gross debt service shown. Interest on the Commission's Series 2016-B Bonds is assumed at 3.5% per annum following the initial multiannual rate period. Interest on the Commission's variable rate Series 2014-B Bonds is assumed at 3.5%, which is inclusive of remarketing and liquidity fees, as applicable. The Series 2014-B Bonds and the Series 2016-B Bonds represent a portion of the Commission's outstanding Senior Obligations.

(4) Other Existing Obligations is comprised of financial assistance for toll facilities (other than the TELA), pass-through obligations, payments for the delivery of CDA projects, and similar obligations.

(5) Other Agencies is comprised of transfers to the Employees Retirement System of Texas for TxDOT employee benefits and transfers to the Texas Emissions Reduction Plan account for grant programs administered by the Texas Commission on Environmental Quality.

(6) Money available for TxDOT operations and other obligations.

(7) Represents the Maximum Available Annual Amounts for the TELA with the Corporation, as amended in connection with the issuance of the 2018 Bonds. See "TOLL EQUITY LOAN AGREEMENT" in the forepart of this Official Statement.

Pass-Through Financing Agreements

Section 222.104 of the Texas Transportation Code, as amended ("*Section 222.104*"), provides for the payment of a "Pass-Through Toll," a per vehicle fee or per vehicle mile fee determined by the number of vehicles using a highway, for specific purposes. First, pursuant to Section 222.104 and subject to Commission rules, TxDOT may enter into an agreement with a public or private entity that provides for the payment of Pass-Through Tolls ("*Pass-Through Financing*") to reimburse a public or private entity for expenditures made by the public or private entity for the design, development, construction, maintenance or operation of a toll or non-toll facility on the State highway system. Second, TxDOT may enter into an agreement with a private entity that provides for the payment of Pass-Through Tolls by the private entity to TxDOT as reimbursement for TxDOT expenditures for the design, development, construction, maintenance or operation of a toll or non-toll facility on the State highway system. TxDOT may use any available funds, including money on deposit within the State Highway Fund, for the purpose of making a Pass-Through Toll payment. It is currently anticipated that all Pass-Through Toll commitments will be paid from the State Highway Fund. As of August 31, 2019, TxDOT had approximately 29 active Pass-Through Financings with terms ranging from four to 20 years and total pass-through reimbursements owed of approximately $1.0 billion with aggregate annual reimbursements of no greater than $170 million.

TxDOT's pecuniary obligations under Pass-Through Financings do not provide for the payment of, or obligate TxDOT to pay, amounts sufficient to pay debt service on bonds or other public securities secured by such payments and, such payments are subordinate to (i) Senior Obligations, which have a prior lien on State Highway Fund revenues, (ii) obligations issued or incurred pursuant to Section 201.115, Texas Transportation Code, and (iii) HTRANs. The amount of payments owed by TxDOT under Pass-Through Financings will be determined by the terms and conditions of the relevant agreement, without regard to the actual debt service payable in respect of any bonds issued by the governmental entity receiving the payments. TxDOT's obligation to pay amounts owed under the terms of Pass-Through Financings are currently payable from the State Highway Fund and are subject to appropriation by the State Legislature of sufficient funds to discharge the obligations of TxDOT.

Sequestration Effects on the State Highway Fund

Pursuant to the requirements of the Balanced Budget and Emergency Deficit Control Act of 1985, as amended by the Bipartisan Budget Act of 2013 (the "*Budget Act*"), certain automatic, annual reductions in federal spending (the "*Sequester Cuts*") took effect as of March 1, 2013. The Sequester Cuts affected the subsidy payments to be made by the federal government to issuers of "direct-pay" tax credit bonds, such as Build America Bonds ("*BABs*"), including the Commission's State Highway Fund First Tier Revenue Bonds, Series 2010 (Build America Bonds – Direct Payment) (the "*Series 2010 Bonds*"). The Series 2010 Bonds were issued as taxable BABs and the Commission elected to receive a subsidy payment from the United States Treasury equal to 35% of the amount of each interest payment on the Series 2010 Bonds (the "*BAB Subsidy Payments*"). The BAB Subsidy Payments are not available to make payments under any toll equity loan agreement, including the TELA. As a result of the Sequester Cuts, the BAB Subsidy Payments received by the Commission in Fiscal Years 2014 through 2019 for the Series 2010 Bonds were reduced in amounts ranging between $1,729,864 and $2,148,815. The BAB Subsidy Payment in respect of the October 1, 2019 debt service payment on the Series 2010 Bonds was reduced by approximately $837,903. A 5.9% reduction in BAB Subsidy Payments has been announced by the federal government for the federal fiscal year ending September 30, 2020, and will apply to the BAB Subsidy Payments to be received by the Commission in respect of the April 1, 2020 debt service payment on the Series 2010 Bonds. If the Sequester Cuts continue, the Commission will be required to expend additional State Highway Fund revenues or other sources of funds in order to pay debt service on the Series 2010 Bonds resulting from a reduction in BAB Subsidy Payments.

As a result of the Sequester Cuts for Fiscal Year 2019, TxDOT also experienced a reduction of approximately $3.6 million in funding from the National Highway Performance Program, which is administered by the FHWA for highway projects that are located on the National Highway System. In addition, emergency relief funds authorized from the Highway Trust Fund for certain disaster events are also subject to the Sequester Cuts. The Sequester Cuts were originally set to expire in 2021. However, on August 2, 2019, the Budget Act was amended by Congress to, among other things, extend the planned Sequester Cuts to September 30, 2029. There can be no assurances as to whether the Sequester Cuts will remain in effect and cause a reduction in receipts of federal funds or BAB Subsidy Payments for any future year.

The federal Statutory Pay-As-You-Go Act of 2010 (the "*PAYGO Act*"), enacted on February 12, 2010, requires that all new direct spending and revenue legislation enacted into law during a congressional session, taken together, must not increase projected deficits. Under the PAYGO Act, if the Office of Management and Budget ("*OMB*") determines that new legislation creates a net increase in the deficit under the mandated scorecard system, OMB is required to order a sequestration of non-exempt direct spending programs sufficient to eliminate the overage. If such sequestration under the PAYGO Act were to go into effect, the Commission may not receive all or a portion of the BAB Subsidy Payments in respect of the Series 2010 Bonds. In addition, a portion of the funding from the National Highway Performance Program that TxDOT receives and certain emergency relief funds authorized from the Highway Trust Fund and available to TxDOT may also be reduced if such sequestration under the PAYGO Act were to go into effect. There can be no assurances as to whether any new direct spending and revenue legislation will be enacted and result in sequestration of the aforementioned payments or funds under the PAYGO Act.

TxDOT did not experience any reduction in federal funds during Fiscal Year 2019 due to sequestration under the PAYGO Act. The total amount of federal funds that were available to TxDOT during Fiscal Year 2019 and subject to potential reduction from Sequester Cuts under the Budget Act or sequestration under the PAYGO Act (which was comprised of the BAB Subsidy Payments in respect of the Series 2010 Bonds, funding from the National Highway Performance Program and certain emergency relief funds authorized from the Highway Trust Fund), before giving effect to the Sequester Cuts under the Budget Act for such period, was approximately $83.0 million, which is approximately 1.0% of the total State Highway Fund revenues for Fiscal Year 2019 shown in Table 1 above in this Appendix A. See "RISK FACTORS – Conditions Affecting TELA Advances by TxDOT – Sequestration Effects on the State Highway Fund" in the forepart of this Official Statement.

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APPENDIX B

COMPREHENSIVE ANNUAL FINANCIAL REPORT OF THE TEXAS DEPARTMENT OF TRANSPORTATION FOR FISCAL YEAR ENDED AUGUST 31, 2019

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TEXAS DEPARTMENT OF TRANSPORTATION

Comprehensive Annual Financial Report

For The Fiscal Year Ended August 31, 2019

(With Independent Auditor's Report)

Texas Department of Transportation

Texas Department of Transportation
Comprehensive Annual Financial Report
(With Independent Auditor's Report)
For the Fiscal Year Ended August 31, 2019

Prepared by:
Financial Management Division of the Texas Department of Transportation

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Texas Department of Transportation
Comprehensive Annual Financial Report
For the Fiscal Year Ended August 31, 2019

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Section One

Introductory Section

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125 EAST 11TH STREET, AUSTIN, TEXAS 78701-2483 | 512.463.8588 | WWW.TXDOT.GOV

December 17, 2019

To: The Citizens of Texas
The Honorable Greg Abbott, Governor
The Honorable Glenn Hegar, Texas Comptroller
Mr. John McGeady, Assistant Director, Legislative Budget Board
Ms. Lisa Collier, CPA, First Assistant State Auditor

I am pleased to submit the audited comprehensive annual financial report of the Texas Department of Transportation (TxDOT) for the fiscal year ended Aug. 31, 2019 in compliance with Texas Government Code Annotated, Section 2101.11, the requirements established by the Texas Comptroller of Public Accounts and the Texas Transportation Code, Chapter 201, Section 2041. The financial data of TxDOT is included in the audited State of Texas Comprehensive Annual Financial Report (CAFR) as part of the primary government.

An external audit firm, Crowe LLP, performed an independent audit, in accordance with generally accepted auditing standards, of TxDOT's basic financial statements for the year ended Aug. 31, 2019. The audit opinion is presented in this report preceding the financial statements. This report was prepared by the accounting staff in the Financial Management Division of TxDOT. TxDOT's internal accounting controls provide reasonable assurance regarding the safeguarding of assets against loss from unauthorized use or disposal and the reliability of financial records for preparing financial statements. The concept of reasonable assurance recognizes that the cost of a control should not exceed the resulting benefit.

TxDOT Management is responsible for the accuracy of the data in this report as well as for the completeness and fairness of presentation. Consequently, management assumes full responsibility for the completeness and fairness of all the information presented in the financial statements. To the best of my knowledge and belief, the financial statements are accurate in all material respects, are reported in a manner that presents fairly the financial position and results of TxDOT's operations and provide disclosures that enable the reader to understand TxDOT's financial condition.

The Management's Discussion and Analysis (MD&A) provides a narrative introduction, overview and analysis of the financial activities of TxDOT. We encourage readers to consider the information in this letter of transmittal in conjunction with the MD&A.

Profile of the Government

TxDOT is an agency of the state of Texas. Headquartered in Austin, TxDOT is organized by districts and divisions.

TxDOT is led by an executive director and is governed by the five-member Texas Transportation Commission. All members of the Commission are appointed by the governor. The Commission is authorized to issue general obligation and revenue bonds per statutory and constitutional provisions.

TxDOT has the statutory responsibility to coordinate planning, development, and operation of the state's highway system and other transit services. The mission of TxDOT is: "Connecting You with Texas".

OUR VALUES: *People • Accountability • Trust • Honesty*
OUR MISSION: *Connecting You With Texas*

An Equal Opportunity Employer

December 17, 2019

TxDOT's goals are to deliver the right projects; focus on the customer; foster stewardship; optimize system performance; preserve our assets; promote safety; and, value our employees. TxDOT values people, accountability, trust and honesty. This report reflects the operation of TxDOT and its blended component units.

Budgetary Controls

Budgetary control is established at the appropriation level set forth by the General Appropriations Act (GAA). The GAA becomes law after passage by the Legislature, certification by the Texas Comptroller of Public Accounts that the amounts appropriated are within the estimated collections, and upon the signing of the bill by the governor. After the GAA becomes law, the appropriated budgets are entered in the Uniform Statewide Accounting System (USAS) and TxDOT's internal PeopleSoft financial system. The budgetary control ensures compliance with any legislative initiatives and/or restrictions contained in the GAA. State budgets are requested and appropriated on a biennial cycle.

State Economy

The services provided by TxDOT directly impact the state's economy. Over the long-term, the Texas economy benefits in many more ways from TxDOT's transportation network enhancements, including the positive impacts on business costs and productivity, labor market access, attractiveness to new business, residents and tourists and property values. Investments in highway maintenance and construction serve as an immediate boost to the economy through the employment of workers and the production of construction materials.

Long-Term Financial Planning

According to the state demographer, Texas population is expected to grow to approximately 47 million people by 2050. Population growth brings more congestion to urban areas, increases the stress on roads and bridges and places greater demand on rural highways to support freight movement and travel connections between farms, ranches, homes, jobs and markets.

The 10-year Unified Transportation Program (UTP), approved by the Texas Transportation Commission, was developed with extensive public input. It targets congestion in the state's most-populated areas and includes projects to better connect the major interstates in rural areas with local roads and highways. Also, in outside urban areas, the program calls for enhancing and completing interstate highways, and addressing the continuing needs within the energy sector and along hurricane evacuation routes.

Major revenue sources of the programs are as follows:

1. Approximately 33.5 percent of TxDOT's revenue comes from federal funds. TxDOT receives federal funds through the Moving Ahead for Progress in the 21st Century Act (MAP-21) which funded surface transportation projects for federal fiscal years 2013 through 2019. Congress has subsequently passed several extensions of this legislation. The Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94), signed into law on Dec. 4, 2015, is the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment.

2. Constitutionally authorized bond issuances may provide additional funding for transportation projects across the state.

3. Motor Fuels Tax - The motor fuels tax includes two major types, gasoline and diesel fuel. It also includes other liquefied gases. Texas' tax rates on gasoline and diesel have remained stable at 20 cents per gallon since 1991. The federal fuel tax rates have also been stable since 1993. The federal gasoline tax rate is 18.4 cents per gallon and the diesel tax 24.4 cents per gallon. Three- quarters of the state's motor fuels tax revenue is allocated to the State Highway Fund (SHF). In Texas and many other states, motor fuels tax collections have begun to fall behind in their ability to meet the ever-rising cost of the transportation projects they support. In Texas, voters have recently approved measures to supplement road funding by drawing revenues from oil and gas production taxes, the general sales tax and the sales tax on motor vehicles and rentals as explained in Proposition 1 and Proposition 7 below.

4. Proposition 1 – Funds are derived from a portion of oil and gas production taxes that voters approved in fiscal 2014. Pursuant to Section 49-g (c), Article III, Texas Constitution, the funds may be used for "constructing, maintaining, and acquiring rights-of-way for public roadways other than toll roads." Proposition 1 funds are annually received by TxDOT in November. TxDOT received $1.4 billion in November 2018 (fiscal 2019) and $1.7 billion in November 2019 (fiscal 2020).

   The expiration date of Proposition 1 fund transfers to the State Highway Fund was extended from Dec. 31, 2024, to Dec. 31, 2034, according to Senate Bill (SB) 69 and SB 962 from the 86th Legislature in 2019. Significant changes were made in these bills to the determination of the Economic Stabilization Fund minimum balance, which triggers the transfer of Proposition 1 funds to the State Highway Fund.

5. Proposition 7 - On Nov. 3, 2015, Texas voters approved the ballot measure known as Proposition 7 (Prop 7) that dedicates a portion of the revenue from the state sales and use tax and motor vehicle sales and rental tax to the SHF. Proposition 7 funds are deposited into the SHF pursuant to Section 7-c, Article VIII, Texas Constitution.

   Under the amendment there are two parts of Prop 7.

   - Beginning in fiscal 2018, if the state sales tax revenue exceeds $28 billion in a fiscal year, the next $2.5 billion will be directed to the SHF. This general sales tax provision expires at the end of fiscal 2032. TxDOT received $53.9 million for the Proposition 7 fund in Jul. 2019 and $2.4 billion in August 2019 for a total of $2.5 billion.

   - Beginning in fiscal 2020, if the state motor vehicle sales and rental tax revenue exceeds $5.0 billion in a fiscal year, 35 percent of the amount above $5.0 billion will be directed to the SHF. This motor vehicle sales and rental taxes tax provision expires at the end of fiscal 2029, unless future legislatures vote to extend them. The Texas Comptroller of Public Accounts projects that the threshold will be met for the first time in fiscal 2020 and that $35 million will be transferred to the SHF from motor vehicle sales tax collections in the 2020-21 biennium.

Major Initiatives

1. **Funding Key Priorities – UTP**
   The Texas Transportation Commission approved TxDOT's Unified Transportation Program (UTP) for 2020 that includes more than $77 billion dedicated to improving safety, addressing congestion and connectivity, and preserving roadways for Texas drivers. The document covers a 10-year period and commits $28 billion to address congestion in the state's most populated and congested cities.

December 17, 2019

2. **Road to Zero**
   Safety on our state's transportation infrastructure is job no. 1 at TxDOT. Despite the department's efforts to build and maintain the safest roads and educate Texans on safe driving behaviors, traffic fatalities continue to occur. For nearly the past two decades, at least one person has died on our roadways every day, and in 2018, more than 3,600 people died in traffic crashes. To emphasize the department's commitment that one traffic fatality is too many, the Transportation Commission has set a goal of zero crash fatalities by 2050, with a starting goal of cutting fatalities in half by 2035. TxDOT has allocated an additional $600 million over the next two fiscal years toward roadway safety improvements. TxDOT will continue investing in the best engineering practices to make roads safer, address safety education, and assist in enforcement and safety awareness programs like Talk. Text. Crash and Click It or Ticket.

3. **Texas Clear Lanes**
   The Texas Transportation Commission continues to address traffic congestion in our state through its Texas Clear Lanes (TCL) effort which targets congested corridors in Austin, Dallas, Fort Worth, Houston and San Antonio, the state's most populated regions. Led by Commission Chairman J. Bruce Bugg, Jr., TCL was created in response to a directive by Gov. Greg Abbott to the Commission to identify and address the state's most congested chokepoints. In the department's 10-year transportation improvement plan called the Unified Transportation Program, $28 billion has been allocated to address the state's most critical congestion needs.

4. **Innovation and Cost-Efficiency Suggestions Program**
   The department created the program, with the goal of realizing millions in savings and efficiencies. The program allows employees and the public to submit cost-saving suggestions. Thus far, more than 300 suggestions have been received. They have included larger-scale initiatives that reduce the time and costs associated with utility relocation during project construction, to more smaller efforts that reduce in-house printing costs. Other cost-saving and efficiency submissions are under consideration for future implementation. Suggestions are posted each quarter on the external TxDOT website for public voting and then consideration for implementation.

5. **Austin Campus Consolidation**
   The consolidation of five Austin TxDOT campuses is set to begin as the department moves, together in a workplace that fosters collaboration and efficiency. The new campus is expected to bring workforce together in 2022 and will sit on 49 acres at East Stassney Lane and Burleson Road in Southeast Austin. A key design element includes workspaces that promote job efficiency and focus on employee overall wellbeing.

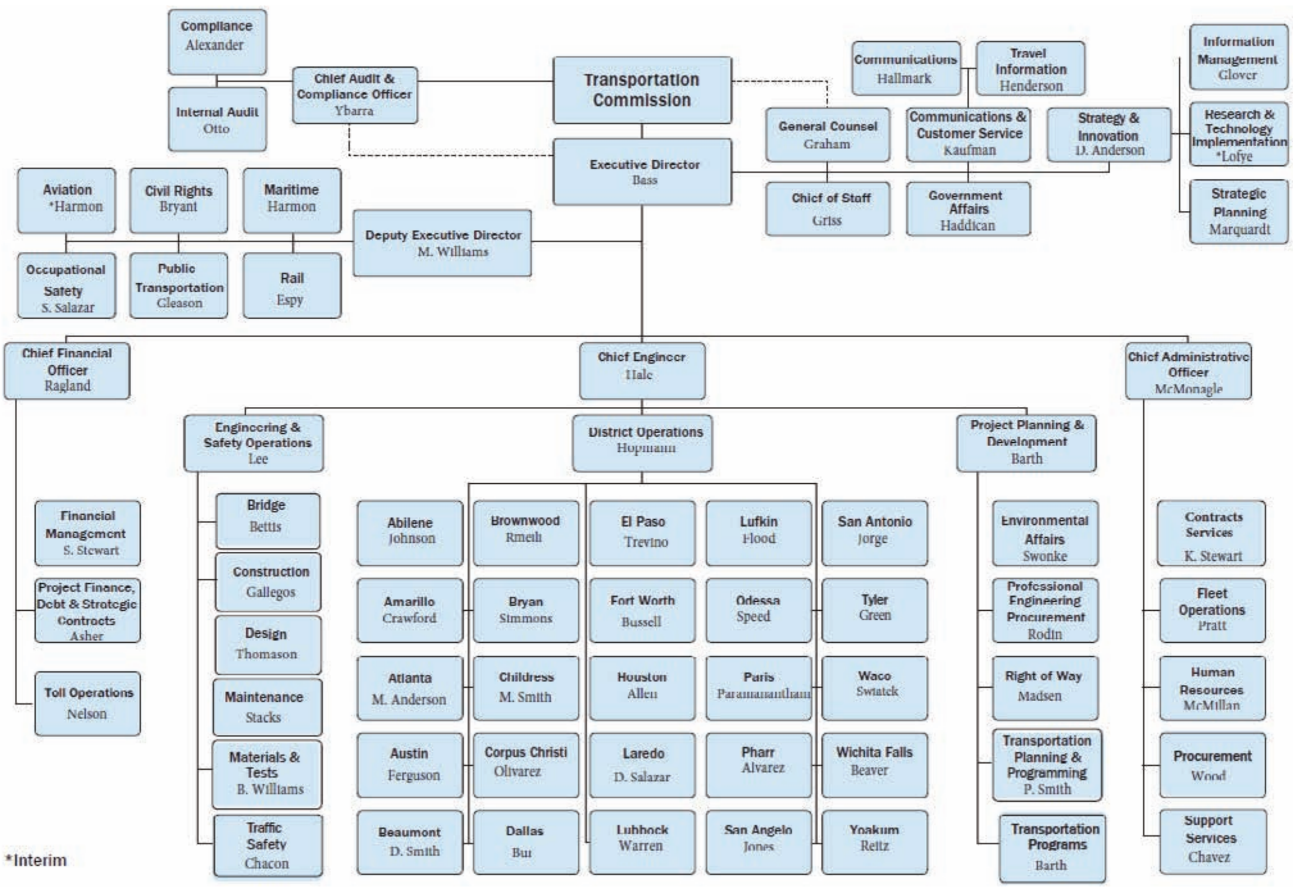
Acknowledgements
The preparation of the report requires the efforts of individuals throughout TxDOT, including the dedicated efforts of the management and staff of the TxDOT Financial Reports Section and Financial Management Division. I sincerely appreciate the efforts of all these individuals who continue to help make TxDOT a leader in quality financial reporting.

Sincerely,

James M. Bass
Executive Director

Texas Department of Transportation

Organization Chart as of August 31, 2019



Commission and Key Personnel
as of August 31, 2019

TEXAS TRANSPORTATION COMMISSION

J. BRUCE BUGG, JR .... Chairman
San Antonio

W. ALVIN NEW. .... Commissioner
San Angelo

LAURA RYAN .... Commissioner
Houston

VICTOR VANDERGRIFF* .... Commissioner
Arlington

ROBERT C. VAUGHN .... Commissioner
Dallas

TEXAS DEPARTMENT OF TRANSPORTATION

JAMES M. BASS .... Executive Director
MARC D. WILLIAMS .... Deputy Executive Director
MARY A. GRISS .... Chief of Staff
BRIAN D. RAGLAND .... Chief Financial Officer
BENITO YBARRA .... Chief Audit and Compliance Officer
WILLIAM L. HALE .... Chief Engineer
RICHARD C. MCMONAGLE .... Chief Administrative Officer
ROBERT S. KAUFMAN .... Director of Communications and Customer Service
JEFFREY M. GRAHAM .... General Counsel
GERARD J. HADDICAN II .... Director of Government Affairs
DARRAN T. ANDERSON .... Director of Strategy and Innovation

*Resigned

Section Two

Financial Section

INDEPENDENT AUDITOR'S REPORT

Members of the Texas Transportation Commission
State of Texas

Report on the Financial Statements

We have audited the accompanying financial statements of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the Texas Department of Transportation (TxDOT), an agency of the State of Texas (State), as of and for the year ended August 31, 2019, and the related notes to the financial statements, which collectively comprise TxDOT's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of TxDOT, as of August 31, 2019, and the respective changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 1, the financial statements of TxDOT are intended to present the financial position, the changes in financial position and, where applicable, cash flows of only that portion of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the State that is attributable to the transactions of TxDOT. They do not purport to, and do not, present fairly the financial position of the State as of August 31, 2019, the changes in its financial position, or, where applicable, its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America. Our opinions are not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the *Management's Discussion and Analysis, Budgetary Comparison Schedule, Schedules of Net Pension Liability and Schedules of Net OPEB Liability* on pages 12-20, 97-99, 100-101 and 102-103, respectively, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the TxDOT's basic financial statements. The combining financial statements, the statistical section, the bond schedules and the other information, such as the introductory section, Schedule 1A, 1B and Schedule 3 are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The combining financial statements and the supplementary bond schedules, are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining financial statements, and supplementary bond schedules, are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory section, the statistical section, Schedule 1A, 1B and Schedule 3 have not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards,* we have also issued our report dated December 17, 2019 on our consideration of the TxDOT's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the TxDOT's internal control over financial reporting and compliance.

Crowe LLP

Crowe LLP

Dallas, Texas
December 17, 2019

Section Two (Continued)

Management's Discussion and Analysis (Unaudited)

MANAGEMENT'S DISCUSSION AND ANALYSIS

This section of the Texas Department of Transportation (TxDOT) annual financial statements presents our discussion and analysis of TxDOT's financial performance during the fiscal year ended Aug. 31, 2019. Use this section in conjunction with the TxDOT's basic financial statements.

Overview of Financial Statements

The financial section of this comprehensive annual financial report consists of four parts: (1) management's discussion and analysis (MD&A), (2) basic financial statements and related notes, (3) required supplementary information other than MD&A, and (4) other supplementary information presenting combining statements. The report also includes TxDOT's schedule of expenditures of federal awards, bond schedules and matrix of expenditures reported by function for governmental funds.

TxDOT's financial statements are prepared in conformity with accounting principles generally accepted in the United States of America (GAAP) applied to governmental units. The basic financial statements include government-wide financial statements, fund financial statements and notes to financial statements that provide more detailed information to supplement the basic financial statements.

Reporting on TxDOT as a Whole

The government-wide financial statements are designed to present an overall picture of the financial position of TxDOT. These statements consist of the statement of net position and the statement of activities, which are prepared using the economic resources measurement focus and the accrual basis of accounting. This means that all the current year's revenues and expenses are included regardless of when cash is received or paid, producing a view of financial position similar to that presented by most private sector companies.

The statement of net position combines and consolidates TxDOT's current financial resources with capital assets and long-term obligations. This statement includes all of TxDOT's assets and liabilities. Net position is the difference between TxDOT's total assets, and deferred outflows of resources, total liabilities and deferred inflows of resources. Net position represents one measure of TxDOT's financial health.

The statement of activities focuses on both the gross and net cost of various activities (governmental and business-type); these costs are paid by general taxes and other revenues. This statement summarizes the cost of providing (or the subsidy provided by) specific government services, and includes all current year revenues and expenses.

The statement of net position and the statement of activities divide TxDOT's activities into two types.

- *Governmental Activities:* TxDOT's basic services are reported here including the activity of all the governmental funds.
- *Business-Type Activities:* The financial activity associated with the Central Texas Turnpike System (CTTS) and Grand Parkway Transportation Corporation (GPTC) as major funds, and SH 249 System as a non-major fund, is reported here.

Reporting on TxDOT's Most Significant Funds

Fund financial statements present financial information with a focus on the most significant funds. Use these statements to find more detailed information about TxDOT's most significant activities. A fund is a separate accounting entity with a self-balancing set of accounts. TxDOT uses funds to keep track of sources of funding and spending related to specific activities.

Governmental Funds

A majority of TxDOT's activities are reported in governmental funds. Reporting of these funds focuses on how money flows into and out of the funds, and amounts remaining at year-end for future spending. Governmental funds are accounted for using the modified accrual basis of accounting, which measures cash and other assets that can be readily converted to cash. The governmental fund statements provide a detailed short-term view of TxDOT's general governmental operations and the basic services it provides. This information should be helpful to determine whether there are more or less resources available for TxDOT's programs. The reconciliation following the fund financial statements explains the differences between the government's activities, reported in the government-wide statement of net position and government-wide statement of activities, and the governmental funds. The State Highway Fund, Texas Mobility Fund, Proposition 12 Highway Improvement Fund and Local Government Political Subdivision Road/Airport Fund are reported as major funds.

Proprietary Funds

When TxDOT charges customers for services it provides, these activities are generally reported in proprietary funds. Services provided to outside (non-governmental) customers are reported in enterprise funds, a component of proprietary funds, and are accounted for using the economic resources measurement focus and the accrual basis of accounting. These are the same business-type activities reported in the government-wide financial statements but are reported here to provide information at the fund level. The CTTS, GPTC and SH 249 System funds are TxDOT's only proprietary funds.

Reporting on TxDOT's Fiduciary Responsibilities

All fiduciary activities are reported in separate statements of fiduciary net position and schedule of changes in agency fund assets and liabilities. The activities are reported separately from other financial activities because TxDOT cannot use these assets to finance operations and is holding these funds in a purely custodial capacity.

Financial Analysis of TxDOT as a Whole

Net Position

Assets – TxDOT's total assets increased by $7.9 billion during the current fiscal year to $133.5 billion. The majority of increase in assets other than capital assets was due to the receipt of $2.5 billion Proposition 7 funding. Capital assets increased by $5.7 billion during the current fiscal year. Construction in progress and infrastructure accounted for most of these additions. See the capital assets section of this management's discussion and analysis for more information on the accounting treatment of capital assets.

Liabilities – TxDOT's total liabilities decreased by $1.6 billion during the current fiscal year to $30.8 billion. The majority of this change is due to decrease in the recognition of TxDOT's share of the state's other post-employment (OPEB) obligation, from $3.8 billion in fiscal 2018 to $2.2 billion in fiscal 2019.

Deferred Inflow – TxDOT's total deferred inflow of resources increased by $986 million during the current fiscal year to $13.5 billion. The increase is due to an increase of $1.1 billion of other postemployment benefits, from $840.1 million in fiscal 2018 to $1.9 billion in fiscal 2019, net of other activity.

Net Position – Approximately $86.1 billion of the total net position is reported as Net Investment in Capital Assets. Although reported net of related debt and deferred inflow of resources, capital assets themselves cannot be used to liquidate liabilities.

Statement of Net Position
August 31, 2019 and 2018 (Amounts in Thousands)

	Governmental Activities		Business-Type Activities		Total Primary Government	
	2019	2018	2019	2018	2019	2018
ASSETS						
Assets Other Than Capital Assets	$ 12,506,494	$ 10,478,628	$ 5,575,360	$ 5,364,398	$ 18,081,854	$ 15,843,026
Capital Assets	112,543,002	107,193,998	2,901,817	2,596,517	115,444,819	109,790,515
Total Assets	125,049,496	117,672,626	8,477,177	7,960,915	133,526,673	125,633,541
DEFERRED OUTFLOW OF RESOURCES	605,772	678,255	26,264	28,183	632,036	706,438
LIABILITIES						
Current Liabilities	3,351,694	2,922,623	206,570	167,203	3,558,264	3,089,826
Non-current Liabilities	19,348,118	21,692,210	7,907,703	7,612,159	27,255,821	29,304,369
Total Liabilities	22,699,812	24,614,833	8,114,273	7,779,362	30,814,085	32,394,195
DEFERRED INFLOW OF RESOURCES	13,465,489	12,479,450	0	0	13,465,489	12,479,450
NET POSITION						
Net Investment in Capital Assets	85,380,634	79,965,817	769,538	557,881	86,150,172	80,523,698
Restricted	7,963,736	5,551,531	379,069	343,966	8,342,805	5,895,497
Unrestricted	(3,854,403)	(4,260,750)	(759,439)	(692,111)	(4,613,842)	(4,952,861)
Total Net Position	$ 89,489,967	$ 81,256,598	$ 389,168	$ 209,736	$ 89,879,135	$ 81,466,334

Changes in Net Position

Increases and decreases in the net position measures whether TxDOT's financial position is improving or deteriorating over time.

TxDOT earned program revenues of $6.3 billion and general revenues of $7.2 billion, for total revenues of $13.5 billion. The expenses of TxDOT were $6.6 billion. As a result of revenues exceeding expenses, the total net position increased to $89.9 billion in fiscal 2019 from $81.5 billion in fiscal 2018. Revenues and expenses of TxDOT's governmental and business-type activities are detailed below.

Governmental Activities

The net position of governmental activities increased by $8.2 billion, or 10.1 percent, from fiscal 2018. The total revenues of $13.0 billion were primarily due to the receipt and accrual of additional tax revenues related to Proposition 1 and Proposition 7 funding.

Business-Type Activities

In fiscal 2019 the net position of business-type activities increased by a total of $179.4 million, or 85.6 percent from fiscal 2018. The change in net position increased by $219.7 million, 545.6 percent increase over fiscal 2018. Total revenues increased $118.3 million or 27.8 percent, from $425.0 million in fiscal 2018 to $543.3 million in fiscal 2019. The increase of revenue was due to an increase in toll revenue (net of allowance) and interest and investment income. Total expense increased by $67.8 million or 13.8 percent, from $491.2 million in fiscal 2018 to $559.0 million in fiscal 2019. The increase of expense was due to implementation of GASB 89. In addition, a new non-major fund, SH 249 System, was added to the business-type activities. SH 249 System received a capital contribution of $11.9 million from a local entity and capital assets transfer of $191.0 million from Governmental Activities.

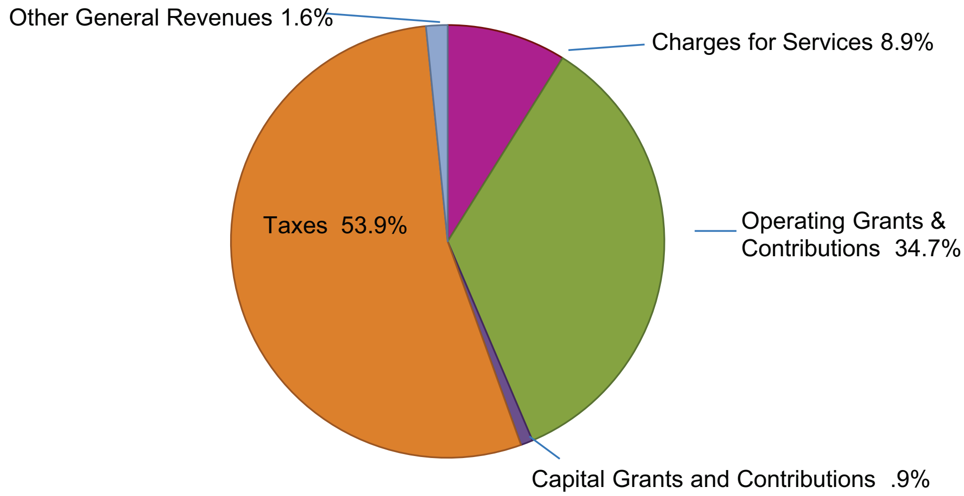
Changes in Net Position

For the Fiscal Years Ended August 31, 2019 and 2018 (Amounts in Thousands)

	Governmental Activities		Business-Type Activities		Total Primary Government	
	2019	2018	2019	2018	2019	2018
REVENUES						
Program Revenues:						
Charges for Services	$ 1,147,833	$ 1,277,188	$ 454,697	$ 396,693	$ 1,602,530	$ 1,673,881
Operating Grants and Contributions	4,483,569	3,972,285	76,727	23,169	4,560,296	3,995,454
Capital Grants and Contributions	117,128	61,896	11,879		129,007	61,896
Total Program Revenues	5,748,530	5,311,369	543,303	419,862	6,291,833	5,731,231
General Revenues:						
Appropriations	(454)	999			(454)	999
Taxes	6,970,591	6,589,363			6,970,591	6,589,363
Unrestricted Investment Earnings	165,860	98,852			165,860	98,852
Settlement of Claims	41,902	21,133		5,166	41,902	26,299
Gain on Sale of Capital Assets	2,264				2,264	
Other General Revenues	3,766	3,385			3,766	3,385
Total General Revenues	7,183,929	6,713,732	0	5,166	7,183,929	6,718,898
Total Revenues	12,932,459	12,025,101	543,303	425,028	13,475,762	12,450,129
EXPENSES						
Transportation	6,048,406	6,475,125	559,047	491,228	6,607,453	6,966,353
Total Expenses	6,048,406	6,475,125	559,047	491,228	6,607,453	6,966,353
Excess (Deficiency) Before Special Items and Transfers	6,884,053	5,549,976	(15,744)	(66,200)	6,868,309	5,483,776
Transfers - Internal Activities	(195,176)	(25,933)	195,176	25,933		
Transfers-Other State Agencies	1,544,492	1,496,193			1,544,492	1,496,193
Change in Net Position	8,233,369	7,020,236	179,432	(40,267)	8,412,801	6,979,969
Net Position, September 1, 2018	81,256,598	78,671,553	209,736	250,003	81,466,334	78,921,556
Restatements		(4,435,191)				(4,435,191)
Net Position, September 1, 2018, as Restated	81,256,598	74,236,362	209,736	250,003	81,466,334	74,486,365
Net Position, August 31, 2019	$ 89,489,967	$ 81,256,598	$ 389,168	$ 209,736	$ 89,879,135	$ 81,466,334

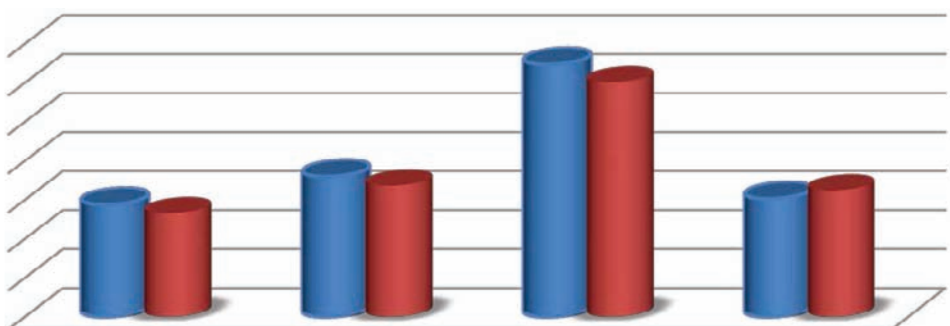
Revenues by Source: Governmental Activities

For the Fiscal Year Ended August 31, 2019

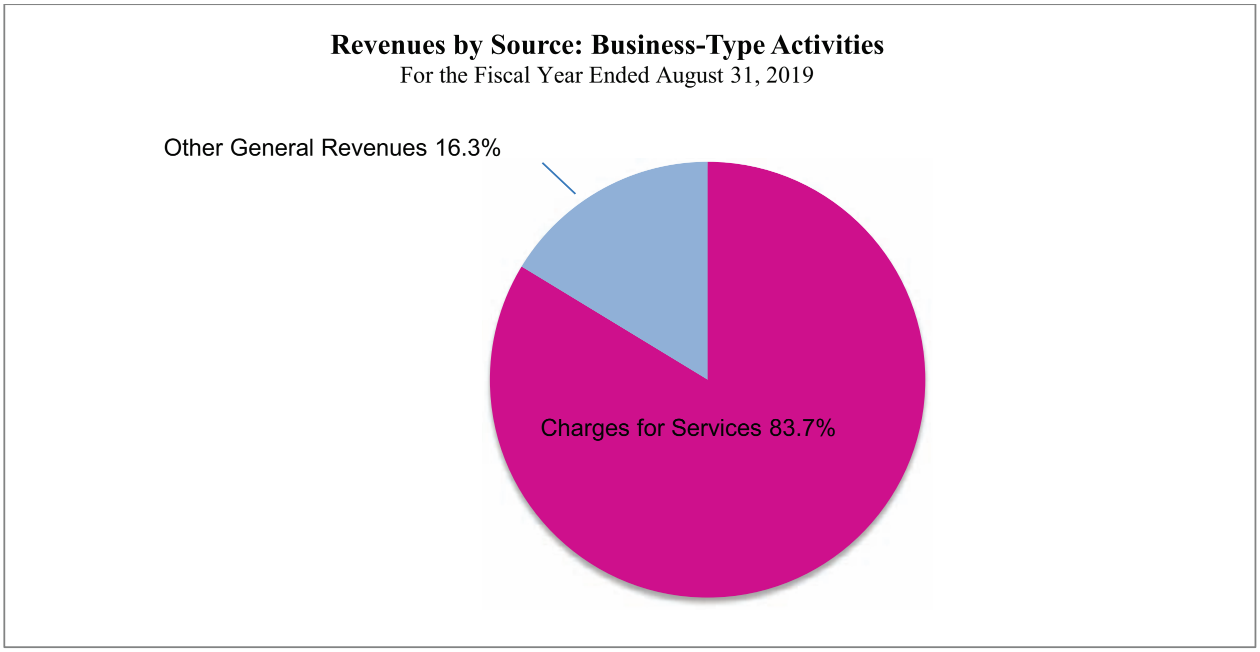


Expenses and Revenues: Governmental Activities

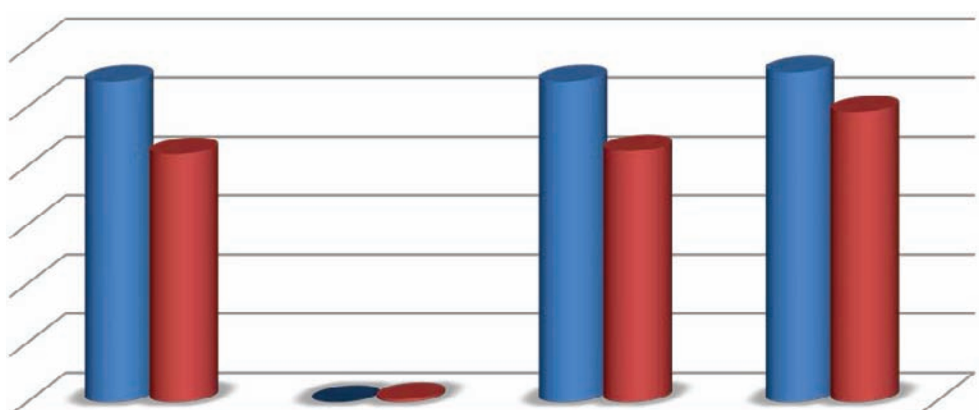
For the Fiscal Years August 31, 2019 and 2018 (in Million)



	Program Revenues	General Revenues	Total Program & General Revenues	Expenses
Fiscal 2019	$5,749	$7,184	$12,933	$6,048
Fiscal 2018	$5,311	$6,714	$12,025	$6,475



Expenses and Revenues: Business Activities
For the Fiscal Years August 31, 2019 and 2018 (in Million)



	Program Revenues	General Revenues	Total Program & General Revenues	Expenses
Fiscal 2019	$543	$0	$543	$559
Fiscal 2018	$420	$5	$425	$491

Financial Analysis of TxDOT's Funds

Governmental Funds

The focus of TxDOT's governmental funds financial statements is to provide information on how money flows into and out of the funds, and amounts remaining at year-end for future spending. All major governmental funds are discretely presented on these financial statements, while the nonmajor governmental funds are combined into a single column. Combining statements for the nonmajor governmental funds are presented under Other Supplementary Information.

TxDOT's governmental funds reported a combined ending fund balance of $8.2 billion on Aug. 31, 2019; this amount is mainly restricted for capital projects. Expenditures exceeded revenues by $444.2 million. Not all expenditure activity is supported by revenues. Some project expenditures are funded by bond proceeds.

State Highway Fund

The State Highway Fund is TxDOT's main operating fund. Overall, the fund balance for the State Highway Fund on Aug. 31, 2019, was $7.5 billion, an increase of $1.5 billion, or 25.2 percent, from $6.0 billion on Aug. 31, 2018. Total revenues increased by $1.1 billion, or 11.3 percent, from $10.2 billion in fiscal 2018 to $11.3 billion in fiscal 2019. The significant revenue sources of $10.9 billion included $4.2 billion of taxes and $6.7 billion of federal revenue. Due to an increase in capital outlay expenditures of $1.0 billion, total expenditures increased by $1.0 billion, to $10.8 billion in fiscal 2019 compared to $9.8 billion in fiscal 2018. Net change in fund balance was 1.5 billion in fiscal 2019, a decrease of 278.1 million from Fiscal 2018. The decrease in net change in fund balance was due to a decrease in other financing sources from $1.4 billion to $944.0 million, or decrease of 32.0 percent, from fiscal 2018.

Texas Mobility Fund

The Texas Mobility Fund operates as a revolving fund to provide a method of financing construction, reconstruction, acquisition and expansion of state highways and other transportation projects. The fund balance for the Texas Mobility Fund on Aug. 31, 2019, was $410.6 million, a decrease of $135.1 million, or 24.8 percent, from $545.7 million on of Aug. 31, 2018. Net change in fund balance was a negative $135.1 million in fiscal 2019, an increase of $229.6 million from fiscal 2018. The decrease of capital outlay of $236.8 million, or 47.7 percent, from $496.8 million in fiscal 2018, to $260.0 million in fiscal 2019, accounts for the majority of the increase in net change in fund balance in fiscal 2019. A total of $496.6 million of revenues were collected for the fund. The major revenue source was from licenses, fees, and permits, which accounted for $464.3 million or 93.5 percent of total revenue.

Proposition 12 Highway Improvement Project Fund

The Proposition 12 Highway Improvement Project Fund receives the proceeds of general obligation bonds issued for highway improvement projects. The fund balance was $15.5 million on Aug. 31, 2019, a decrease of $382.9 million from Aug. 31, 2018. There was a negative net change in fund balance of $382.9 million in fiscal 2019, a $106.6 million decrease from fiscal 2018. Interest and investment income was the only revenue source collected for this fund. During fiscal 2019, Proposition 12 had $389.7 million in capital outlay, an increase of $103.6 million from fiscal 2018, which contributed to the decrease of net change in fund balance from fiscal 2018 to fiscal 2019.

Local Government Political Subdivision Road/Airport Account

The Local Government Political Subdivision Road/Airport holds contributions from counties/political subdivisions for expenditure by the commission in development/construction of public roads and airports within such counties or political subdivisions. The only revenue source for this fund was from the sales of good and services of $226.6 million in fiscal 2019. Because all fiscal 2019's revenues were transferred out to reimburse the State Highway Fund, the fund balance was zero on Aug. 31, 2019.

Proprietary Funds

Proprietary funds are accounted for using the economic resources measurement focus and the accrual basis of accounting. TxDOT has two major proprietary funds, Central Texas Turnpike System and Grand Parkway Transportation Corporation and one non-major proprietary fund, SH 249 System Fund. Overview of the financial information of these funds is presented below.

Central Texas Turnpike System

The net position of CTTS was $393.1 million as of Aug.31, 2019, an increase of $39.9 million from fiscal 2018. CTTS's operating revenues increased by $32.0 million or 14.5 percent over fiscal 2018 due to increases in toll transactions. The total operating expense for CTTS in fiscal 2019 was $109.8 million, compared to $111.2 million in fiscal 2018. Depreciation and amortization was $54.5 million, 49.6 percent of total operating expenses. Total nonoperating expenses exceeded nonoperating revenues by $107.9 million, compared to $113.1 million in fiscal 2018. Interest expense of $141.4 million was the largest nonoperating item.

Grand Parkway Transpiration Corporation

GPTC reported a deficit net position balance of $202.0 million in fiscal 2019, a decrease in net position of $58.5 million over fiscal 2018. GPTC's operating revenues in fiscal 2019 increased by $26.0 million, or 14.8 percent over fiscal 2018. The increase was due to an increase in traffic. Total operating expenses for fiscal 2019 were $107.9 million, an increase of 7.2 percent over fiscal 2018. The largest operating expense was amortization of $64.2 million, which comprised 59.5 percent of total operating expenses. Total nonoperating expenses exceeded nonoperating revenues by $151.9 million. The largest non-operating item was interest expense of $218.1 million.

Nonmajor Fund: SH 249 System

In fiscal 2019, SH 249 System Fund was added to the proprietary funds as a nonmajor fund. Because SH 249 System was still under construction on of Aug. 31, 2019, there was no operating revenue to report in the fund. The total change in net position of $198.1 million is mainly composed of capital contributions of $11.9 million received from a local entity, $191.0 million transfer of capital assets from Governmental Activities State Highway Fund, and net nonoperating expenses of $4.8 million.

Budget Highlights

Variance for the State Highway Fund

The differences from original and final revenue budgets are due to economic and legislative reasons.

Budget mechanisms allow budget revisions for certain revenues when collections exceed the original budget. Accordingly, major revisions were made to both total revenues and expenditures for a net change of $772.1 million.

There was a negative $2.5 billion variance between the actual and final budget revenues. Taxes and Federal revenues of negative $2.4 billion accounted for the majority of the variance.

The actual expenditures related to transportation was less than the final budget by $3.6 billion.

The budgetary comparison schedule in the Required Supplementary Information section presents comparisons of the legally adopted budget with actual data on a budgetary basis.

Capital Assets and Debt Administration

Capital Assets

TxDOT's capital assets comprise of roads, bridges, buildings, land, equipment and intangible capital assets. As of Aug. 31, 2019, TxDOT had $115.4 billion in net capital assets, a $5.7 billion or 5.2 percent increase over fiscal 2018. The increase was primarily due to the addition of $6.4 billion of construction in progress, net of depreciation and amortization expense of 2.0 billion in fiscal 2019. The total accumulated depreciation and amortization for TxDOT as of Aug. 31, 2019 was $23.8 billion.

Capital Assets - Net of Depreciation and Amortization
August 31, 2019 and 2018 (Amounts in Thousands)

	Governmental Activities		Business-Type Activities		Total Primary Government	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Land and Land Improvements	$ 14,623,524	$ 13,712,660	$ 720,704	$ 668,798	$ 15,344,228	$ 14,381,458
Infrastructure - Depreciable	78,585,908	74,896,804	1,843,509	1,895,815	80,429,417	76,792,619
Construction in Progress	18,546,004	17,885,102	314,618	8,557	18,860,622	17,893,659
Buildings and Building Improvements	256,509	258,988	3,520	3,881	260,029	262,869
Furniture and Equipment	63,993	63,348			63,993	63,348
Vehicles, Boats and Aircraft	378,701	328,181			378,701	328,181
Other Capital Assets	5,643	6,367			5,643	6,367
Land Use Rights - Permanent	65,027	25,440	19,466	19,466	84,493	44,906
Land Use Rights - Term	675	1,000			675	1,000
Computer Software	17,018	16,108			17,018	16,108
Total Capital Assets	$ 112,543,002	$ 107,193,998	$ 2,901,817	$ 2,596,517	$ 115,444,819	$ 109,790,515

TxDOT uses the composite approach for reporting the state's infrastructure and bridges. The composite approach is a method for calculating depreciation of a grouping of dissimilar assets of the same class (all the roads and bridges of the state) using the same depreciation rate. The composite depreciation rate for 2019 is 2.5 percent based on a 40-year weighted average life expectancy of the assets in service.

To ensure future availability of essential services and to finance capital improvements, TxDOT made commitments for construction contracts, comprehensive development agreements and pass-through toll agreements totaling an estimated $17.8 billion. These commitments extend beyond the end of the fiscal year and represent future costs to TxDOT. Note 2 provides detail about TxDOT's capital assets activity and Note 15 details TxDOT's significant commitments related to future capital expenditures.

Debt Administration

The Commission, on behalf of TxDOT, has issued both general obligation bonds and revenue bonds. Each series of revenue bonds is backed by pledged revenues and restricted assets specified in the bond resolutions. Note 5 discloses details on TxDOT's long-term liabilities and Note 6 provides detail information on TxDOT's bonded indebtedness.

Outstanding Bonded Debt

As of August 31, 2019 (Amount in Thousands)

	Governmental Activities		Business-Type Activities	
	2019	2018	2019	2018
General Obligation Bonds Payable	$ 10,683,412	$ 10,971,358	$	$
Revenue Bonds Payable	4,201,760	4,470,180	6,386,749	6,106,955
Total Bonds Payable	$ 14,885,172	$ 15,441,538	$ 6,386,749	$ 6,106,955

Bond Credit Ratings

Long-Term Credit Ratings as of August 31, 2019

Governmental Activities	Fitch	Moody's	Standard & Poor's
General Obligation Bonds	AAA	Aaa	AAA
Revenue Bonds	n/a	Aaa	AAA
Business-Type Activities			
Revenue Bonds			
CTTS 2002-A, 2012-A, 2015-A,B	A	A3	A-
CTTS 2015-C	BBB+	Baa1	BBB+
GPTC 2013-A	A+	n/a	BBB
GPTC 2013-B,E, 2018-A,B	AA	n/a	AA+
GPTC 2016	NR	n/a	AA+
SH 249 2019-A,B	n/a	Baa3	n/a

Short-term ratings are usually reliant upon the supporting liquidity facility and its strength. The following variable rate demand bonds carried short-term credit ratings as of Aug. 31, 2019.

Short-Term Credit Ratings as of August 31, 2019			
Governmental Activities	Fitch	Moody's	Standard & Poor's
General Obligation Bonds:			
TMF Series 2006-B Variable Rate Interest Bonds	F1+	VMIG 1	n/a
Revenue Bonds:			
SHF Series 2014-B1 Variable Rate Interest Bonds	n/a	VMIG 1	A-1

An explanation of the significance of such ratings may be obtained from the company furnishing the rating. The ratings reflect only the respective views of such organizations and the Commission makes no representation as to the appropriateness of the ratings. There is no assurance that such ratings will continue for any given period of time or that they will not be revised downward or withdrawn entirely by any or all of such rating companies, if in the judgment of any or all companies, circumstances so warrant. Any such downward revision or withdrawal of such ratings may have an adverse effect on the market price of the bonds.

Economic Condition

The current economic environment presents government entities, including state transportation departments, with challenges.

Consumer sentiment indices have shown an increase in consumer confidence. The unemployment rate in Texas continues to be lower than the previous year. Even though these economic indicators show an improved economy, a certain amount of uncertainty exists as to the sustainability of the growth from the primary state revenue sources for transportation.

The bidding environment for fiscal year 2018 was favorable and continued to be so in fiscal 2019. During the previous five fiscal years, 2015-2019, 4,140 highway and bridge construction projects estimated at $26.5 billion were let or awarded for $26.2 billion. In addition, TxDOT awarded two design build contracts totaling $2.0 billion in fiscal 2019.

Contacting TxDOT's Financial Management

This financial report is designed to provide a general overview of the TxDOT's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the TxDOT Financial Management Division at the following address:

Texas Department of Transportation
Financial Management Division – Accounting Section
125 East 11th Street
Austin, Texas 78701-2483

Section Two (Continued)

Basic Financial Statements

Texas Department of Transportation
Statement of Net Position
August 31, 2019 (Amounts in Thousands)

	Primary Government		
	Governmental Activities	Business-Type Activities	Total
ASSETS			
Current Assets:			
Cash and Cash Equivalents	$ 8,217,228	$ 466,139	$ 8,683,367
Short-Term Investments	17,275	179,437	196,712
Restricted:			
Cash and Cash Equivalents	7,668	785,905	793,573
Short-Term Investments	4,971	976,232	981,203
Legislative Appropriations	2,039		2,039
Due from Other Agencies (Note 11)	1,905,452		1,905,452
Receivable:			
Taxes	246,938		246,938
Federal	987,853		987,853
Interest and Dividends	9,478	6,386	15,864
Accounts Receivable	56,015	51,250	107,265
Other Intergovernmental	144,523		144,523
Loans and Contracts	13,550		13,550
Consumable Inventory	138,937	1,877	140,814
Total Current Assets	11,751,927	2,467,226	14,219,153
Noncurrent Assets:			
Restricted:			
Investments	2,497	479,514	482,011
Loans and Contracts	752,070		752,070
Investments		74,684	74,684
Intangible Assets (Note 20)		2,553,936	2,553,936
Capital Assets:			
Non-Depreciable Capital Assets (Note 2)	33,234,555	1,054,788	34,289,343
Depreciable Capital Assets, Net (Note 2)	79,308,447	1,847,029	81,155,476
Total Noncurrent Assets	113,297,569	6,009,951	119,307,520
Total Assets	125,049,496	8,477,177	133,526,673
DEFERRED OUTFLOWS OF RESOURCES			
Loss on Bond Refunding (Note 21)	147,099	26,264	173,363
Pensions (Note 8, 21)	240,808		240,808
Other Postemployment Benefits (Note 10, 21)	217,865		217,865
Total Deferred Outflows of Resources	605,772	26,264	632,036

Continued on the following page

Texas Department of Transportation (concluded)
Statement of Net Position
August 31, 2019 (Amounts in Thousands)

	Primary Government		
	Governmental Activities	Business-Type Activities	Total
LIABILITIES			
Current Liabilities:			
Payables:			
Accounts	1,631,281	73,141	1,704,422
Payroll	82,199		82,199
Interest	270,055	73,423	343,478
Contract Retainage	6,601	2,089	8,690
Internal Balances (Note 11)	(3,965)	3,965	0
Due to Other Agencies (Note 11)	2,407		2,407
Unearned Revenues	487,063		487,063
Employees' Compensable Leave (Note 5)	74,652		74,652
Notes and Loans Payable (Note 5)	187,125	10,532	197,657
General Obligation Bonds Payable (Note 5)	298,968		298,968
Revenue Bonds Payable (Note 5)	275,200	43,420	318,620
Pollution Remediation Obligation (Note 5)	8,198		8,198
Net OPEB Liability (Note 10)	31,910		31,910
Total Current Liabilities	3,351,694	206,570	3,558,264
Noncurrent Liabilities:			
Employees' Compensable Leave (Note 5)	24,894		24,894
Notes and Loans Payable (Note 5)	932,329	1,564,374	2,496,703
General Obligation Bonds Payable (Note 5)	10,384,444		10,384,444
Revenue Bonds Payable (Note 5)	3,926,560	6,343,329	10,269,889
Net Pension Liability (Note 8)	1,942,485		1,942,485
Net OPEB Liability (Note 10)	2,137,406		2,137,406
Total Noncurrent Liabilities	19,348,118	7,907,703	27,255,821
Total Liabilities	22,699,812	8,114,273	30,814,085
DEFERRED INFLOWS OF RESOURCES			
Service Concession Arrangements (Note 20, 21)	11,332,722		11,332,722
Gain on Bond Refunding (Note 21)	3,160		3,160
Pensions (Note 8, 21)	165,901		165,901
Other Postemployment Benefits (Note 10, 21)	1,963,706		1,963,706
Total Deferred Inflows of Resources	13,465,489	0	13,465,489
NET POSITION			
Net Investment in Capital Assets	85,380,634	769,538	86,150,172
Restricted for:			
Capital Projects	7,659,850	6,477	7,666,327
Debt Service	297,070	157,289	454,359
Operations and Maintenance	6,816	215,303	222,119
Unrestricted	(3,854,403)	(759,439)	(4,613,842)
Total Net Position	$ 89,489,967	$ 389,168	$ 89,879,135

The accompanying notes to the financial statements are an integral part of this financial statement.

Texas Department of Transportation
Statement of Activities
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

Functions	Expenses	PROGRAM REVENUES Charges for Services	Operating Grants and Contributions	Capital Grants and Contributions
Primary Government				
Governmental Activties:				
Transportation	$ 6,048,406	$ 1,147,833	$ 4,483,569	$ 117,128
Total Governmental Activities	6,048,406	1,147,833	4,483,569	117,128
Business-Type Activities:				
Transportation	559,047	454,697	76,727	11,879
Total Business-Type Activities	559,047	454,697	76,727	11,879
Total Primary Government	$ 6,607,453	$ 1,602,530	$ 4,560,296	$ 129,007

General Revenues:
Original Appropriation
Additional Appropriation
Lapsed Appropriation
Motor Fuel Tax
Lubricant Sales Tax
Oil and Natural Gas Production Tax
Unrestricted Investment Earnings
Settlement of Claims
Gain (Loss) on Sale of Capital Assets
Other Revenues
Transfers – Internal Activities (Note 11)
Transfers – Other State Agencies
Total General Revenues and Transfers
Changes in Net Position

Net Position, September 1, 2018

Net Position, August 31, 2019

The accompanying notes to the financial statements are an integral part of the financial statement.

Continued on the following page

Texas Department of Transportation *(Concluded)*
Statement of Activities
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

NET (EXPENSE) REVENUE AND CHANGES IN NET POSITION		
Governmental Activities	Business-Type Activties	Total
$ (299,876)	$	$ (299,876)
(299,876)	0	(299,876)
	(15,744)	(15,744)
0	(15,744)	(15,744)
(299,876)	(15,744)	(315,620)
1,208		1,208
267		267
(1,929)		(1,929)
2,762,070		2,762,070
2,543,200		2,543,200
1,665,321		1,665,321
165,860		165,860
41,902		41,902
2,264		2,264
3,766		3,766
(195,176)	195,176	0
1,544,492		1,544,492
8,533,245	195,176	8,728,421
8,233,369	179,432	8,412,801
81,256,598	209,736	81,466,334
$ 89,489,967	$ 389,168	$ 89,879,135

Texas Department of Transportation
Balance Sheet - Governmental Funds
August 31, 2019 (Amounts in Thousands)

	State Highway Fund	Texas Mobility Fund	Proposition 12 Highway Improvement Project Fund	Local Government Political Subdivision Road/Airport Account	Nonmajor Funds	Total
ASSETS						
Cash and Cash Equivalents:						
Cash on Hand	$ 134	$	$	$	$	$ 134
Cash in Bank	3,895					3,895
Cash in State Treasury	6,883,549	464,344	26,492	465,432	354,537	8,194,354
Cash Equivalents	18,845					18,845
Short-Term Investments	17,275					17,275
Legislative Appropriations					2,039	2,039
Receivables:						
Taxes	246,938					246,938
Federal	983,072				4,781	987,853
Other Intergovernmental	144,523					144,523
Interest and Dividends	9,478					9,478
Accounts Receivable	56,015					56,015
Due from Other Funds (Note 11)	9,423			831		10,254
Due from Other Agencies (Note 11)	1,905,336				116	1,905,452
Consumable Inventories	138,937					138,937
Loans and Contracts (Note 1)	765,597				23	765,620
Restricted:						
Cash Equivalents	7,668					7,668
Short-Term Investments	4,971					4,971
Investments	2,497					2,497
Total Assets	$ 11,198,153	$ 464,344	$ 26,492	$ 466,263	$ 361,496	$ 12,516,748
LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND FUND BALANCES						
Liabilities:						
Payables:						
Accounts	1,568,290	51,875	11,000		116	1,631,281
Payroll	82,090				109	82,199
Contract Retainage	6,601					6,601
Due to Other Funds (Note 11)	212				6,078	6,290
Due to Other Agencies (Note 11)	2,407					2,407
Unearned Revenues	16,862	1,825		466,263	2,113	487,063
Total Liabilities	1,676,462	53,700	11,000	466,263	8,416	2,215,841
Deferred Inflows of Resources:						
Unavailable Revenue (Note 21)	2,058,157				4,880	2,063,037
Total Deferred Inflows of Resources	2,058,157	0	0	0	4,880	2,063,037
Fund Balances (Deficits):						
Nonspendable (Note 13)	138,937					138,937
Restricted (Note 13)	5,485,004	218,588	15,492		335,307	6,054,391
Committed (Note 13)	720,346	192,056			10,940	923,342
Assigned (Note 13)	1,119,247				109	1,119,356
Unassigned (Note 13)					1,844	1,844
Total Fund Balances	7,463,534	410,644	15,492	0	348,200	8,237,870
Total Liabilities, Deferred Inflows of Resources, and Fund Balances	$ 11,198,153	$ 464,344	$ 26,492	$ 466,263	$ 361,496	$ 12,516,748

The accompanying notes to the financial statements are an integral part of this financial statement.

Texas Department of Transportation
Reconciliation of the Governmental Funds Balance Sheet to the Statement of Net Position

August 31, 2019 (Amounts in Thousands)

Total Fund Balance - Governmental Funds		$ 8,237,870
Amounts reported for governmental activities in the Statement of Net Position are different because:		
Capital assets less accumulated depreciation and amortization are included in the Statement of Net Position (Note 2).		
Capital Assets - Non-Depreciable or Non-Amortizable	33,234,555	
Capital Assets - Depreciable or Amortizable, Net	79,308,447	
		112,543,002
Deferred inflows of resources were reported in the funds related to revenues that were not available soon enough after year-end to pay current year's expenditures (Note 21).		2,063,038
Deferred inflows of resources were reported in the Statement of Net Position to reflect the unamortized up-front payments received and capital improvements under Service Concession Arrangements, gain on bond refundings, and impact of pension and other postemployment benefit adjustments (Note 21).		(13,465,489)
Deferred outflows of resources were reported in the Statement of Net Position to reflect the loss on bond refundings and impact of pension and other postemployment benefits. (Note 21)		605,772
Long-term liabilities applicable to TxDOT's governmental activities are not due and payable in the current period and accordingly are not reported in the funds. These liabilities, however, are included in the Statement of Net Position. (Note 5, 8, 10)		
Employees' Compensable Leave	(99,546)	
Notes and Loans Payable**	(1,119,454)	
General Obligation Bonds Payable	(10,683,412)	
Revenue Bonds Payable	(4,201,760)	
Pollution Remediation Obligations	(8,198)	
Net Pension Liability	(1,942,485)	
Net OPEB Liabilities	(2,169,316)	
		(20,224,171) *
* Current portion $876,053 and noncurrent portion $19,348,118		
**Pass-Through Tolls Payable $786,453 Contracts Payable $31,055 and TIFIA Loan Payable $301,946		
Interest payable applicable to TxDOT's governmental activities is not due and payable in the current period and accordingly is not reported in the funds. These liabilities, however, are included in the Statement of Net Position.		(270,055)
Net Position of Governmental Activities		$ 89,489,967

Texas Department of Transportation
Statement of Revenues, Expenditures and
Changes in Fund Balances - Governmental Funds
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

	State Highway Fund	Texas Mobility Fund	Proposition 12 Highway Improvement Project Fund	Local Government Political Subdivision Road/Airport Account	Nonmajor Funds	Total
REVENUES						
Legislative Appropriations:						
Original Appropriatons	$	$	$	$	$ 1,208	$ 1,208
Additional Appropriations					267	267
Taxes	6,686,486					6,686,486
Federal Revenues	4,204,305	21,851			32,103	4,258,259
Federal Pass-Through Revenues (Note 11)	3,520					3,520
Licenses, Fees and Permits	98,011	464,281			38	562,330
Interest & Investment Income	145,466	10,480	7,051		2,888	165,885
Net Increase (Decrease) Fair Value	33					33
Land Income	29,567					29,567
Settlement of Claims	41,902					41,902
Sales of Goods and Services	88,313			226,617	451	315,381
Other Revenues	4,990	25				5,015
Total Revenues	11,302,593	496,637	7,051	226,617	36,955	12,069,853
EXPENDITURES						
Transportation	3,944,795	3,195			5,870	3,953,860
Capital Outlay	6,642,649	259,955	389,735		148	7,292,487
Debt Service:						
Principal on State Bonds		81,635			354,875	436,510
Principal on Pass-Through Tolls	158,066					158,066
Interest on State Bonds		286,060			385,079	671,139
Other Financing Fees	952	854	230			2,036
Total Expenditures	10,746,462	631,699	389,965	0	745,972	12,514,098
Excess (Deficiency) of Revenues Over (Under) Expenditures	556,131	(135,062)	(382,914)	226,617	(709,017)	(444,245)
OTHER FINANCING SOURCES (USES)						
Transfers In (Note 11)	1,915,228				835,200	2,750,428
Transfers Out (Note 11)	(981,952)			(226,617)		(1,208,569)
Sale of Capital Assets	10,122				1,609	11,731
Upfront Payment - Service Concession Arrangement	510					510
Appropriations Lapsed					(1,929)	(1,929)
Total Other Financing Sources (Uses)	943,908	0	0	(226,617)	834,880	1,552,171
Net Change in Fund Balances	1,500,039	(135,062)	(382,914)	0	125,863	1,107,926
Fund Balances, September 1, 2018	5,963,495	545,706	398,406	0	222,337	7,129,944
Fund Balances, August 31, 2019	$ 7,463,534	$ 410,644	$ 15,492	$ 0	$ 348,200	$ 8,237,870

The accompanying notes to the financial statements are an integral part of this financial statement.

Texas Department of Transportation
Reconciliation of the Governmental Funds Statement of Revenues, Expenditures and Changes in Fund Balances to the Statement of Activities
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

Net Change in Fund Balances		$ 1,107,926
Governmental funds report capital outlays as expenditures. In the Statement of Activities, however, the cost of those assets is allocated over their estimated useful lives and reported as depreciation expense. The amount by which capital outlay exceeds depreciation in the current period is:		
Capital Outlay	$ 7,292,487	
Depreciation and Amortization Expense (Note 2)	(1,928,839)	
		5,363,648
The effect of various miscellaneous transactions involving capital assets is an increase to net position.		
Donations of Capital Assets	117,128	
Gain on Sale of Capital Assets	2,264	
Sale of Capital Assets	(11,731)	
Interagency Transfers of Capital Assets	(192,544)	
		(84,883)
Revenues that do not provide current financial resources are not reported in the governmental funds, but are reported in the Statement of Activities.		
Concession Revenues	287,920	
OPEB-Related Grant Revenue	104	
Federal Revenue	220,377	
Local Revenue	(47,364)	
Oil & Natural Gas Production Tax Revenue	281,206	
Motor Fuel Tax Revenue	2,899	
		745,142
Bond proceeds provide current financial resources to governmental funds, but increase long-term liabilities in the Statement of Net Position. Repayment of long-term debt consumes current financial resources and is an expenditure in the governmental funds, but reduces long-term liabilities in the Statement of Net Position.		
Repayment of Bond and Note Principal	594,576	
Net Change in Pollution Remediation Obligation	(1,558)	
Upfront Payments Received Under Service Concession Arrangements	(510)	
Net Change in Employees' Compensable Leave	1,938	
		594,446
Some expenses reported in the Statement of Activities do not require the use of current financial resources and therefore are not reported as expenditures in governmental funds.		
Interest and Amortization Expense	108,421	
Financing Fees	(2,039)	
Payroll Related Costs	400,708	
		507,090
Change in Net Position of Governmental Activities		$ 8,233,369

Texas Department of Transportation
Statement of Net Position - Proprietary Funds
August 31, 2019 (Amounts in Thousands)

	Business-Type Activities - Enterprise Funds			
	Central Texas Turnpike System	**Grand Parkway Transportation Corporation**	**Nonmajor Fund SH 249 System**	**Totals**
ASSETS				
Current Assets:				
Cash and Cash Equivalents:				
Cash and Cash Equivalents	$ 335,010	$ 125,969	$ 5,160	$ 466,139
Short-Term Investments	45,454	133,983		179,437
Restricted:				
Cash and Cash Equivalents	53,221	684,986	47,698	785,905
Short-Term Investments	108,222	784,054	83,956	976,232
Receivables:				
Accounts Receivable	32,814	18,436		51,250
Interest and Dividends	905	5,196	285	6,386
Due from Other Funds (Note 11)	212			212
Consumable Inventory	1,507	370		1,877
Total Current Assets	577,345	1,752,994	137,099	2,467,438
Noncurrent Assets:				
Investments	39,785	29,921	4,978	74,684
Restricted:				
Investments	149,709	299,051	30,754	479,514
Receivables:				
Intangible Assets (Note 20)		2,553,936		2,553,936
Capital Assets:				
Non-Depreciable Capital Assets (Note 2)	754,148		300,640	1,054,788
Depreciable Capital Assets, Net (Note 2)	1,845,724		1,305	1,847,029
Total Noncurrent Assets	2,789,366	2,882,908	337,677	6,009,951
Total Assets	3,366,711	4,635,902	474,776	8,477,389
DEFERRED OUTFLOWS OF RESOURCES				
Deferred Outflows of Resources				
Loss on Bond Refunding (Note 21)	26,264			26,264
Total Deferred Outflows of Resources	26,264	0	0	26,264

Continued on following page

Texas Department of Transportation
Statement of Net Position - Proprietary Funds *(Concluded)*
August 31, 2019 (Amounts in Thousands)

	Business-Type Activities - Enterprise Funds			
	Central Texas Turnpike System	Grand Parkway Transportation Corporation	Nonmajor Fund SH 249 System	Totals
LIABILITIES				
Current Liabilities:				
Payables:				
Accounts	19,641	40,404	13,096	73,141
Interest	4,460	68,313	650	73,423
Contract Retainage		2,089		2,089
Due to Other Funds (Note 11)	1,984	2,184	9	4,177
Notes and Loans Payable (Notes 5)		10,532		10,532
Revenue Bonds Payable (Notes 5, 6)	38,882	4,223	315	43,420
Total Current Liabilities	64,967	127,745	14,070	206,782
Noncurrent Liabilities:				
Notes and Loans Payable (Note 5)		1,564,374		1,564,374
Revenue Bonds Payable (Notes 5, 6)	2,934,886	3,145,819	262,624	6,343,329
Total Noncurrent Liabilities	2,934,886	4,710,193	262,624	7,907,703
Total Liabilities	2,999,853	4,837,938	276,694	8,114,485
NET POSITION				
Net Investment in Capital Assets	579,689		189,849	769,538
Restricted for:				
Capital Projects			6,477	6,477
Debt Service	128,820	22,984	5,485	157,289
Operations and Maintenance	153,959	61,344		215,303
Unrestricted	(469,346)	(286,364)	(3,729)	(759,439)
Total Net Position	$ 393,122	$ (202,036)	$ 198,082	$ 389,168

The accompanying notes to the financial statements are an integral part of this financial statement.

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Texas Department of Transportation
Statement of Revenues, Expenses and Changes in Net Position - Proprietary Funds
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

	Business-Type Activities - Enterprise Funds			
	Central Texas Turnpike System	Grand Parkway Transportation Corporation	Nonmajor Fund SH 249 System	Totals
OPERATING REVENUES				
Toll Revenue - Pledged	$ 228,172	$ 203,656	$	$ 431,828
Discounts and Allowances	(7,482)	(2,448)		(9,930)
Fee Revenue - Pledged	32,760	5		32,765
Other Sales Goods & Services	21			21
Total Operating Revenues	253,471	201,213	0	454,684
OPERATING EXPENSES				
Salaries	1,485	1,778		3,263
Professional Fees and Services	10,571	2,169		12,740
Travel	7	7		14
Materials and Supplies	1,611	352		1,963
Communication and Utilities	709	196		905
Repairs and Maintenance	7,817	11,204		19,021
Rentals and Leases	3	2		5
Contracted Services	24,421	14,197		38,618
Advertising	2,011	129		2,140
Depreciation and Amortization	54,485	64,167	8	118,660
Other Operating Expenses	6,693	13,675		20,368
Total Operating Expenses	109,813	107,876	8	217,697
Operating Income (Loss)	143,658	93,337	(8)	236,987
NONOPERATING REVENUES (EXPENSES)				
Lease Revenue	13			13
Interest and Investment Income	21,434	48,881	2,427	72,742
Net Increase (Decrease) in Fair Value of Investments	(87)	3,758	314	3,985
Amortization	12,167	14,755	315	27,237
Interest Expense	(141,403)	(218,077)	(6,301)	(365,781)
Bond Issuance Expenses		(1,112)	(1,576)	(2,688)
Other Financing Fees	(42)	(76)		(118)
Total Nonoperating (Expenses)	(107,918)	(151,871)	(4,821)	(264,610)
Income (Loss) before Transfers	35,740	(58,534)	(4,829)	(27,623)
CAPITAL CONTRIBUTIONS AND TRANSFERS				
Capital Contributions			11,879	11,879
Transfers In	4,144		191,032	195,176
Total Capital Contributions and Transfers	4,144	0	202,911	207,055
Change in Net Position	39,884	(58,534)	198,082	179,432
Net Position, September 1, 2018	353,238	(143,502)		209,736
Net Position, August 31, 2019	$ 393,122	$ (202,036)	$ 198,082	$ 389,168

The accompanying notes to the financial statements are an integral part of this financial statement.

Texas Department of Transportation
Statement of Cash Flows - Proprietary Funds
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

	Business-Type Activities - Enterprise Funds			
	Central Texas Turnpike System	Grand Parkway Transportation Corporation	Nonmajor Fund SH 249 System	Totals
Cash Flows from Operating Activities				
Proceeds from Customers	$ 237,970	$ 198,918	$	$ 436,888
Payments to Suppliers for Goods and Services	(50,426)	(42,512)		(92,938)
Net Cash Provided by Operating Activities	187,544	156,406	0	343,950
Cash Flows from Non-Capital Financing Activities				
Payments for Debt Interest		(151,792)		(151,792)
Payments for Costs of Debt Issuance		(1,119)		(1,119)
Payments for Financing Fees		(115)		(115)
Payments for Intangible Assets		(244,474)		(244,474)
Net Cash (Used) by Non-Capital Financing Activities	0	(397,500)	0	(397,500)
Cash Flows from Capital and Related Financing Activities				
Proceeds from Lease Revenue	13			13
Proceeds received from Local Entity			11,879	11,879
Proceeds from Issuing Bonds			260,960	260,960
Payments for Purchase of Capital Assets	(47,622)		(97,826)	(145,448)
Payments for Principal on Debt	(20,365)			(20,365)
Payments of Interest on Debt	(107,051)		(3,358)	(110,409)
Payments of Costs of Debt Issuance			(1,568)	(1,568)
Payments for Interfund Services Used for Other Financing Fees	(254)			(254)
Net Cash Provided (Used) by Capital and Related Financing Activities	(175,279)	0	170,087	(5,192)
Cash Flows from Investing Activities				
Proceeds from Interest and Investment Income	17,494	34,380	1,720	53,594
Proceeds from Sales and Maturities of Investments	382,832	1,356,800	14,155	1,753,787
Payments to Acquire Investments	(345,885)	(1,728,233)	(132,892)	(2,207,010)
Payments for Accrued Interest on Purchase of Investment		(2,536)	(211)	(2,747)
Net Cash Provided (Used) by Investing Activities	54,441	(339,589)	(117,228)	(402,376)
Net Increase (Decrease) in Cash and Cash Equivalents	66,706	(580,683)	52,859	(461,118)
Cash and Cash Equivalents - September 1, 2018	321,525	1,391,638		1,713,163
Cash and Cash Equivalents – August 31, 2019	$ 388,231	$ 810,955	$ 52,859	$ 1,252,045

Continued on the following page

Texas Department of Transportation
Statement of Cash Flows - Proprietary Funds *(concluded)*
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

	Business-Type Activities - Enterprise Funds			
	Central Texas Turnpike System	Grand Parkway Transportation Corporation	Nonmajor Fund SH 249 System	Totals
Reconciliation of Operating Income to Net Cash Provided by Operating Activities:				
Operating Income	$ 143,658	$ 93,337	$ (8)	$ 236,987
Depreciation and Amortizaton	54,485	64,167	8	118,660
Other non-cash operating costs	2,614			2,614
(Increase) in Receivables	(15,501)	(2,294)		(17,795)
(Increase) in Inventories	(176)	(140)		(316)
Increase in Payables	3,991	3,512		7,503
(Decrease) in Due to Other Funds	(1,527)	(2,176)		(3,703)
Total Adjustments	43,886	63,069	8	106,963
Net Cash Provided by Operating Activities	$ 187,544	$ 156,406	$ 0	343,950
Non-Cash Transactions				
Transfer in of Capital Assets from Other Fund	$ 1,530	$	$ 190,317	$ 191,847
Net Change in Fair Market Value of Investments	$ (87)	$ 3,758	$ 314	$ 3,985
Amortization of Investment Premium/Discount	$ 3,853	$ 13,746	$ 636	$ 18,235
Change in Accrued Capital Asset Purchases	$ 8,687	$ 32,035	$ 13,812	$ 54,534

The accompanying notes to the financial statements are an integral part of this financial statement.

Texas Department of Transportation
Statement of Fiduciary Net Position
August 31, 2019 (Amounts in Thousands)

		AGENCY FUNDS
ASSETS		
Cash and Cash Equivalents:		
Cash on Hand	$	39
Cash in Bank		680
Cash in State Treasury		323
Cash Equivalents		35,354
Short-Term Investments		26,922
Total Assets	$	63,318
LIABILITIES		
Funds Held for Others		63,318
Total Liabilities	$	63,318

The accompanying notes to the financial statements are an integral part of this financial

Texas Department of Transportation

Notes to Financial Statements

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NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

The accompanying financial statements reflect the financial position of the Texas Department of Transportation (TxDOT). TxDOT is an agency of the state of Texas and is charged with developing and maintaining a statewide multimodal transportation network and other transportation related duties. The Texas Transportation Commission (the Commission), the governing body of TxDOT, has the authority to commit TxDOT to various legal agreements.

The financial activities of TxDOT, which consist of both governmental and proprietary activities, are reported under the transportation function in the state of Texas' Comprehensive Annual Financial Report (CAFR).

The Commission is authorized by Transportation Code Chapter 431 to create Texas transportation corporations to perform functions normally undertaken by TxDOT. As of fiscal 2019, two transportation corporations, the Texas Private Activity Bond Surface Transportation Corporation (TxPABST) and the Grand Parkway Transportation Corporation (GPTC), are reported as blended component units because TxDOT exercises sufficient authority over the assets, operations and management of such entities to warrant their inclusion. Even though Texas transportation corporations are a part of the TxDOT reporting entity, the state is not liable for debts of these corporations, nor entitled to the assets of these corporations.

Basis of Presentation

The accompanying financial statements were prepared in conformance with generally accepted accounting principles (GAAP) as prescribed by the Governmental Accounting Standards Board (GASB). Financial reporting for TxDOT is based on all GASB pronouncements. The data in this report is combined and consolidated by the Texas Comptroller's Office with similar data from other state agencies and universities in the preparation of the state of Texas Comprehensive Annual Financial Report (CAFR).

GASB Statements Effective for Fiscal 2019

In fiscal 2019 TxDOT adopted the following new GASB pronouncements:

- *GASB Statement No. 83, Certain Asset Retirement Obligations.* This statement addresses accounting and financial reporting for certain asset retirement obligations (AROs). The statement establishes criteria for determining the timing and pattern of recognition of a liability and a corresponding deferred outflow of resources for AROs. An ARO is a legally enforceable liability associated with the retirement of a tangible capital asset. The legal obligations to perform future asset retirement activities is recorded when the liability is both incurred and reasonably estimable. The determination of when the liability is incurred is based on the occurrence of external laws, regulations, contracts, or court judgments, together with the occurrence of an internal event that obligates a government to perform asset retirement activities.

- *GASB Statement No. 88, Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements.* This statement is to improve the information that is disclosed in notes to government financial statement related to debt, including direct borrowings and direct placements. It defines debt for note disclosure purposes as a liability that arises from a contractual obligation to pay cash to settle an amount that is fixed at the date the contractual obligation is established. The statement requires additional information related to debt, including unused lines of credit, assets pledged as collateral for the debt, and terms specified in debt agreements related to significant default events and significant termination events with finance-related consequences, and significant subjective acceleration clauses.

- *GASB Statement No. 89, Accounting for Interest Cost Incurred before the End of a Construction Period.* This statement is effective for reporting periods beginning after December 15, 2019, or fiscal 2021. TxDOT decided to early implement the statements in fiscal 2019. The statement supersedes GASB Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements,* paragraphs 5-22. For financial statements prepared using the economic resources measurement focus, the statement requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred. As a result, interest cost incurred before the end of a construction period will not be included in the historical cost of a capital asset reported in a business-type activity or enterprise fund. This statement also reiterates that in financial statements prepared using the current financial resources measurement focus, interest cost incurred before the end of a construction period should be recognized as an expenditure on a basis consistent with governmental fund accounting principles.

Financial Reporting Structure

The basic financial statements include government-wide financial statements and fund financial statements. The reporting model based on GASB Statement No. 34, *Basic Financial Statements – and Management's Discussion and Analysis – for State and Local Governments* focuses on TxDOT as a whole in the government-wide financial statements and major individual funds in the fund financial statements.

Government-wide Financial Statements

The government-wide financial statements (statement of net position and statement of activities) display information about TxDOT as a whole and the change in aggregate financial position resulting from the activities of the fiscal period for all non-fiduciary activities. These statements include separate columns for the governmental and business-type activities of TxDOT (including its blended component units). In the statement of net position, both the governmental and business-type activities columns are presented on a consolidated basis by column and are reflected on an accrual basis, economic measurement focus which incorporates noncurrent investments, capital assets and long-term debt and obligations.

The statement of activities demonstrates the degree to which the direct expenses of a given function are offset by program revenues. Program revenues include 1) charges to customers or applicants who purchase, use or directly benefit from goods, services or privileges provided by a given function 2) grants and contributions that are restricted to meeting the operational or capital requirements of a particular function, and 3) grants and contributions that are restricted to meeting the capital-specific requirements of a particular function. Taxes and other items not properly included among program revenues are reported instead as general revenues.

Fund Financial Statements

The fund financial statements are presented after the government-wide financial statements. They display information about major funds individually and in the aggregate for governmental and proprietary funds. In governmental and fiduciary funds, assets are presented in order of relative liquidity. In proprietary funds, assets and liabilities are presented in a classified format that distinguishes between all current and noncurrent assets and liabilities. Current liabilities are obligations to be paid within the next fiscal year.

The major governmental funds in the fund financial statements are presented on a current financial resources measurement focus and the modified accrual basis of accounting. This presentation is deemed most appropriate to demonstrate compliance with legal and covenant requirements, the source and use of financial resources and how TxDOT's actual experience conforms to the budget. Since the governmental fund financial statements are presented using a different measurement focus and basis of accounting than the government-wide financial statements governmental activities column, a reconciliation is presented. The reconciliation explains the adjustments required to convert the fund based financial statements to the government-wide financial statements' governmental activities column.

TxDOT uses funds to report its financial position and the results of its operations. A fund is a separate accounting entity with a self-balancing set of accounts.

Governmental Fund Types

Governmental funds focus on the sources and uses of funds. Included in the governmental fund financial statements are general, special revenue, debt service and capital projects funds. The general fund is used to account for the departmental operations funded by legislative appropriations, but is not considered the main operating fund for TxDOT. Special revenue funds account for specific revenue sources that are restricted or committed for specific purposes other than debt service or capital projects. Debt service funds are used to account for financial resources that are restricted, committed or assigned to expenditure for principal and interest. Capital projects funds are used to account for financial resources that are restricted, committed or assigned to expenditure for capital outlays.

TxDOT reports the following four major governmental funds:

State Highway Fund

The state highway fund (SHF) is TxDOT's main operating fund. TxDOT reports the following accounts/sub-funds, which are consolidated into the state highway fund for GAAP reporting purposes. The state highway fund is reported as a special revenue fund.

- State Highway Fund Accounts – These funds contain the activity related to public road construction, maintenance and monitoring of the state's highway system. The significant ongoing revenue sources are federal revenues, motor fuels taxes, and other oil and gas taxes which are constitutionally restricted and dedicated to the highway fund.

- Proposition 1 Fund – This fund is used to record, track and report the receipt and disbursement of the Proposition 1 allocation of oil and gas production tax to SHF.

- Proposition 7 Fund – This fund is used to record, track and report the receipt and disbursement of the Proposition 7 allocation of state sales and use tax and motor vehicle sales and rental tax to SHF.
- State Infrastructure Bank – This fund operates as a revolving loan program that makes loans to public and private entities to encourage the development of transportation projects and facilities.

Texas Mobility Fund

This fund operates as a revolving fund to provide a method of financing construction, reconstruction, acquisition and expansion of state highways and other transportation projects. The principal ongoing revenue source of the fund is fees committed by the Legislature under the authority of the Texas Constitution, Article III, Section 49-k. Other inflows to the fund include bond proceeds. The Mobility Fund is reported as a debt service fund type and a capital projects fund type.

Proposition 12/Highway Improvement Project Fund

This fund receives the proceeds of general obligation bonds issued for highway improvement projects under the provisions of the Texas Constitution, Article III, Section 49-p. The fund reports the construction activity supported by such funding. The fund is reported as a capital project fund.

Local Government Political Subdivision Road/Airport Fund

This fund holds contributions from counties/political subdivisions for expenditure by the Commission in development/construction of public roads and airports within such counties or political subdivisions. The fund is reported as a capital project fund.

Additionally, TxDOT reports the following non-major governmental funds:

General Fund:

TxDOT reports the following funds, which are consolidated into the general fund for GAAP reporting purposes, but are not considered the main operating fund for TxDOT.

- General Revenue Fund – This fund is used to account for all financial resources of the state except those required to be accounted for in another fund.
- Traffic Safety-Crash Records Information Systems – This fund is used to account for expenditures pertaining to the crash records information system.
- Colonias Project Fund – This fund provides financial assistance to counties for roadway projects serving border colonias. Funding is provided from the sale of bonds or commercial paper, which are issued and reported by the Texas Public Finance Authority.

- Suspense Fund – This fund is used to temporarily hold and account for receipts until the correct disposition of items is determined.

Special Revenue Fund:

- Transportation Infrastructure Fund– This fund was established to make grants to counties for transportation infrastructure projects located in areas of the state affected by increased oil and gas production. The sources of the fund include federal funds, matching state funds, funds appropriated by the legislature, gifts, grants, fees, and investment earnings.

Debt Service Fund:

- Proposition 14/State Highway Fund Debt Service– This fund receives transfers in from the state highway fund for debt service on state highway fund revenue bonds.

- Proposition 12/Highway Improvement Project Fund Debt Service - This fund receives transfers in from the Proposition 7 Fund for debt service on Texas highway improvement general obligation bonds.

Proprietary Fund Type

Proprietary funds focus on determining operating income, changes in financial position and cash flows. Generally accepted accounting principles similar to those used by private sector businesses are applied in accounting for these funds. Enterprise funds may be used to report any activity for which a fee is charged to external users for goods or services. TxDOT reports the following major proprietary funds:

<u>Central Texas Turnpike System Fund</u>

These funds report the activity and debt associated with the Central Texas Turnpike System toll roads.

<u>Grand Parkway Transportation Corporation</u>

These funds report the activity and debt associated with the development of Segments D (Harris County), E, F-1, F-2, G, H and I of the Grand Parkway toll road construction as reported by the Grand Parkway Transportation Corporation.

Additionally, TxDOT reports the following nonmajor proprietary fund:

<u>Texas State Highway 249 System Fund</u>

This fund, a non-major proprietary fund, reports the activity and debt associated with the development of the Texas SH 249 System. The project is about 15 miles of new controlled access tollway from Farm to Market (FM) 1774 in Pinehurst, Montgomery County to FM 1774 in Todd Mission, Grimes County.

Fiduciary Fund Types

Fiduciary funds account for assets held in either a trustee capacity or as an agent for other outside individuals or entities. Agency funds report assets that TxDOT holds on behalf of others in a purely custodial capacity.

Agency Funds have no equity, assets equal liabilities and do not include revenues or expenditures. The agency funds reported by TxDOT during fiscal 2019 included the unappropriated general revenue fund, child support deductions suspense account, toll revenue custodial account and the direct deposit correction accounts.

Component Units

The Texas Private Activity Bond Surface Transportation Corporation is reported as a nonmajor component unit. The Grand Parkway Transportation Corporation is a component unit reported as a major proprietary fund. All component units are presented in TxDOT's financial statements as blended component units. See Note 18 for more details.

Basis of Accounting

Government-wide financial statements are prepared using the economic resources measurement focus and the accrual basis of accounting. Under the economic resources measurement focus, all economic resources and obligations of the reporting entity, both current and noncurrent, are reported in the government-wide financial statements. Under the accrual basis of accounting, revenues, expenses, gains, losses, assets and liabilities resulting from exchange and exchange-like transactions are recognized when the exchange takes place. Non-exchange transactions, in which TxDOT gives (or receives) value without directly receiving (or giving) equal value in exchange, include intergovernmental grants. Revenue for grants and similar items are recognized in the fiscal year in which all eligibility requirements imposed by the provider have been met.

The accounting and financial reporting treatment applied to a fund is determined by its measurement focus. Governmental funds use the flow of current financial resources focus and the modified accrual basis of accounting. Under the modified accrual basis, revenues are recognized when they become both measureable and available. For this purpose, revenues are considered to be available if they are collected within 60 days of the end of the current fiscal year. Expenditures are generally recognized when the related fund liability is incurred. However, principal and interest on bonds is recorded only when due and compensated absences and claims and judgments are recorded when they are expected to be liquidated with expendable available financial resources. Capital asset acquisitions are reported as expenditures in governmental funds. Proceeds of long-term debt are reported as other financing sources.

Proprietary funds are accounted for on the accrual basis of accounting. Under the accrual basis, revenues are recognized when earned and expenses are recognized at the time liabilities are incurred. A proprietary fund distinguishes operating from non-operating items. Operating revenues and expenses result from providing services or producing and delivering goods in connection with the proprietary fund's principal ongoing operations. Operating expenses for an enterprise fund include cost of sales and services, administrative expenses and depreciation on capital assets.

Although agency funds use the accrual basis of accounting, they do not have a measurement focus because they do not recognize revenues and expenses.

Shared Fund Presentation

The financial statement presentation for the state highway fund and general fund represent only the portion of shared funds that can be directly attributed to the operations of TxDOT. Financial statements for total fund operations of shared state funds are presented in the state of Texas Comprehensive Annual Financial Report (CAFR).

In presenting these financial statements, certain unique accounts are used for the presentation of shared funds. The following accounts are used in these financial statements to present TxDOT's portion of shared funds.

Legislative Appropriations

This "asset" account represents TxDOT's remaining legislative appropriation authority at fiscal year-end.

Original/Additional Appropriations

Amount reported as revenue that is the total appropriation authority given to TxDOT for the current fiscal year.

Appropriations Lapsed

Unencumbered appropriations balances that have been lapsed during the fiscal year.

Budgetary Information

TxDOT's budget is prepared on a performance-based concept and is represented by biennial appropriations enacted by the Legislature and signed by the governor. The governmental funds with legally adopted budgets are the general fund, the state highway fund and nonmajor special revenue funds.

Assets, Deferred Outflows, Liabilities, Deferred Inflows and Fund Balances/Net Position

Cash and Cash Equivalents

The statement of cash flows for proprietary funds presents the change in cash and cash equivalents during the fiscal year. Cash equivalents are defined as short-term, highly liquid investments that are both readily convertible to known amounts of cash and so near maturity they present insignificant risk of a decrease in value due to changes in interest rates. Investments with an original maturity of three months or less and used for cash management rather than investing activities are considered cash equivalents.

Investments

Amounts invested associated with TxDOT and Grand Parkway Transportation Corporation. See Note 3 for more details.

Inventories and Prepaid Items

Inventory items are reported at a weighted average cost. The inventory consists of supplies and roadway materials on hand for future use. The consumption method of accounting is used to account for inventories and prepaid items. The costs of these items are expensed when the items are consumed.

Receivables

The major receivables for TxDOT are federal, taxes and other intergovernmental. Receivables represent amounts due to TxDOT at fiscal year-end, for revenues earned in the current fiscal year that will be collected in the future. Amounts expected to be collected in the next fiscal year are classified as current, and amounts expected to be collected beyond the next fiscal year are classified as noncurrent. All receivables are recorded net of allowances for uncollectable accounts.

Loans and Contracts

Loans and contracts represent claims for which formal instruments of credit are issued as evidence of debt, such as a promissory note. The credit instrument normally requires the debtor to pay interest and extends for time periods of 30 days or longer. TxDOT provides state and local financing tools to assist local governments with transportation projects. See Note 4 for more details.

Restricted Assets

Restricted assets include monies or other resources restricted by legal or contractual requirements. These assets include proceeds from revenue bonds, as well as certain revenues set aside for statutory or contractual requirements.

Deferred Inflows of Resources and Deferred Outflows of Resources

In the governmental fund financial statements, revenues that are earned but not expected to be collected within 60 days are not available to liquidate the liabilities of the current period. These revenues are reported as deferred inflows of resources.

Deferred inflows of resources are an acquisition of net assets by TxDOT that is applicable to a future reporting period. Deferred inflows have a negative effect on net position, similar to liabilities. TxDOT reports deferred inflows of resources as the offset account to assets received under a service concession arrangement in financial statements prepared using the economic resources measurement focus. See Note 21 for additional information.

Deferred outflows of resources are defined as a consumption of net assets by the government that is applicable to a future reporting period. Deferred outflows of resources increase net position, similar to assets.

For current refundings and advance refundings resulting in defeasance of debt, the difference between the reacquisition price and the net carrying amount of the old debt is reported as a deferred inflow of resources or deferred outflow of resources. The deferred inflows and deferred outflows of resources are amortized and recognized as a component of interest expense in a systematic and rational manner over the remaining life of the old debt or the life of the new debt, whichever is shorter.

TxDOT also reports deferred inflows of resources and deferred outflows of resources related to the recognition of TxDOT's share of the state's Net Pension Liability and Net OPEB Liability. Reported deferred outflows of resources include plan contributions made subsequent to the Aug. 31, 2018 measurement date, and the unamortized balance resulting from changes in assumptions used to calculate net pension liability. TxDOT reports deferred inflows of resources for the unamortized balance resulting from other changes to the components used to calculate net pension liability. See Note 21 for additional information.

Intangible Assets

Our blended component unit, GPTC, is operating under two service concession arrangements (SCA) with TxDOT. As a governmental operator, GPTC records an intangible asset for its cost of design and construction. Amortization of the intangible asset begins upon the completion of construction and the opening to traffic. See Note 20 for more information about GPTC's SCA with TxDOT.

Capital Assets

Capital assets, which include land, infrastructure, furniture, equipment and intangible capital assets, are capitalized and reported in the financial statements using the accrual basis of accounting. Capital assets are recorded as expenditures at the time of purchase in the governmental funds.

Capital assets are assets with a cost above a set minimum capitalization threshold that, when acquired, have an estimated useful life of more than one year. Land, permanent land-use rights, and construction in progress do not have a capitalization threshold and are not depreciated. The capitalization thresholds and useful lives of TxDOT's depreciable capital assets are as follows:

Capitalization Thresholds by Class of Asset

Classification	Capitalization Threshold	Estimated Useful Life
Buildings and Building Improvements	$ 100,000	5-30 years
Infrastructure	$ 500,000	10-50 years
Furniture and Equipment	$ 5,000	3-15 years
Vehicles, Boats and Aircraft	$ 5,000	5-40 years
Internally Generated Computer Software	$ 1,000,000	3-10 years
Other Computer Software	$ 100,000	3-10 years
Land Use Rights – Term/Temporary	$ 100,000	2-10 years

All capital assets acquired or constructed by TxDOT are capitalized at cost or estimated historical cost if actual historical cost is not available. Donated capital assets are recorded at acquisition value at the date of donation. A facility constructed or improved under a qualifying service concession arrangement is reported as a capital asset at acquisition value when it is placed in operation. Costs of normal maintenance and repairs that do not add value to the asset or materially extend the asset's useful life are not capitalized.

TxDOT uses the depreciation approach for reporting both highways and highway bridges of the infrastructure assets. Under the depreciation approach, infrastructure assets are depreciated over a 40-year life, and certain preservation costs are capitalized. The capitalization threshold of $500,000 is used for both highway bridges and roadways.

TxDOT also holds three years of costs in construction in progress at all times. At the fourth year, the first year is moved to depreciable infrastructure. The three-year assumption is based on a 2.7 year contract life when using the weighted dollar analysis of project costs and completion dates over the ten year history.

Unearned Revenue

Unearned revenue is reported when cash or other assets are received prior to being earned.

Service Concession Arrangements (SCA) Up-front Payments

TxDOT may receive up-front payments related to the SCA's on the development of highways and future toll-road operations. Under each of these agreements the toll road reverts back to the state at the end of the term or upon certain reimbursement conditions. In the governmental fund financial statements, TxDOT reports up-front payments as other financing sources in the year received. In the government-wide statements, the up-front payments are recorded as deferred inflows of resources. Revenue is recognized on a straight-line basis over the term of the agreement, beginning when the roadway is placed into operation.

Long-Term Liabilities

In the government-wide financial statements and proprietary funds financial statements, long-term debt and other long-term obligations are reported as long-term liabilities in the applicable governmental activities or business-type activities statement of net position. Long-term liabilities include net pension liability, net OPEB liability, employees' compensable leave, general obligation bonds payable, revenue bonds payable, notes payable, pollution remediation obligations, and asset retirement obligation.

Bonds payable are reported net of the applicable bond premium or discount. Bond premiums and discounts are amortized over the life of the bonds using the bonds outstanding method, which is materially consistent with the effective interest method. Issuance costs are reported as an expense in the period incurred.

In the governmental fund financial statements, bond premiums, discounts and bond issuance costs are recognized during the current period. The face amount of the debt is reported as other financing sources while discounts on debt issuances are reported as other financing uses. Issuance costs, whether or not withheld from the actual debt proceeds received are reported as debt service expenditures.

Generally speaking, long-term obligations to be paid within one year of the financial statements date are reported as current liabilities and are considered short-term obligations. In certain circumstances, however, amounts scheduled to mature during the ensuing fiscal year are instead reported as noncurrent long-term liabilities. This provision applies when TxDOT or GPTC intends to refinance or refund a debt instrument on a long-term basis and either issues a long-term obligation or enters into a financing agreement after the date of the financial statements but before the financial statements are issued.

A state employee is entitled to be paid for all unused vacation time accrued, in the event of the employee's resignation, dismissal or separation from state employment, provided the employee has had continuous employment with the state for six months. Expenditures for accumulated annual leave balances are recognized in the period paid or taken in the governmental fund financial statements. See Note 5 for more information.

Fund Balance/Net Position

In the government-wide and proprietary statements, the net position is the difference between assets plus deferred outflows of resources and liabilities plus deferred inflows of resources. The net position is displayed in three components. The potential categories of net position include:

- *Net Investment in Capital Assets*– capital assets, net of accumulated depreciation and reduced by the outstanding balances of bonds, notes or other borrowings that are attributed to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included.

- *Restricted* – restricted assets reduced by liabilities and deferred inflows or resources related to those assets. When both restricted and unrestricted resources are available for use, generally it is TxDOT's policy to use restricted resources first, then unrestricted resources when they are needed.

- *Unrestricted* – amounts not required to be reported in the other components of net position.

Fund balances for governmental funds are displayed in five components. The potential categories of fund balance include:

- *Nonspendable fund balance* – amounts not available to be spent because they are either (1) not in spendable form or (2) legally or contractually required to be maintained intact. The primary component of nonspendable fund balance is the balance in consumable inventories.

- *Restricted fund balance* – resources that have constraints placed on their use through external parties or by law through constitutional provisions.

- *Committed fund balance* – can be used only for specific purposes pursuant to constraints imposed by a formal action of the Legislature, the state's highest level of decision making authority.

- *Assigned fund balance* – amounts constrained by the Commission's intent to be used for specific purposes, but are neither restricted nor committed.

- *Unassigned fund balance* – residual classification for the general fund. The classification represents fund balance that was not assigned to other funds and was not restricted, committed or assigned to specific purposes within the general fund.

When only unrestricted resources are available for use, it is TxDOT's policy to use committed resources first, then assigned resources and lastly unassigned resources.

A positive unassigned fund balance can only exist within the general fund. Deficit fund balances in a fund are reported as unassigned fund balance.

Revenue Sources

TxDOT's principal revenue sources are federal and tax revenue. As the state's transportation agency, TxDOT receives reimbursements from the Federal Highway Administration (FHWA) for certain costs incurred for engineering, construction, right-of-way acquisition, research activities and general administrative costs. Federal reimbursement is based on a percentage of the costs expended from state funds on approved projects. The percentage of reimbursement for allowable costs varies from 50 to 100 percent. TxDOT receives these reimbursements based on the state's apportionment from the Federal Highway Trust Fund on a federal fiscal year basis.

TxDOT receives federal funding from other federal agencies for specific transportation related projects. See Schedule 1-A for more information on federal receipts and expenditures.

TxDOT reports its constitutionally dedicated share of taxes on motor fuels sold in Texas as tax revenues. Generally, this constitutionally dedicated share is 75 percent of net collections, after reductions for collection expenses and refunds. In general, 20 cents per gallon is collected on gasoline and diesel sold for highway use. Liquefied gas sold for highway use is generally taxed at 15 cents per gallon and is required to be prepaid. TxDOT also receives and reports the state sales tax from the sale of lubricants, which is deposited to the state highway fund.

On Nov. 4, 2014, Texas voters approved Proposition 1, authorizing a constitutional amendment for transportation funding. Under the amendment, a portion of oil and gas tax revenues that typically go into the Economic Stabilization Fund will be deposited to the State Highway Fund to assist in the completion of transportation construction, maintenance, and rehabilitation projects, not to include toll roads.

On Nov. 3, 2015, Texas voters approved Proposition 7 that dedicates a portion of the revenue from the state sales and use tax and motor vehicle sales and rental tax to the State Highway Fund to provide funding for non-tolled roads and the reduction of transportation-related debt.

Major sources of pledged revenue for the Texas Mobility Fund include driver license fees, motor vehicle inspection fees, certificate of title fees and driver record information fees.

Operating revenues of CTTS consist of tolls, net of allowance for doubtful accounts and fee revenue.

Operating revenues of GPTC consist of toll revenue for open segments D, E, F-1, F-2, and G, net of allowance for doubtful accounts, and fee revenue earned by GPTC.

Interfund Activity and Transactions

Interfund activity refers to financial interaction between funds (including blended component units) and is related to internal events. Interfund transactions refer to interactions with other state agencies.

Interfund receivables and payables are eliminated from the statement of net position except for amounts due between governmental and business-type activities. These amounts are reported as internal balances on the statement of net position. See Note 11 for more details.

NOTE 2 – CAPITAL ASSETS

The tables on the following pages present the composition of TxDOT's capital assets, adjustments, reclassifications, additions and deletions during fiscal 2019. The reclassifications column presents completed construction projects and transfers of capital assets between agencies and between the governmental and business-type activities of TxDOT. The additions column includes current year purchases, depreciation and amortization. The deletions column represents assets removed during the current fiscal year via sale or disposition.

Depreciation and amortization expense was charged to the transportation function in the accompanying Statement of Activities.

Capital Asset Activity

For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

	Balance 9/1/2018	Reclass-ifications	Additions	Deletions	Balance 8/31/2019
GOVERNMENTAL ACTIVITIES					
Non-Depreciable & Non-Amortizable Assets					
Land and Land Improvements	$ 13,712,660	$ (46,138)	$ 958,608	$ (1,606)	$ 14,623,524
Construction in Progress	17,885,101	(5,587,508)	6,248,411		18,546,004
Land Use Rights - Permanent	25,442		39,616	(31)	65,027
Total Non-Depreciable & Non-Amortizable Assets	31,623,203	(5,633,646)	7,246,635	(1,637)	33,234,555
Depreciable Assets					
Buildings and Building Improvements	553,461	16,445			569,906
Infrastructure	95,371,658	5,403,221	136,697	(3,151)	100,908,425
Furniture and Equipment	206,022	160	13,625	(7,128)	212,679
Vehicles and Aircraft	792,201	15,475	79,717	(12,267)	875,126
Other Capital Assets	15,011			(8)	15,003
Total Depreciable Assets	96,938,353	5,435,301	230,039	(22,554)	102,581,139
Less Accumulated Depreciation for:					
Buildings and Building Improvements	(294,472)		(18,925)		(313,397)
Infrastructure	(20,474,856)	(112)	(1,847,701)	152	(22,322,517)
Furniture and Equipment	(142,672)	(157)	(12,316)	6,459	(148,686)
Vehicles and Aircraft	(464,022)		(42,519)	10,116	(496,425)
Other Capital Assets	(8,644)		(722)	6	(9,360)
Total Accumulated Depreciation	(21,384,666)	(269)	(1,922,183)	16,733	(23,290,385)
Depreciable Assets, Net	75,553,687	5,435,032	(1,692,144)	(5,821)	79,290,754
Intangible Capital Assets - Amortizable					
Land Use Rights - Term	15,880		445		16,325
Computer Software	74,280	(1,537)	2,735	(21)	75,457
Total Amortizable Assets	90,160	(1,537)	3,180	(21)	91,782
Less Accumulated Amortization for:					
Land Use Rights - Term	(14,880)		(770)		(15,650)
Computer Software	(58,172)	5,599	(5,886)	20	(58,439)
Total Accumulated Amortization	(73,052)	5,599	(6,656)	20	(74,089)
Amortizable Assets, Net	17,108	4,062	(3,476)	(1)	17,693
Governmental Activities Capital Assets, Net	$ 107,193,998	$ (194,552)	$ 5,551,015	$ (7,459)	$ 112,543,002

Capital Asset Activity (Concluded)
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

	Balance 9/1/2018	Reclass-ifications	Additions	Deletions	Balance 8/31/2019
BUSINESS-TYPE ACTIVITIES					
Non-Depreciable & Non-Amortizable Assets					
Land and Land Improvements	$ 668,801	$ 46,136	$ 5,767	$	$ 720,704
Construction in Progress	8,555	144,600	161,463		314,618
Land Use Rights - Permanent	19,466				19,466
Total Non-Depreciable & Non-Amortizable Assets	696,822	190,736	167,230	0	1,054,788
Depreciable Assets					
Buildings and Building Improvements	8,360				8,360
Infrastructure	2,283,765	1,825			2,285,590
Total Depreciable Assets	2,292,125	1,825	0	0	2,293,950
Less Accumulated Depreciation for:					
Buildings and Building Improvements	(4,480)		(360)		(4,840)
Infrastructure	(387,950)		(54,131)		(442,081)
Total Accumulated Depreciation	(392,430)	0	(54,491)	0	(446,921)
Depreciable Assets, Net	1,899,695	1,825	(54,491)	0	1,847,029
Business-Type Activities Capital Assets, Net	$ 2,596,517	$ 192,561	$ 112,739	$ 0	$ 2,901,817

NOTE 3 – DEPOSITS, INVESTMENTS & REPURCHASE AGREEMENTS

TxDOT and Grand Parkway Transportation Corporation (GPTC) are authorized by statute to make investments following the "prudent person rule." TxDOT and GPTC have complied, in all material respects, with statutory authorization, bond documents, constraints and TxDOT policies during the period.

Deposits

The following amounts consist of all cash and cash equivalents in local banks. These amounts are included on the combined statement of net position as part of the "cash and cash equivalents" accounts.

Cash In Bank – Carrying Amount		
August 31, 2019 (Amounts in Thousands)		
Governmental Activities		
Cash in Bank – Depository Accounts	$	3,895
Fiduciary Funds		
Fiduciary Fund Current Assets Cash in Bank – Depository Accounts	$	680

Custodial Credit Risk – Deposits

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, deposits or collateral securities in the possession of an outside party will not be recovered. All of TxDOT's deposits are protected by insurance provided by the Federal Deposit Insurance Corporation (FDIC).

Regular depository accounts are insured by the FDIC up to $250 thousand per depositor, per insured bank. As of Aug. 31, 2019, the sweep account is subjected to the same $250 thousand coverage provided to a regular depository account.

The Frost refund account held additional collateral beyond the standard FDIC threshold of $250 thousand in a federal reserve account with other related State and agency accounts. The total collateral inclusive of the $250 thousand coverage was representative of greater than 250% for those combined related account balance.

Treasury Pool

TxDOT's governmental fund cash is established in the state Treasury, and is pooled with other state funds and invested under the direction of the Comptroller of Public Accounts Treasury Operations Division (Treasury). Governmental fund deposits in the state treasury totaled $8.2 billion at Aug. 31, 2019. Deposits in the state treasury for business-type activities totaled $9 thousand as of Aug. 31, 2019.

The Treasury obtains direct access to the services of the Federal Reserve System through the Texas Treasury Safekeeping Trust Company (Trust Company). The Federal Reserve Bank requires that the Trust Company maintain a positive cash balance in the account during and at the end of the day. The Trust Company met those requirements throughout fiscal 2019. The Comptroller has delegated investment authority to the Trust Company and utilizes the Trust Company to manage and invest funds in the Treasury Pool.

State statutes authorize the Treasury to invest state funds in fully collateralized time deposits; direct security repurchase agreements; reverse repurchase agreements; obligations of the United States and its agencies and instrumentalities; banker's acceptances; commercial paper; and contracts written by the Comptroller, which are commonly known as covered call options. Funds held in the treasury pool have not been categorized as to credit risk because TxDOT does not own individual securities. Details on the nature of these deposits and investments are available within the state of Texas Comprehensive Annual Financial Report.

Investments

TxDOT and GPTC hold investments that are measured at fair value on a recurring basis. Because investing is not a core part of TxDOT's mission, the disclosures related to these investments only need to be disaggregated by major type.

TxDOT and GPTC categorize fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. The three-tiered fair value hierarchy is as follows.

- Level 1 – Quoted prices for identical investments in an active market
- Level 2 – Significant other observable inputs other than quoted market prices
- Level 3 – Significant unobservable inputs

As of Aug. 31, 2019, the measurements of TxDOT's investments are summarized below:

Investment Valuation
August 31, 2019 (Amounts in Thousands)

Investment Type	Fair Value Hierarchy Level 1	Other Measurement Method	Total
Governmental Activities			
Money Market Mutual Funds	$	$ 19,534	$ 19,534
U.S. Treasuries	2,497	15,246	17,743
U.S. Government Agency Obligations		13,979	13,979
Total Governmental Activities	$ 2,497	$ 48,759	$ 51,256
Business Type Activities			
Money Market Mutual Funds	$	$ 1,773	$ 1,773
U.S. Treasuries	439,199	805,788	1,244,987
U.S. Government Agency Obligations		449,522	449,522
Government Investment Pools		996,721	996,721
Repurchase Agreements		268,899	268,899
Total Business-Type Activities	$ 439,199	$ 2,522,703	$ 2,961,902
Fiduciary Funds			
Money Market Mutual Funds	$	$ 35,354	$ 35,354
U.S. Treasuries		12,937	12,937
U.S. Government Agency Obligations		13,985	13,985
Total Fiduciary Funds	$ 0	$ 62,276	$ 62,276

Government securities and government sponsored entity investments of $441.7 million with maturities of one year or more are valued at quoted market prices (Level 1 input).

As of Aug. 31, 2019, TxDOT and GPTC also have the following two types of investments which are excluded from measurement at fair value according to GASB 72.

- TxDOT and GPTC had investments in money market funds, overnight repurchase agreement pool (REPO), government securities, government sponsored entities and government investment pools of $2.5 billion with maturities less than one year valued at amortized cost.
- TxDOT entered into a repurchase agreement of $115.0 million in August 2002 with U.S. Government and Agency securities. Collateral for the repurchase agreement is held by the Bank of New York Mellon Trust Company (the trustee bank) with the underlying securities being the property of the Citigroup Global Markets Inc. (the direct counterparty), held in trust for TxDOT. TxDOT can direct the trustee bank to designate repurchase dates on any business day on or before the final repurchase date in August 2022. The agreement is measured at cost.

Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty, TxDOT will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. TxDOT and GPTC investment policies state that all securities purchased shall be conducted on a delivery-versus-payment (DVP) basis, and shall be protected through the use of a third-party custodian/safekeeping agent, which may be a Trustee.

As of Aug. 31, 2019, TxDOT's long term repurchase agreement is collateralized with U.S. Government and agency securities. Collateral for the repurchase agreement is held by the Bank of New York Mellon Trust Company with the underlying securities being the property of the Citigroup Global Markets Inc., (the direct counterparty), held in trust for TxDOT. Citigroup Global Markets Inc. is rated A1, A+ and A+ as of Aug. 31, 2019 by Moody's, Standard and Poor's (S & P) and Fitch Ratings respectively.

Credit Risk

Direct credit risk for investments is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. TxDOT and GPTC investment policies prohibit TxDOT and GPTC from entering into long-term investment agreements or other non-DVP investment transactions with a final maturity or termination date of longer than six months with any financial institution that initially has a long-term rating category of less than "A" and that does not have at least one long-term rating of at least "AA" by a nationally recognized statistical rating organizations (NRSRO). All investments made by TxDOT and GPTC have been through the list of qualified financial institutions approved by TxDOT and GPTC.

TxDOT's policy does not limit the amount of investment in obligations of the United States or its agencies. The long term repurchase agreement is a guaranteed investment contract (GIC) with Citigroup Global Markets Inc. as the counterparty. Citigroup Global Markets Inc. has collateralized the GIC with U.S. Government and agency securities. As of Aug. 31, 2019, TxDOT's and GPTC's investments had the following ratings:

Investment Credit Ratings
August 31, 2019 (Amounts in Thousands)

Investment Type	Valuation	Moody's	Standard & Poor's	Fitch
Governmental Activities				
Money Market Mutual Funds				
Fidelity Government Money Market Fund	$ 19,534	AAA-mf	AAAm	NR
Government Sponsored Entities				
Federal Home Loan Bank	7,000	Aaa	AA+	NR
Federal Home Loan Bank Discount Note	6,979	P-1	A-1+	NR
Government Securities				
U.S. Treasury Notes	8,807	Aaa	AA+	AAA
U.S. Treasury Bills	8,936	NR	A-1+	F1+
Total Governmental Activities	$ 51,256			
Business-Type Activities				
Money Market Mutual Funds				
Fidelity Government Money Market Fund	$ 7	AAA-mf	AAAm	NR
JPMorgan US Government Fund	842	Aaa-mf	AAAm	AAAmmf
Morgan Stanley Government Fund	914	Aaa-mf	AAAm	AAAmmf
Goldman Sachs Financial Square Government Fund	10	Aaa-mf	AAAm	NR
Government Sponsored Entities				
Federal Farm Credit Banks	60,485	P-1	A-1+	F1+
Federal Home Loan Bank	15,000	Aaa	AA+	NR
Federal Home Loan Bank Discount Note	319,619	P-1	A-1+	NR
Federal Home Loan Mortgage Corporation	54,418	P-1	A-1+	F1+
Government Securities:				
U.S. Treasury Notes	987,754	Aaa	AA+	AAA
U.S. Treasury Bills	257,234	NR	A-1+	F1+
Government Investment Pools:				
Lone Star	22,941	NR	AAAm	NR
TexPool	896,500	NR	AAAm	NR
TexPool Prime	77,279	NR	AAAm	NR
Repurchase Agreement:				
Long term (Citigroup GIC)	114,999	A1	A+	A+
Repo (TTSTC)	153,900	NR	AAAf	NR
Total Business-Type Activities	$ 2,961,902			
Fiduciary Fund				
Money Market Mutual Funds				
BlackRock Federal Funds	$ 35,354	AAA-mf	AAAm	NR
Government Sponsored Entities				
Federal Home Loan Bank Discount Note	13,985	P-1	A-1+	NR
Government Securities				
U.S. Treasury Notes	9,772	Aaa	AA+	AAA
U.S. Treasury Bills	3,165	NR	A-1+	F1+
Total Fiduciary Funds	$ 62,276			

NR= Not Rated

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. Assets held in the particular funds shall be diversified to minimize the risk of loss resulting from over concentration of assets in a specific maturity, a specific issuer or a specific class of securities. As of Aug. 31, 2019, the following investments exceeded five percent of the total portfolio: Federal Home Loan Bank, Federal Home Loan Bank Discount Note, U.S. Treasuries and TexPool.

TxDOT and GPTC both address diversification in TxDOT's investment policy. Diversification strategies shall be determined and revised periodically by the investment officer for all funds.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. TxDOT and GPTC have addressed interest rate risk in its various accounts by matching as closely as possible anticipated cash flows with income and return of principal on investments. In general, all securities held by TxDOT and GPTC are anticipated to be held to maturity, thereby avoiding interest rate risk due to an early redemption. Investment maturities are noted in the investment fair value table.

NOTE 4 – LOANS RECEIVABLE

TxDOT makes loans to various local governments and regional mobility authorities. The State Infrastructure Bank (SIB) operates as a revolving loan fund, where the account balance grows through the monthly interest earned and repaid principal and interest payments. SIB financial assistance can be provided to any public or private entity authorized to construct, maintain or finance an eligible transportation project.

TxDOT also makes project loans through project development agreements. In these cases, TxDOT funds the construction costs of a regional mobility authority owned project up front and gets repayment over an established loan term. The loan receivable is recorded as TxDOT incurs eligible expenditures on the project.

The loan receivable balances as of Aug. 31, 2019 are as follows.

Loans and Contracts

August 31, 2019 (Amounts in Thousands)

Fund		**Loans Receivable**		**Due Within One Year**
General Fund	$	23	$	23
Highway Fund - Toll Equity Loans		60,049		
Highway Fund - Project Loans		429,669		1,502
Highway Fund - NTTA		117,187		7,206
Highway Fund - State Infrastructure Bank		158,692		4,819
Governmental Funds Total	$	765,620	$	13,550

NOTE 5 – LONG-TERM LIABILITIES

Long-Term Liabilities

Long-term liabilities for fiscal 2019 are presented in the table below:

Long-Term Liabilities Activity
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

Primary Government	Beginning Balance 9/01/2018	Adjustments*	Reductions	Additions**	Ending Balance 8/31/2019	Amounts Due Within One Year	Amounts Due Thereafter
Governmental Activities							
Compensable Leave	$ 101,484	$	$ (114,344)	$ 112,406	$ 99,546	$ 74,652	$ 24,894
General Obligation Bonds	10,971,358	(363,849)	(211,010)		10,396,499	296,982	10,099,517
General Obligation Bonds - Direct Placements		286,913			286,913	1,986	284,927
Revenue Bonds	4,470,180	(192,920)	(225,500)		4,051,760	275,200	3,776,560
Revenue Bonds - Direct Placements		150,000			150,000		150,000
Pollution Remediation Obligations	6,640		(10,640)	12,198	8,198	8,198	
Pass Through Tolls Payable	939,088	(7,336)	(158,066)	12,767	786,453	183,125	603,328
Notes and Loans - Direct Borrowings	294,304			7,642	301,946		301,946
Contracts Payable	22,658			8,397	31,055	4,000	27,055
Governmental Activities - Long-Term Liabilities	$ 16,805,712	$ (127,192)	$ (719,560)	$ 153,410	$ 16,112,370	$ 844,143	$ 15,268,227
Business-Type Activities							
Revenue Bonds Payable	$ 6,106,955	$ (88,771)	$ (20,365)	$ 305,155	$ 6,302,974	$ 43,420	$ 6,259,554
Revenue Bonds - Direct Placements		83,775			83,775		83,775
Notes and Loans Payable	1,552,491	(905,034)			647,457	10,532	636,925
Notes and Loans - Direct Borrowings		894,502		32,947	927,449		927,449
Business-Type Activities - Long-Term Liabilities	$ 7,659,446	$ (15,528)	$ (20,365)	$ 338,102	$ 7,961,655	$ 53,952	$ 7,907,703

* Includes reclassification related to implementation of GASB 88 and current year amortization of premiums and discounts.
**Includes current year amortization of accretion.

For long-term liabilities other than debt related to governmental activities, the State Highway Fund typically is used to liquidate liabilities in prior years.

Employees' Compensable Leave

Annual leave, commonly referred to as vacation leave, and other compensated absences with similar characteristics are accrued as a liability as the benefits are earned by TxDOT employees. Employees accrue vacation time at a rate of eight to 21 hours per month depending on years of state employment. The maximum number of hours that may be carried forward to the next fiscal year ranges from 180 hours to 532 hours based on years of state service.

Overtime, under the Fair Labor Standards Act and state laws, can be accumulated in lieu of immediate payment as compensatory leave (at one-and-one-half hours for each overtime hour worked) for nonexempt, nonemergency employees to a maximum of 240 hours. All overtime exceeding 240 hours must be paid with the next regular payroll. At termination or death, all overtime balances must be paid in full. Unpaid overtime is included in the calculation of current portion on long-term liabilities for each employee because it may be used like compensatory time or be paid.

Compensatory leave is allowed for exempt employees not eligible for overtime pay. This leave is accumulated on an hour-for-hour basis and must be taken within one year from date earned or it lapses. There is no death or termination benefit for compensatory leave. Compensatory leave is reported as a current liability. No liability is recorded for non-vesting accumulating rights to receive sick leave benefits.

Notes and Loans Payable

As of Aug. 31, 2019, three notes and loans agreements are outstanding. The outstanding direct loan related to governmental activities of $301.9 million contains various provisions resulting from certain events of default with various remedies. In particular, in the case of a payment default, interest is charged on the overdue balance of the note at the default rate (an additional 2%) until the payment default is cured (overdue balance repaid). In the case of project abandonment, the default rate is charged until the note is paid in full. In the case of certain bankruptcy related event defaults, the note becomes secured by a first priority security interest in the trust estate. The outstanding direct loan related to business-type activities of $927.4 million contains the following default provisions. Of note, in the case of (i) a payment default, interest is charged on the overdue balance of the note at the default rate (an additional 2%) until the overdue balance is repaid, (ii) a development default (which occurs upon failure of the borrower to prosecute the work related to the applicable project or to complete the applicable project in accordance with the financial plan), interest is charged at the default rate until such development default is cured, and (iii) a default due to project abandonment, the default rate is charged until the note is paid in full. Additionally, in the case of certain bankruptcy related event defaults, the note becomes secured by a first priority security interest in the trust estate. The purpose and the source for repayment of debt service for the notes and loans payable are summarized below.

TIFIA

The Commission entered into a secured loan agreement with the United States Department of Transportation (USDOT) through the Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA). USDOT agreed to lend the Commission up to $285.0 million to pay a portion of the eligible project costs related to the initial phase of the IH-35E project. As of Aug. 31, 2019, the note's debt service requirements are as follows.

IH-35E TIFIA Direct Borrowing Loan
Debt Service Requirements
(Amounts in Thousands)

	Governmental Activities		
Year	**Principal**	**Interest***	**Total**
2020	$	$	$
2021			
2022		4,136	4,136
2023		8,341	8,341
2024		8,353	8,353
2025-2029	7,724	41,582	49,306
2030-2034	42,379	38,859	81,238
2035-2039	78,186	31,665	109,851
2040-2044	92,511	19,564	112,075
2045-2049	61,593	10,125	71,718
2050-2052	40,902	2,128	43,030
Total	$ 323,295	$ 164,753	$ 488,048
Unamortized Accretion	(21,349)		(21,349)
Total Requirements	$ 301,946	$ 164,753	$ 466,699

*Fixed interest rate at 2.58 percent

The second TIFIA loan payable represents a secured loan made to the Grand Parkway Transportation Corporation by the USDOT under the TIFIA. USDOT agreed to lend GPTC up to $840.6 million to pay a portion of the eligible project costs. As of Aug. 31, 2019, the GPTC has drawn down $840.6 million under the secured loan agreement for the purpose of providing funds to refund the GPTC Series 2014-A bond anticipation notes and the GPTC Series 2014-C toll revenue bonds. In accordance with the TIFIA loan agreement, the payments of principal and interest can be postponed under certain circumstances and such postponed payments increase the principal amount of the loan. As of Aug. 31, 2019, the note's debt service requirements are as follows.

GPTC TIFIA Direct Borrowing Loan Debt Service Requirements (Amounts in Thousands)						
			Business-Type Activities			
Year		Principal		Interest*		Total
2020	$		$		$	
2021				34,528		34,528
2022				34,575		34,575
2023				34,575		34,575
2024				34,622		34,622
2025-2029		4,845		172,621		177,466
2030-2034		18,728		170,685		189,413
2035-2039		41,811		165,815		207,626
2040-2044		166,195		150,537		316,732
2045-2049		480,630		97,439		578,069
2050-2051		235,050		8,751		243,801
Total	$	947,259	$	904,148	$	1,851,407
Unamortized Accretion		(19,810)				(19,810)
Total Requirements	$	927,449	$	904,148	$	1,831,597

*Fixed interest rate at 3.65 percent.

GPTC closed a $605.3 million TIFIA loan for Grand Parkway Segments H&I on Feb. 1, 2019. The H&I TIFIA loan is anticipated to be drawn in 2022 to refund GPTC's 2018 Bond Anticipation Notes (BANs), therefore, the closing of the loan does not increase the outstanding loan amount of GPTC.

Bond Anticipation Notes (BANs)

The Grand Parkway Transportation Corporation issued a bond anticipation note for the purpose of providing funds to pay the costs of extending, expanding and improving the Grand Parkway System. Proceeds from the note will also be used to pay costs of issuance. As of Aug. 31, 2019, the note's debt service requirements are as follows.

BANs – Debt Service Requirements (Amounts in Thousands)						
Business-Type Activities						
Year		Principal		Interest*		Total
2020	$		$	30,267	$	30,267
2021				30,267		30,267
2022				30,267		30,267
2023		605,330		25,222		630,552
Total	$	605,330	$	116,023	$	721,353
Unamortized Premium		42,127				42,127
Total Requirements	$	647,457	$	116,023	$	763,480

* Fixed interest rate at 5.00 percent.

Pledged Future Revenues

Pledged revenues are those specific revenues that are formally committed to directly secure the payment of debt service. The table that follows provides information on pledged revenue and pledged future revenue of the self-supporting general obligation bonds, revenue bonds, TIFIA loans and BANs.

Pledged Future Revenue (Amounts in Thousands)	**Governmental Activities**		**Business-Type Activities**		
	Texas Mobility Fund	**State Highway Fund**	**Central Texas Turnpike System**	**Grand Parkway Transportation Corporation**	**SH 249 System**
Pledged Revenue Required for Future Principal and Interest on Existing Debt	$ 9,920,825	$ 5,859,390	$ 5,039,500	$ 9,912,888	$ 745,926
Term of Commitment Ending	10/1/2044	5/1/2052	8/15/2042	4/1/2053	8/1/2057
Percentage of Revenue Pledged	100%	100%	96.59%	91.49%	72.79%
Current Year Pledged Revenue	$ 496,636	$ 8,973,143 *	$ 265,546	$ 228,822	$ 1,767
Current Year Principal and Interest Paid	$ 367,695	$ 423,655	$ 127,416	$ 151,792	$ 3,358

* Includes pledged revenue of other state agencies using the state highway fund.

Pass-Through Tolls Payable

The balance recorded as pass-through tolls payable relates to the Commission's obligations under executed pass-through financing agreements. As of Aug. 31, 2019, there were 39 active pass-through financing agreements finalized and executed by the Commission. Under these agreements, an outside party (usually a local government) pays for all or a portion of a highway project. In return, TxDOT contractually agrees to make reimbursements after the improvement is open for traffic. Reimbursements are subject to minimum and maximum annual thresholds and are variable within those thresholds based on the volume of traffic on the project roadway. The agreements covering multiple projects generally contain a provision allowing for reimbursements to begin as each project is open for traffic.

The obligation to make future reimbursement payments is recognized as pass-through tolls payable as the underlying highway project is constructed. Accruals of payables continue until the liability amount reaches the total TxDOT reimbursement obligation specified in the agreement. If the cost of the completed underlying highway project is less than the total TxDOT reimbursement obligation, TxDOT will accrue the additional obligation amount upon that project's completion and acceptance. The estimated debt service requirements related to pass-through toll contracts executed as of Aug. 31, 2019 are as follows. The timing of actual payments may differ substantially from this estimate, but the total amount paid is linked to contractually established levels. The estimates are updated monthly to account for these variations.

Pass-Through Tolls Payable - Debt Service Requirements
(Amounts in Thousands)
Governmental Activities

Year	**Principal***
2020	$ 183,125
2021	142,835
2022	126,694
2023	102,831
2024	79,235
2025-2029	193,392
2030-2031	9,580
Total **	$ 837,692
Unrealized Payable	(51,239)
Total Requirements	$ 786,453

* There is no interest component to the pass-through toll reimbursements.
** This projection assumes the Commission's maximum potential obligation.

Contracts Payable

TxDOT is party to a financial assistance arrangement with Fort Bend County related to the expansion of Farm to Market Road 1093. The terms of this agreement are such that in return for Fort Bend County funding the costs of the project up-front, TxDOT will reimburse Fort Bend County $4 million per year for 10 years following substantial completion of Westpark Tollway Phase I and opening of the roadway to traffic. Construction on Westpark Tollway Phase I was completed in November 2017. The obligation to make future reimbursements is recognized as contracts payable. The estimated debt service requirements related to this arrangement are as follows.

Contracts Payable – Debt Service Requirements		
(Amounts in Thousands)		
Governmental Activities		
Year		**Principal***
2020	$	4,000
2021		4,000
2022		4,000
2023		4,000
2024		4,000
2025-2029		20,000
Total *	$	40,000
Unrealized Payable		(8,945)
Total Requirements	$	31,055
*There is no interest component to this contract payable.		

Pollution Remediation Obligations

TxDOT is responsible for the cleanup and remediation of several polluted sites. Regulatory requirements established by federal and state law obligate TxDOT to perform these pollution remediation activities. Historical cost averages were used to calculate the estimated pollution remediation obligation liabilities. The table below details the various compliance requirements under which TxDOT is incurring pollution remediation costs and is recording a pollution remediation liability.

Pollution Remediation Obligations - Disaggregation of Total Liability		
As of August 31, 2019 (Amounts in Thousands)		
Governmental Activities		
Comply with Federal and State asbestos requirements	$	5,243
Comply with Federal and State OSHA requirements for lead based paint		1,060
Comply with Federal Safe Drinking Water Act requirements		855
Comply with state Leaking Petroleum Storage Tank (LPST) cleanup requirements		632
Comply with OSHA Health and Safety Plan (HASP) requirements		353
Comply with state cleanup requirements (non-LPST sources)		55
Total	$	8,198

Federal reimbursements are expected to offset a portion of these estimated costs. When realizable, the federal reimbursements are recognized as federal revenue. The potential for changes due to price increases or reductions, technology or applicable laws or regulations was incorporated into these estimates.

Claims and Judgments

TxDOT's involvement in claims and judgments is discussed in detail in Note 15. Management's opinion is that the probable outcome of claims and judgments against TxDOT will not materially affect the financial position of TxDOT; therefore, no liability amount has been accrued.

NOTE 6 – BONDED INDEBTEDNESS

As discussed more fully in the sections that follow, the Commission and TxDOT's blended component units are authorized through various statutory and constitutional provisions to issue general obligation and revenue bonds as well as private activity bonds.

As of Aug. 31, 2019, the Commission had 30 bond issues outstanding. The Texas Private Activity Bond Surface Transportation Corporation (TxPABST), a blended component unit of TxDOT, had five conduit debt bond issues outstanding as of Aug. 31, 2019. The Grand Parkway Transportation Corporation (GPTC), another blended component unit of TxDOT, had six revenue bond issuances outstanding as of Aug. 31, 2019. The debt service payments associated with debt issued by TxPABST and GPTC are not the responsibility of the state of Texas, however due to the relationship between TxDOT and these entities, their disclosures and, as appropriate, financial balances associated with the outstanding bonds are included in this report.

Miscellaneous Bond Information
(Amounts in Thousands)

Description of Issue		Bonds Issued to Date	Date Issued	Range of Interest Rates		Maturities First Year	Maturities Last Year	First Call Date
GOVERNMENTAL ACTIVITIES								
General Obligation Bonds								
Texas Mobility Fund								
Series 2006-B Variable Rate Bonds	$	150,000	12/13/2006	variable		2036	2036	**
Series 2009-A Taxable Fixed Rate Bonds		1,208,495	08/26/2009	5.37%	5.52%	2029	2039	**
Series 2014 Fixed Rate Refunding Bonds		973,775	07/02/2014	4.00%	5.00%	2016	2034	04/01/2024
Series 2014-A Fixed Rate and Refunding Bonds		1,580,160	12/18/2014	4.00%	5.00%	2017	2044	10/01/2024
Series 2014-B SIFMA Bonds		250,000	12/18/2014	variable		2041	2041	10/01/2021
Series 2015-A Fixed Rate Refunding Bonds		911,360	09/30/2015	3.20%	5.00%	2018	2036	10/01/2025
Series 2015-B Fixed Rate Refunding Bonds		254,105	10/07/2015	5.00%	5.00%	2031	2036	10/01/2025
Series 2017-A Fixed Rate Refunding Bonds		296,020	02/01/2017	5.00%	5.00%	2030	2034	10/01/2027
Series 2017-B Fixed Rate Refunding Bonds		474,135	02/01/2017	5.00%	5.00%	2029	2036	10/01/2027
Texas Highway Improvement								
Series 2010-A Taxable Fixed Rate Bonds		815,420	09/29/2010	3.20%	4.68%	2019	2040	**
Series 2012-A Fixed Rate Bonds		818,635	12/18/2012	5.00%	5.00%	2019	2042	04/01/2022
Series 2012-B Taxable Fixed Rate Bonds		99,570	12/18/2012	0.30%	1.50%	2014	2019	n/a
Series 2014 Fixed Rate Bonds		1,260,000	10/15/2014	2.00%	5.00%	2015	2044	04/01/2024
Series 2016 Fixed Rate Bonds		615,000	05/04/2016	5.00%	5.00%	2017	2046	04/01/2026
Series 2016-A Fixed Rate Bonds		588,755	11/02/2016	4.00%	5.00%	2018	2046	04/01/2026
Revenue Bonds								
State Highway Fund								
Series 2008 Fixed Rate Bonds		162,995	08/19/2008	3.50%	5.25%	2010	2028	04/01/2018
Series 2010 Taxable Fixed Rate Bonds		1,500,000	08/05/2010	5.03%	5.18%	2026	2030	**
Series 2014-A Fixed Rate and Refunding Bonds		1,157,795	04/02/2014	4.75%	5.00%	2017	2034	04/01/2024
Series 2014-B1 Variable Rate Bonds		150,000	04/03/2017	variable		2032	2032	**
Series 2014-B2 LIBOR Bonds		150,000	04/03/2017	variable		2032	2032	**
Series 2015 Fixed Rate Refunding Bonds		781,080	07/22/2015	3.00%	5.00%	2017	2026	n/a
Series 2016-A Fixed Rate Bonds		601,210	10/26/2016	3.00%	5.00%	2017	2030	10/01/2026
Series 2016-B Hard Put Refunding Bonds		89,370	10/26/2016	4.00%	4.00%	2025	2026	10/01/2021
Governmental Activities Total	$	14,887,880						

** Bonds are subject to redemption prior to their respective maturities at the option of the Commission.

Miscellaneous Bond Information (Concluded)
(Amounts in Thousands)

Description of Issue		Bonds Issued to Date	Date Issued	Range of Interest Rates		Maturities First Year	Maturities Last Year	First Call Date
BUSINESS-TYPE ACTIVITIES								
Revenue Bonds								
Central Texas Turnpike System								
First Tier Revenue Bonds Series 2002-A								
Non-Callable Capital Appreciation Bonds***	$	680,837	08/29/2002	4.47%	5.75%	2012	2030	n/a
Callable Capital Appreciation Bonds*		325,494	08/29/2002	6.00%	6.10%	2025	2038	08/15/2012
First Tier Revenue Refunding Bonds, Series 2012-A		585,330	11/27/2012	4.00%	5.00%	2038	2041	08/15/2022
First Tier Revenue Refunding Put Bonds, Series 2015-A		225,000	02/04/2015	5.00%	5.00%	2041	2042	04/01/2020
First Tier Revenue Refunding Bonds, Series 2015-B		198,025	02/04/2015	5.00%	5.00%	2032	2037	08/15/2024
First Tier Revenue Refunding Bonds, Series 2015-B Capital Appreciation Bonds		112,875	02/04/2015	4.36%	4.38%	2036	2037	08/15/2024
Second Tier Revenue Refunding Bonds, Series 2015-C		1,157,320	02/04/2015	5.00%	5.00%	2022	2042	08/15/2024
Grand Parkway Transportation Corporation								
First Tier Revenue Bonds, Series 2013-A		200,000	08/01/2013	5.13%	5.50%	2031	2053	10/01/2023
Subordinate Tier Toll Revenue Bonds, Series 2013-B								
Convertible Capital Appreciation Bonds***		389,276	08/01/2013	4.95%	5.85%	2029	2048	10/01/2028
Current Interest Bonds		1,137,935	08/01/2013	5.00%	5.25%	2048	2053	10/01/2023
Subordinate Tier Toll Revenue Bonds, Series 2013-E		361,810	08/01/2013	5.18%	5.18%	2036	2042	**
Subordinate Tier Toll Revenue Bonds, Series 2016		83,775	12/07/2016	2.20%	2.20%	2023	2023	n/a
Subordinate Tier Toll Revenue Bonds, Series 2018-A		712,100	05/30/2018	5.00%	5.00%	2030	2048	04/01/2028
Subordinate Tier Toll Revenue Bonds, Series 2018-B		166,525	05/30/2018	5.00%	5.00%	2049	2052	10/01/2023
SH249 System								
First Tier Toll Revenue Bonds, Series 2019A								
Current Interest Bonds		144,085	02/26/2019	5.00%	5.00%	2053	2057	02/01/2029
Capital Appreciation Bonds***		94,665	02/26/2019	3.39%	5.10%	2028	2053	02/01/2029
First Tier Toll Revenue Bonds, Taxable Series 2019B		12,795	02/26/2019	4.55%	4.70%	2030	2033	02/01/2029
Business-Type Activities Total		6,587,847						
Total	$	21,475,727						

*These bonds are not outstanding as of 08/31/2019.
** Bonds are subject to redemption prior to their respective maturities at the option of the Commission.
*** Bonds issued to date include interest accreted to principal.

Changes in Bonds Payable
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

Description	Bonds Outstanding 8/31/2018	Adjustments*	Bonds Issued**	Bonds Matured or Retired	Bonds Refunded or Extinguished	Bonds Outstanding 8/31/2019	Due Within One Year
Governmental Activities:							
General Obligation Bonds	$ 10,971,358	$ (363,849)	$	$ (211,010)	$	$ 10,396,499	$ 296,982
General Obligation Bonds - Direct Placements		286,913				286,913	1,986
Revenue Bonds	4,470,180	(192,920)		(225,500)		4,051,760	275,200
Revenue Bonds - Direct Placements		150,000				150,000	
Total Governmental Activities	15,441,538	(119,856)		(436,510)		14,885,172	574,168
Business-Type Activities:							
Revenue Bonds	6,106,955	(88,771)	305,155	(20,365)		6,302,974	43,420
Revenue Bonds - Direct Placements		83,775				83,775	
Total Business-Type Activities	6,106,955	(4,996)	305,155	(20,365)		6,386,749	43,420
Total	$ 21,548,493	$ (124,852)	$ 305,155	$ (456,875)	$ 0	$ 21,271,921	$ 617,588

*Includes reclassification relating to implementation of GASB 88 and current year amortization of premiums and discounts.

** Includes current year amortization of accretion.

General Obligation Bonds – General Comments

The Texas Constitution authorizes the Commission to issue general obligation bonds backed by the full faith and credit of the state. As of Aug. 31, 2019, two general obligation bond programs are active. All general obligation bond issuances must be approved by the Texas Bond Review Board prior to issuance. The purpose and the sources for the repayment of debt service for each program are summarized as follows.

Texas Mobility Fund General Obligation Bond Program

Texas Constitution, Article III, Section 49-k and Transportation Code, Chapter 201, Subchapter M authorize the Commission to issue general obligation bonds payable from a pledge of and lien on all or part of the money in the Mobility Fund. The Mobility Fund bonds are designed to be self-supporting, but the full faith and credit of the state is pledged in the event the revenue and money dedicated to the Mobility Fund is insufficient to pay debt service on the bonds. As of Aug. 31, 2019, major sources of pledged revenue to the Mobility Fund include driver license fees, motor vehicle inspection fees, certificate of title fees and driver record information fees.

The issuance of Mobility Fund bonds is subject to debt service coverage requirements. Prior to a Mobility Fund debt issuance, the Texas Comptroller of Public Accounts must certify that there will be sufficient future resources on deposit in the Mobility Fund to ensure 110 percent coverage of debt service requirements during the period that the debt will be outstanding. Subject to the debt service coverage requirement, the Mobility Fund constitutional provision does not limit the amount of obligations that may be issued under the program. The Mobility Fund program is currently established in the aggregate principal amount of $7.5 billion outstanding at any one time. House Bill 122, which was enacted during the regular session of the 84th Legislature and became effective on June 10, 2015, amends the authority to provide that no additional program obligations may be issued or incurred after Jan. 1, 2015, except for obligations issued to refund outstanding obligations to provide savings or to renew or replace credit agreements relating to outstanding variable rate obligations. Additionally, HB 122 provides that money in the Mobility Fund, in excess of amounts required by the proceedings authorizing obligations and credit agreements to be retained on deposit, may not be used for toll roads.

Bond proceeds are to be used to refunding existing bonds and related credit agreements, creating reserves for payment of bonds and related credit agreements, paying bond issuance costs and paying interest on the bonds and related credit agreements.

In an event of default in connection with any covenant or in any supplement, or default in the payment of annual debt service requirements due in connection with any parity debt, or other costs and expenses related thereto, any owner of parity debt (which includes all Mobility Fund bondholders) may require the Commission, the Department, its officials and employees, and any appropriate official of the State, to carry out, respect, or enforce the covenants and obligations of the Master Resolution or any Supplement, by all legal and equitable means, including specifically the use and filing of mandamus proceedings in any court of competent jurisdiction in Travis County, Texas against the Commission, the Department, its officials and employees, or any appropriate official of the State.

The Series 2015-B outstanding balance of $286.9 million is from direct placements.

Texas Highway Improvement General Obligation Bond Program (Proposition 12)

Texas Constitution, Article III, Section 49-p and Transportation Code, Section 222.004, authorizes the Commission to issue general obligation bonds of the state of Texas for the costs of highway improvement projects including construction, reconstruction, design, the acquisition of right-of-way, the costs of administering the highway improvement projects and the costs of issuing the bonds. These bonds are not self-supporting and are considered a general obligation of the state of Texas. As of Aug. 31, 2019, the Commission has issued $5.0 billion under the Texas highway improvement general obligation bond program.

In an event of default in connection with (i) failure to make payment of the principal of or interest on any of the bonds or credit agreements when due and payable or (ii) the performance or observance of any other covenant, agreement or obligation of the Commission or the State, which materially adversely affects the rights of the bond owns, any owner of bonds or credit agreements may require the Commission, the Department, its officials and employees, and any appropriate official of the State, to carry out, respect, or enforce the covenants and obligations of the Master Resolution or any Supplement, by all legal and equitable means, including specifically the use and filing of mandamus proceedings in any court of competent jurisdiction in Travis County, Texas against the Commission, the Department, its officials and employees, or any appropriate official of the State. The State has not waived sovereign immunity with respect to the enforcement of the obligations of the Commission and the State relating to any series of bonds or credit agreements.

Debt Service Requirements – Governmental Activities							
General Obligation Bonds (Amounts in Thousands)				**General Obligation Bonds Direct Placements** (Amounts in Thousands)			
Year	**Principal**	**Interest**	**Total**	**Year**	**Principal**	**Interest**	**Total**
2020	$ 223,915	$ 449,374	$ 673,289	2020	$	$ 12,705	$ 12,705
2021	237,925	438,323	676,248	2021		12,705	12,705
2022	252,760	426,562	679,322	2022		12,705	12,705
2023	268,485	413,997	682,482	2023		12,705	12,705
2024	285,150	400,575	685,725	2024		12,705	12,705
2025-2029	1,710,860	1,769,529	3,480,389	2025-2029		63,526	63,526
2030-2034	2,125,035	1,305,666	3,430,701	2030-2034	63,450	58,027	121,477
2035-2039	2,723,755	778,485	3,502,240	2035-2039	190,655	18,480	209,135
2040-2044	1,359,630	213,493	1,573,123				
2045-2049	248,576	9,515	258,091				
	9,436,091	6,205,519	15,641,610		254,105	203,558	457,663
Premium	960,408		960,408	Premium	32,808		32,808
Total	$ 10,396,499	$ 6,205,519	$ 16,602,018	Total	$ 286,913	$ 203,558	$ 490,471

Revenue Bonds – General Comments

The Texas Constitution and Transportation Code authorize the Commission to issue revenue bonds backed by pledged revenue sources and restricted funds. The active revenue bond programs of TxDOT and the Grand Parkway Transportation Corporation are summarized as follows.

State Highway Fund Revenue Bond Program (Proposition 14)

Texas Constitution, Article III, Section 49-n and Transportation Code, Section 222.003 authorizes the Commission to issue revenue bonds to finance highway improvement projects. The bonds are payable from pledged revenues deposited to the credit of the state highway fund, including dedicated taxes, dedicated federal revenues and amounts collected or received pursuant to other state highway fund revenue laws and any interest or earning from the investment of these funds. As of Aug. 31, 2019, the Commission has issued $6.0 billion under the state highway fund revenue bond program.

In an event of default, the purchaser may take the following actions:

(i) Direct the tender agent and the Commission, as applicable, to cause a mandatory tender of the bonds or take such other remedial action as is provided for in the Resolution;
(ii) Exercise any and all remedies as it may have under the related documents and as otherwise available at law and equity;
(iii) Take whatever action at law or in equity may appear necessary or desirable to collect the amounts due and payable by the Commission under the Related Documents (including all outstanding debt service on the 2014-B2 bonds) or to enforce performance or observance of any obligation, agreement or covenant of the Commission under the Related Documents.

In general, in the event of a default in the payment of debt service due in connection with any State Highway Fund bonds or any other costs and expenses relating thereto, or a default by the Commission in the performance of any duty or covenant provided in law or in the Resolution, any owner of State Highway Fund bonds may require the Commission or the Department or its officials and employees to carry out, respect, or enforce the Commission's covenants and obligations relating to the State Highway Fund bonds by all legal and equitable means, including specifically the use and filing of mandamus proceedings in State court.

The series 2014-B2 outstanding balance of $150 million is from direct placements.

Total debt service requirements for State Highway Fund revenue bonds are presented as follows.

Debt Service Requirements – Governmental Activities							
Revenue Bonds (Amounts in Thousands)				**Revenue Bonds - Direct Placements** (Amounts in Thousands)			
Year	**Principal**	**Interest**	**Total**	**Year**	**Principal**	**Interest**	**Total**
2020	$ 236,580	$ 183,176	$ 419,756	2020	$	$ 3,660	$ 3,660
2021	248,615	171,155	419,770	2021		3,650	3,650
2022	260,480	159,281	419,761	2022		3,650	3,650
2023	271,155	148,609	419,764	2023		3,650	3,650
2024	283,420	135,178	418,598	2024		3,660	3,660
2025-2029	1,624,520	447,711	2,072,231	2025-2029		18,260	18,260
2030-2034	902,035	103,613	1,005,648	2030-2034	150,000	9,284	159,284
	3,826,805	1,348,723	5,175,528				
Premium	224,955		224,955				
Total	$ 4,051,760	$ 1,348,723	$ 5,400,483	Total	$ 150,000	$ 45,814	$ 195,814

Central Texas Turnpike System Revenue Bond Program

Transportation Code, Chapter 228 Subchapter C authorizes the Commission to issue revenue bonds to pay a portion of the costs of planning, designing, engineering, developing and constructing the Central Texas Turnpike System (CTTS) located in the greater Austin metropolitan area in Travis and Williamson counties. The bonds are payable from and secured solely by a first and second lien on, as applicable, and pledge of the trust estate. The trust estate consists of all project revenues and investment earnings. Neither the state, the Commission, TxDOT, nor any other agency or political subdivision of the state, is obligated to pay the debt service on the CTTS revenue bonds.

In an event of default under the terms of the Indenture of Trust dated as of July 15, 2002, the Trustee may take the following actions and upon the written request of the owners of not less than 20 percent in principal amount of outstanding obligations shall proceed to:

(i) Protect and enforce its rights and the rights of the owners under the state law and the Indenture by such suits, actions or special proceedings in equity or at law, or by proceedings in the office of any board or officer having jurisdiction, either for mandamus or the specific performance of any covenant or agreement contained in the Indenture or in aid or execution of any power granted by the Indenture or for the enforcement of any proper legal or equitable remedy, as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce such rights.

(ii) In the enforcement of any remedy under the Indenture the Trustee shall be entitled to sue for, enforce payment of and receive any and all amounts then or during any event of default becoming, and at any time remaining, due from the Commission.

Grand Parkway System Toll Revenue Bond Program

Transportation Code, Chapter 431 authorizes the creation of the Grand Parkway Transportation Corporation, a public, non-profit Texas corporation created by the Commission to act on behalf of the Commission to finance, build and operate certain segments of State Highway 99 (the “Grand Parkway Project”) in the greater Houston area. In March 2012, the Commission adopted a resolution creating the Grand Parkway Transportation Corporation (GPTC). GPTC is authorized to assist and act on behalf of the Commission in the development, financing, design, construction, reconstruction, expansion, operation and/or maintenance of the Grand Parkway toll project. The bond obligations are payable from tolls and other revenues of the GPTC held by the trustee. Neither the state, the Commission, nor any other agency or political subdivision of the state is obligated to pay the debt service on the GPTC bonds.

In an event of default, and upon the written request of the owners of not less than 20 percent in principal amount of outstanding obligations, the Trustee shall proceed to:

(i) Protect its rights and the rights of the owners under Chapter 431, Transportation Code and under the Trust Agreement, the Toll Rate Agreement or certain sections of the Project Agreement by such suits, actions or special proceedings in equity or at law, or by proceedings in the office of any board or officer having jurisdiction, either for mandamus or the specific performance of any covenant or agreement contained in the Trust Agreement or in aid or execution of any power granted in the Trust Agreement for the enforcement of any proper legal or equitable remedy, as the Trustee, being advised by counsel, deems most effectual to protect and enforce such rights. Acceleration of principal of or interest on the obligations upon the occurrence of an event of default is not a remedy available under the Trust Agreement.

(ii) In the enforcement of any remedy under the Trust Agreement the Trustee shall be entitled to sue for, enforce payment of and receive any and all amounts then or during any default becoming, and at any time remaining, due from the Corporation and to enforce judgment or decree against the Corporation but solely as provided in the Trust Agreement.

GPTC series 2016 bonds are direct placements. The outstanding par value is $83.8 million.

SH249 System Revenue Bond Program

Transportation Code, Chapter 228 authorizes the Commission to issue toll revenue bonds to finance the cost of construction, improvement, extension, or expansion of a toll project or system in the State. In February 2019, the Commission issued $249.3 million in toll revenue bonds (2019 SH 249 Bonds) to finance the cost of an approximately 15-mile tolled highway (Segment 1) to serve as a northerly extension of the existing State Highway 249 (SH 249) and to be located between FM 1774 in Pinehurst, Texas (Montgomery County) and FM 1774 near Todd Mission, Texas (Grimes County). The 2019 SH 249 Bonds constitute special, limited obligations of the Commission secured by and payable solely from a first lien on, pledge of, and security interest in the trust estate (Trust Estate) for the 2019 SH 249 Bonds and are payable prior to the payment of operating and maintenance expenses on Segment 1. The Trust Estate consists primarily of toll revenues to be generated by the operation of Segment 1. None of the Commission, TxDOT, or any other agency or political subdivision of the State is obligated to pay debt service on the 2019 SH 249 Bonds except the Commission solely from the Trust Estate and certain funds created under the master trust agreement (Master Trust Agreement) for the 2019 SH 249 Bonds. The Commission has currently designated Segment 1 as comprising the entire SH 249 System, and Segment 1 will be the first and initially the only segment of the SH 249 System. The Commission may choose to expand or enlarge the SH 249 System, but the Commission currently has no plans for such expansion or enlargement. Subject to the terms of the Master Trust Agreement, the Commission may issue additional bonds or other obligations at any time, secured by a lien on the Trust Estate that is on parity with, or subordinate to, the first lien on the Trust Estate securing payment of the 2019 SH 249 Bonds, in order to finance the expansion or enlargement of the SH 249 System.

In an event of default, the Trustee may proceed and upon the written request of the owners of not less than 20 percent in principal amount of outstanding obligations, shall proceed to:

(iii) Protect and enforce its rights and the rights of the owners under State law and under the Master Trust Agreement by such suits, actions or special proceedings in equity or at law, or by proceedings in the office of any board or officer having jurisdiction, either for mandamus or the specific performance of any covenant or agreement in the Master Trust Agreement or in aid or execution of any power granted in the Master Trust Agreement or for the enforcement of any proper legal or equitable remedy, as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce such rights. Acceleration of the principal of or interest on the obligations is not a remedy available under the Master Trust Agreement.

(iv) In the enforcement of any remedy under the Master Trust Agreement the Trustee shall be entitled to sue for, enforce payment of and receive any and all amounts then or during any default becoming, and at any time remaining, due from the Corporation.

The summarized debt service requirements for the CTTS, GPTC and SH249 System is as follows.

Debt Service Requirements – Business-Type Activities (Amounts in Thousands)							
Revenue Bonds				**Revenue Bonds Direct Placements**			
Year	**Principal**	**Interest**	**Total**	**Year**	**Principal**	**Interest**	**Total**
2020	$ 26,715	$ 246,693	$ 273,408	2020	$	$ 1,843	$ 1,843
2021	36,480	246,693	283,173	2021		1,843	1,843
2022	45,350	246,693	292,043	2022		1,843	1,843
2023	54,315	246,583	300,898	2023		1,843	1,843
2024	63,380	260,193	323,573	2024	83,775	927	84,702
2025-2029	476,340	1,362,198	1,838,538				
2030-2034	822,610	1,297,390	2,120,000				
2035-2039	1,473,080	1,059,803	2,532,883				
2040-2044	1,318,230	700,067	2,018,297				
2045-2049	776,675	476,015	1,252,690				
2050-2054	1,488,220	207,827	1,696,047				
2055-2059	92,526	9,404	101,930				
	6,673,921	6,359,559	13,033,480				
Accretion	(686,010)		(686,010)				
Premium	331,544		331,544				
Discount	(16,481)		(16,481)				
Total	$ 6,302,974	$ 6,359,559	$ 12,662,533	Total	$ 83,775	$ 8,299	$ 92,074

Build America Bonds

The American Recovery and Reinvestment Act of 2009 granted municipal debt issuers access to a broader investor base in the taxable market by providing a federal interest rate subsidy payment to offset debt service costs through the Build America Bonds (BABs) program. Direct Payment BABs provide a federal reimbursement to TxDOT equal to 35 percent of the interest paid on the bonds.

As a result of budget sequestration, the federal government reduced subsidy payments for BABs by 6.2 percent effective Oct. 1, 2018 through Sept. 30, 2019 for BAB subsidy payments paid in federal fiscal year 2019. See the table below for details on the Commission's Direct Payment BABs outstanding at Aug. 31, 2019.

Direct Payment Build America Bonds (Amounts in Thousands)	**Issue Date**	**Par Amount**	**Outstanding**
Governmental Activities			
General Obligation Bonds			
Texas Mobility Fund Series 2009-A	8/26/2009	$ 1,208,495	$ 1,208,495
Texas Highway Improvement Bonds Series 2010-A	9/29/2010	815,420	787,700
Revenue Bonds			
State Highway Fund Series 2010	8/05/2010	1,500,000	1,500,000
Governmental Activities Total		$ 3,523,915	$ 3,496,195

Variable Rate Bonds

The Commission and GPTC have four variable rate bond issues outstanding at Aug. 31, 2019. The interest rates in effect as of Aug. 31, 2019 for the Texas Mobility Fund Series 2006-B, Texas Mobility Fund Series 2014-B, State Highway Fund Series 2014-B1 and State Highway Fund Series 2014-B2 used to calculate the debt service requirements were 1.36, 1.65, 1.40, and 2.40 percent, respectively. These rates reset every seven days, except for the State Highway Fund Series 2014-B2 bonds which resets monthly.

Variable Rate Put Bonds

The Commission has two variable rate put bond issues outstanding, the Texas Mobility Fund Series 2014-B bonds and the State Highway Fund Series 2014-B2 bonds. The Texas Mobility Fund Series 2014-B bonds bear interest at the initial index floating rate determined weekly. The State Highway Fund Series 2014-B2 bonds bear interest at the index floating rate determined monthly. Both are subject to mandatory tender for purchase on the mandatory tender date as specified in each award certificate. Neither is subject to optional tender prior to the mandatory tender date.

The Commission has not provided any credit or liquidity facility for the payment of the purchase price of the bonds payable upon the mandatory tender date for either bond issue. For the Texas Mobility Fund Series 2014- B bonds, the Commission expects to either redeem or remarket the bonds. The obligation of the Commission to purchase the Texas Mobility Fund Series 2014-B bonds on the mandatory tender date is subject to the successful remarketing of such Texas Mobility Fund Series 2014-B bonds and a failed conversion and remarketing will not constitute an event of default. The Commission has no obligation to purchase Texas Mobility Fund Series 2014- B bonds except from remarketing proceeds. If the Texas Mobility Fund Series 2014- B bonds are not remarketed or refunded on the mandatory tender date, the bonds will bear interest at the stepped coupon rate of 8.0 percent per annum from the mandatory tender date until purchased or redeemed.

For the State Highway Fund Series 2014-B2 bonds, the Commission expects to either redeem or remarket the bonds. The obligation of the Commission to purchase the State Highway Fund Series 2014-B2 bonds on the mandatory tender date is subject to the successful remarketing of such State Highway Fund Series 2014-B2 bonds and a failed conversion and remarketing will not constitute an event of default. The Commission has no obligation to purchase the State Highway Fund Series 2014-B2 bonds except from remarketing proceeds. If the State Highway Fund Series 2014-B2 bonds are not remarketed or refunded on the mandatory tender date, the bonds will bear interest at 8.0 percent per annum from the mandatory tender date until purchased or redeemed.

Fixed Rate Put Bonds

The Commission has two fixed rate put bond issues outstanding, the State Highway Fund Series 2016-B bonds and the Central Texas Turnpike System Series 2015-A bonds. Both bonds were issued in a multiannual rate mode. Both are subject to mandatory tender for purchase on the initial mandatory tender date. Neither is subject to optional tender prior to the mandatory tender date.

The Commission has not provided any credit or liquidity facility for the payment of the purchase price of the bonds payable upon the mandatory tender date for either bond. For the State Highway Fund Series 2016-B bonds, the Commission is obligated to pay the purchase price of all tendered 2016-B bonds on the mandatory tender date from the remarketing proceeds, pledged revenues, or any combination thereof. Failure to do so constitutes an event of default.

For the Central Texas Turnpike System Series 2015-A bonds, the principal portion of the purchase price is expected to be obtained from the remarketing thereof. The obligation of the Commission to purchase the 2015-A bonds on the mandatory tender date is subject to the successful remarketing of such 2015-A bonds and a failed conversion and remarketing will not constitute an event of default. The Commission has no obligation to purchase the Central Texas Turnpike System Series 2015-A bonds except from remarketing proceeds. If the Series 2015-A bonds are not remarketed or refunded on the mandatory tender date, the bonds will bear interest at the stepped coupon rate of 8.0 percent per annum from the mandatory tender date until purchased or redeemed.

Put Bonds (Amounts in Thousands)					
Description of Issue	**Mandatory Tender Date**	**Initial Rate**	**Initial Period Interest**	**Stepped Coupon Rate**	**Stepped Rate Period Interest[1]**
Governmental Activities					
General Obligation Bonds					
Texas Mobility Fund					
Series 2014-B	10/01/2021	SIFMA + 0.30%	Variable[2]	8.00% per annum	$ 20,000
Revenue Bonds					
State Highway Fund					
Series 2014-B2	04/01/2022	LIBOR * 77% + .68%	Variable[3]	Base Rate + 1% per annum[5]	$ 12,000
Series 2016-B	10/01/2021	4.00% per annum[4]	$ 3,575	None[6]	n/a
Business-Type Activities					
Central Texas Turnpike System:					
First Tier Revenue Put Bonds					
Series 2015-A	04/01/2020	5.00% per annum[4]	$ 11,250	8.00% per annum	$ 18,000

[1] Assumes a full year of interest
[2] Index Floating Rate Mode/resets weekly
[3] Index Floating Rate Mode/resets monthly
[4] Multiannual Mode
[5] Base Rate is 7.0% at Aug. 31, 2019
[6] The Commission is obligated to pay the purchase price of all tendered bonds on the Mandatory Tender Date.

Demand Bonds

The Texas Mobility Fund Series 2006-B and the State Highway Fund Series 2014-B1 variable rate bonds are demand bonds. A bond holder may tender any of these bonds for repurchase prior to maturity at a price equal to principal plus accrued interest. Any bonds so tendered will be purchased either by the proceeds of the remarketing of such bonds or, if not successfully remarketed, from amounts drawn under the standby bond purchase agreements. The following tables provide details for outstanding demand bonds and the related standby bond purchase agreements as of Aug. 31, 2019.

Demand Bonds – Standby Bond Purchase Agreement Provisions (Amounts in Thousands)				
Governmental Activities	**Principal Balance Outstanding**	**Counterparties**	**Annual Liquidity Fee**	**Agreement Termination Date**
General Obligation Bonds				
Texas Mobility Fund				
Series 2006-B	$150,000	Texas Comptroller of Public Accounts	0.12%	8/31/2021
Revenue Bonds				
State Highway Fund				
Series 2014-B1	150,000	Sumitomo Mitsui Banking Corporation	0.3% - 3.0%*	4/01/2022
TOTAL	$300,000			

* Dependent on credit ratings of the bonds.

The Texas Mobility Fund Series 2006-B bonds are subject to a standby bond purchase liquidity agreement (agreement) with the Texas Comptroller of Public Accounts (Comptroller). The agreement provides terms to be negotiated and mutually agreed upon by TxDOT and the Comptroller upon need for the Comptroller to purchase bonds put but that the remarketing agent cannot resell timely to new investors. In that case, TxDOT would pay interest to the Comptroller based on the existing debt service schedule for the Series 2006-B bonds.

The agreement was made pursuant to powers granted to Comptroller under Texas Government Code Sec. 404.027. The agreement provides protection to prevent an unplanned draw on current financial resources of the Texas Mobility Fund. The agreement is subject to renewal on a biennial basis.

For fiscal 2019, the Trustee did not draw from the Comptroller related to the Series 2006-B demand bonds.

The standby bond purchase agreement for the State Highway Fund Series 2014-B1 contains takeout provisions, which provide an alternative debt instrument to replace any repurchased bonds that are not remarketed within the prescribed time constraints. Outstanding principal balances on variable rate demand bonds that have take-out provisions in place may be classified as non-current liabilities. The table shown below provides the estimated impact of such an event.

Demand Bonds – Takeout Provisions (Amounts in Thousands)					
Governmental Activities		**Estimated Debt Service**	**Rate**	**Basis**	**Replacement Debt Terms**
Revenue Bonds					
State Highway Fund					
Series 2014-B1	$	174,947	9.50%	Base Rate + 2%	Semi-annual payments over three years (or sooner under certain termination events) starting on the first day of the sixth month of that period.
Total	$	174,947			

Defeased Bonds

The Commission defeased various bond issues by placing funds and securities in irrevocable trusts with external financial institutions to provide for all future debt service payments on the bonds through the earlier of the maturity date or the first call date. As of Aug. 31, 2019, the amounts of defeased bonds, at par, that remain outstanding are presented in the table below.

Defeased Bonds Outstanding (Amount in Thousands)		
Description		**Par Value**
Business-Type Activities		
Revenue Bonds		
Central Texas Turnpike System Capital Appreciation Bonds	$	52,062 *
Business-Type Activities Total		52,062
Total	$	52,062
* Includes $37,861 of accreted interest.		

Conduit Debt Private Activity Bond Program

Transportation Code, Chapter 431 provides the authority for transportation corporations to issue bonds. The Texas Private Activity Bond Surface Transportation Corporation (TxPABST), a Texas public non-profit corporation blended component unit, has issued private activity bonds to finance costs related to the construction of the LBJ Interstate Highway 635 managed lanes, located in Dallas County, certain segments of the North Tarrant Express Facility in Tarrant County and the SH 288 toll lanes project in Harris County.

The proceeds from TxPABST bonds were loaned to LBJ Infrastructure Group LLC, NTE Mobility Partners LLC, NTE Mobility Partners Segments 3 LLC and Blueridge Transportation Group, LLC to finance costs related to the planning, development, design and construction of these transportation projects. These bonds are special limited obligations of TxPABST, payable solely from and secured by loan and interest repayments from the borrowers. The bonds do not constitute a debt or pledge of the faith and credit of TxPABST, TxDOT or the state of Texas. As of Aug. 31, 2019, TxPABST private activity revenue bonds outstanding aggregated $2.3 billion. The debt service schedule for the outstanding TxPABST conduit debt is disclosed below.

Conduit Debt Obligations - Miscellaneous Information (Amounts in Thousands)	NTE Mobility Partners LLC North Tarrant Express Managed Lanes Project Series 2009	LBJ Infrastructure Group LLC IH-635 Managed Lanes Project Series 2010	NTE Mobility Partners Segments 3 LLC Segments 3A and 3B Facility Series 2013	Blueridge Transportation Group, LLC SH 288 Toll Lanes Project Series 2016	NTE Mobility Partners Segments 3 LLC Segments 3C Project Series 2019
Bonds Issued	$ 400,000	$ 615,000	$ 274,030	$ 272,635	$ 653,865
Date Issued	12/17/2009	06/22/2010	09/19/2013	05/09/2016	08/08/2019
Range of Interest Rates	6.88% - 7.50%	7.00% - 7.50%	6.75% - 7.00%	5.00%	5.00%
Maturities (First Year - Last Year)	2031 - 2039	2032 - 2040	2038 - 2043	2036 - 2055	2047-2058
First Call Date	12/31/2019	06/30/2020	09/01/2023	12/31/2025	06/30/2029

Conduit Debt Obligations – Debt Service (Amounts in Thousands)
TxPABST Bonds – Conduit Debt

Year	Principal	Interest	Total
2020	$	$ 133,414	$ 133,414
2021		136,774	136,774
2022		136,774	136,774
2023		136,774	136,774
2024		136,774	136,774
2025-2029		683,871	683,871
2030-2034	345,195	641,162	986,357
2035-2039	705,930	453,175	1,159,105
2040-2044	320,935	245,375	566,310
2045-2049	181,790	197,931	379,721
2050-2054	359,890	126,765	486,655
2055-2059	301,790	32,888	334,678
	2,215,530	3,061,677	5,277,207
Premium	122,677		122,677
Discount	(14,713)		(14,713)
Total	$ 2,323,494	$ 3,061,677	$ 5,385,171

NOTE 7– LEASES

Operating Leases

To minimize long-term costs, and to ensure future availability of essential services, TxDOT, in routine transactions, enters into leases which extend beyond a single fiscal year. Rental expenditures for operating leases reported in the state highway fund was $32.5 million in 2019.

The following table presents future minimum lease rental payments under non-cancelable operating leases having an initial term in excess of one year as of August 31, 2019.

Noncancelable Operating Lease Obligations
(Amounts in Thousands)

Fiscal Year	Total Operating Leases
2020	$ 7,681
2021	5,535
2022	4,303
2023	1,943
2024	1,762
2025-2029	4,035
Total	$ 25,259

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NOTE 8 – RETIREMENT PLAN

Employees of the Texas Department of Transportation (TxDOT) are under the coverage of the Employees Retirement System of Texas Plan (ERS Plan), which is considered a single employer defined benefit plan under GASB Statement 68.

The defined benefit provisions of the ERS Plan are authorized by state law and may be amended by the Legislature. The monthly benefit may vary by membership class.

The monthly standard annuity of the employee class is determined by a statutory percentage of 2.3 percent of a member's average monthly compensation multiplied by number of years of service credit. The average monthly compensation of the employee class may vary depending on the hire date. For members hired on or before Aug. 31, 2009, the average monthly compensation is the average of the highest 36 months of compensation. For members hired on or after Sept. 1, 2009 and before Sept. 1, 2013, the average monthly compensation is the average of the highest 48 months of compensation. For members hired on or after Sept. 1, 2013, the average monthly compensation is the average of highest 60 months of compensation.

The monthly standard annuity of the elected class equals the statutory percentage of 2.3 percent of the current state salary of a district judge multiplied by the number of years of service credit. Retirement benefits are automatically adjusted as state judicial salaries change.

The ERS plan's membership as of the measurement date of Aug. 31, 2018 is presented in the table below:

Texas Department of Transportation's Membership	
Retirees and Beneficiaries Currently Receiving Benefits	14,348
Terminated Employees Entitled to Benefits But Not Yet Receiving Them	6,271
Current Employees - Vested and Non-Vested	12,409
Total Members	33,028

The contribution rates for the state and the members for the ERS plan for the measurement period of fiscal 2018 are presented as follows:

Required Contribution Rates

		Employer			Members		
Fiscal Year	Plan	Employee Class	Elected Class – Legislators	Elected Class – Other	Employee Class	Elected Class – Legislators	Elected Class – Other
2014	ERS	8.00%	8.00%	8.00%	6.60%	8.00%	6.60%
2015	ERS	8.00%	8.00%	8.00%	6.90%	8.00%	6.90%
2016	ERS	10.00%	10.00%	10.00%	9.50%	9.50%	9.50%
2017	ERS	10.00%	10.00%	10.00%	9.50%	9.50%	9.50%
2018	ERS	10.00%	10.00%	10.00%	9.50%	9.50%	9.50%
2019	ERS	10.00%	10.00%	10.00%	9.50%	9.50%	9.50%

The amount of TxDOT's contributions recognized by the ERS plan during the fiscal 2018 measurement period was $67.1 million. TxDOT must report its 9.62 percent proportionate share of the State of Texas contributions.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of Aug. 31, 2018. The table below presents the actuarial methods and assumptions used to measure the total pension liability as of Aug. 31, 2018 the measurement date:

ERS Plan	
Actuarial Valuation Date	August 31, 2018
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percent of Payroll, Open
Actuarial Assumptions:	
Discount Rate	5.69%
Investment Rate of Return	7.5%
Inflation	2.5%
Salary Increase	0% to 9.5%
Mortality	The mortality rates for active members and disability retirees are based on RP-2014 Active Member Mortality tables with generational mortality improvements projected from the year 2014, which is based on the most recent Ultimate MP scale. The mortality rates for service retirees and beneficiaries are based on the 2017 State Retirees of Texas Mortality tables with generational mortality improvements projected from the year 2017, which is based on the most recent Ultimate MP scale.
Cost-of-living Adjustments	None-Employee 2.75%-Elected

Changes in assumptions since the previous are described as follows:

- Discount Rate increased from 5.36% to 5.69%;
- Salary Increase changed from *2.5% to 9.3%* in 2017 to *0% to 9.5%* in 2018.

A single discount rate of 5.69 percent was applied to measure the total pension liability. The 5.69 percent discount rate incorporated a 7.5 percent long-term expected rate of return on pension plan investments and 3.69 percent 20-year municipal bond rate based on Fidelity Index's "20-Year Municipal GO AA Index". The long-term expected investment rate of return was applied to projected benefit payments through fiscal 2047 and the municipal bond rate was applied to all benefit payments thereafter.

The projections of cash flows used to determine this single discount rate assumed that plan member and employer contributions will be made at the current statutory levels and remain a level percentage of payroll. The projected cash flows from the employers are based on contributions for the most recent five-year period as of the measurement date, adjusted on consideration of subsequent events. The Legislature passed House Bill No. 9 in the 84th legislative session during fiscal 2015 to increase the member contribution rates for fiscal 2016 and 2017 and maintained the changes made by the 83rd legislative session in Senate Bill 1459, which established proportional decreases to the employee contribution if the state contribution was decreased. The passage of this bill is an indicator that the Legislature is committed to increase the funding levels for the pension funds. Projected employer contributions are based on fiscal year 2018 funding levels.

The long-term expected rate of return on plan investments was developed using a building-block method with assumptions including asset class of investment portfolio, target allocation, real rate of return on investments, and inflation factor. Under this method, best estimate ranges of expected future real rates of return (net of investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The target allocation and best estimates of arithmetic real rates of return for each major asset class for the plan's investment portfolio are presented as follows:

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Global Equity	50%	3.91%
Global Credit	11%	0.57%
Opportunistic Credit	3%	0.20%
Intermediate Treasuries	11%	0.29%
Real Estate	12%	0.90%
Infrastructure	7%	0.49%
Hedge Funds	5%	0.31%
Cash	1%	0.02%
Total	100%	

Sensitivity analysis was performed on the impact of changes in the discount rate on the proportionate share of TxDOT's net pension liability. The result of the analysis is presented in the table below:

Sensitivity of TxDOT's Proportionate Share of Net Pension Liability to Changes Discount Rate
(Amounts in Thousands)

	1% Decrease	Current Discount Rate	1% Increase
ERS Plan Discount Rate	4.69%	5.69%	6.69%
Net Pension Liability	$2,560,004	$1,942,485	$1,431,377

Amounts in this schedule are based on collective amounts for the state of Texas. TxDOT reports its proportionate share of the collective amounts.

The pension plan's fiduciary net position is determined using economic resources measurement focus and the accrual basis of accounting, which is the same basis used by the Employees Retirement System. Benefits and refunds of contributions are recognized when due and payable in accordance with the terms of the plan. Investments of the pension trust fund are reported at fair value in accordance with GASB Statement No. 31 and 67. The fair value of investments is based on published market prices and quotations from major investment brokers at available current exchange rates. However, corporate bonds in general are valued based on currently available yields of comparable securities by issuers with similar credit ratings. Employees Retirement System issues stand-alone audited Comprehensive Annual Financial Report (CAFR). More detailed information on the plan's investment valuation, investment policy, assets, and fiduciary net position may be obtained from ERS' fiscal 2018 CAFR:

Employees Retirement System of Texas
P. O. Box 13207
Austin, Texas 78711-3207

TxDOT's total pension liability is based on an actuarial valuation performed as of Aug. 31, 2018. For fiscal 2019 reporting, the measurement date of TxDOT's net pension liability is Aug. 31, 2018. The schedule of changes in TxDOT's net pension liability for the fiscal year ending Aug. 31, 2019 is presented below:

Schedule of Changes in Net Pension Liability
(Amounts in Thousands)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances at 09/01/18	$ 4,521,978	$ 2,533,592	$ 1,988,386
Changes for the year:			
Service Cost	139,071		139,071
Interest	246,260		246,260
Differences between Expected and Actual Experience	8,840		8,840
Assumption Changes	(190,768)		(190,768)
Benefit Payments and Refunds	(231,505)	(231,505)	0
Change in Proportional Percentage	115,111		115,111
Contributions-Employer		67,074	(67,074)
Contributions-Member		65,798	(65,798)
Net Investment Income		233,808	(233,808)
Administrative Expense		(2,265)	2,265
Net Changes	87,009	132,910	(45,901)
Balances at 08/31/19	$ 4,608,987	$ 2,666,502	$ 1,942,485

The change of discount rate is the assumption change during the current measurement period. There have been no changes to benefit terms of the plan since the prior measurement date. TxDOT's proportion of the entire ERS plan was 9.62 percent in fiscal 2018; as compared to 9.09 percent in the prior measurement period.

For the fiscal year ending Aug. 31, 2019, TxDOT recognized pension expense of $286.2 million. At Aug. 31, 2019, TxDOT reported deferred outflows of resources and deferred inflows of resources from the following sources:

Outstanding Deferred Outflows and Deferred Inflows at August 31, 2019
(Amounts in Thousands)

		Deferred Outflows of Resources		Deferred Inflows of Resources
Difference between Expected and Actual Experience	$	11,436	$	
Changes in assumptions		117,640		135,632
Net Difference between Projected and Actual Investment Return				30,269
Change in proportion and contribution		41,999		
Contributions Subsequent to the Measurement Date		69,733		
Total	$	240,808	$	165,901

The $69.7 million reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction in the net pension liability for the year ending Aug. 31, 2020.

Amounts reported as deferred outflows and inflows of resources related to pensions will be recognized in pension expense in the following years:

Fiscal Year Ended August 31:
(Amounts in Thousands)*

2020	$	85,173
2021	$	(25,925)
2022	$	(44,611)
2023	$	(9,462)
2024	$	0
Thereafter	$	0

*Positive amounts indicate increase in pension expense;
negative amounts indicate decrease in pension expense.

NOTE 9 - DEFERRED COMPENSATION

The state of Texas offers two deferred compensation plans to all state employees. One was established in accordance with Internal Revenue Code, Section 457. The second was established in accordance with Internal Revenue Code, Section 401(k). All costs of administering and funding these programs are the responsibility of plan participants. The assets of the two plans remain the property of the contributing employees and are not presented in the accompanying financial statements. TxDOT makes no contributions to either plan, the assets do not belong to TxDOT and TxDOT has no liability related to the plans.

NOTE 10 – POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS

Retirees are provided with postemployment healthcare, life and dental insurance benefits through the State Retiree Health Plan (SRHP). The Employees Retirement System of Texas (ERS) is the administrator of SRHP, which is a cost sharing multiple-employer postemployment healthcare plan with a special funding situation. TxDOT reports its allocated proportional share of the SRHP in the TxDOT comprehensive annual financial report. This plan covers retired employees of the state, and other entities as specified by the State Legislature. The benefit and contribution provisions of the SRHP are authorized by state law and may be amended by the Legislature. Benefits are provided to retirees through the Texas Employees Group Benefits Program as authorized by Texas Insurance Code, Chapter 1551. Retirees must meet certain age and service requirements and have at least 10 years of service at retirement to participate in the plan.

Surviving spouses and dependents of retirees are also covered by SRHP. The plan does not provide automatic cost of living adjustments (COLAs).

TxDOT's ERS membership in SRHP as of the measurement date of Aug. 31, 2018 is presented in the table below:

TxDOT Retiree Health Plan Membership	
Active Members*	12,696
Inactive Members Currently	
Receiving Benefit Payments**	12,893
Inactive Members Entitled to But Not	
Yet Receiving Benefit Payments	853
Total Members	26,442

* Includes 357 retirees who receive the Opt-Out credit in lieu of health benefits.
** Includes return-to-work retirees and employees who have not yet satisfied the waiting period.

Contributions

During the measurement period of 2018 for fiscal 2019 reporting, the amount of TxDOT's contributions recognized by the OPEB plan was $212.6 million, or 7.32 percent proportionate share of the state of Texas contributions. TxDOT does not contribute toward dental or optional life insurance. Surviving spouses and their dependents do not receive any employer contribution. The contribution requirements for the state and the members in the measurement period are presented in the table below:

Employer Contribution Rates
Retiree Health and Basic Life Premium
For the Fiscal Year Ended August 31, 2018

	ERS SRHP			
		Employer		Plan Member
Retiree Only	$	621.90	$	0
Retiree & Spouse	$	1,334.54	$	356.32
Retiree & Children	$	1,099.06	$	238.58
Retiree & Family	$	1,811.70	$	594.90

The total OPEB liability is determined by the contribution rates and an annual actuarial valuation. The table below presents the actuarial methods and assumptions used to measure the total OPEB liability as of the Aug. 31, 2018 measurement date.

Actuarial Methods and Assumptions - OPEB - State Retiree Health Plan (SRHP)	
Valuation Date	August 31, 2018
Actuarial Cost Method	Entry Age
Amotization Method	Level Percent of Pay, Open
Remaining Amortization Period	30 Years
Asset Valuation Method	Not applicable
Actuarial Assumptions:	
Discount Rate	3.96%
Inflation Rate	2.50%
Projected Annual Salary Increase	2.50% to 9.50%
Annual Healthcare Trend Rate	7.30% for FY2020, 7.40% for FY2021, 7.00% for FY2022, decreasing 0.50% per year to an ultimate rate of 4.50% for FY2027 and later years
Ad hoc Postemployment Benefit Changes	None
Mortality-State Agency Members	
	Service Retirees, Survivors and Other Inactive Members:
	2017 State Retirees of Texas mortality table with 1 year set forward for male CPO/CO members and Ultimate MP Projection Scale projected from the year 2017
	Disabled Retirees:
	RP-2014 Disabled Retiree Mortality with Ultimate MP Projection Scale projected from year 2014
	Active Members:
	RP-2014 Active Member Mortality tables with Ultimate MP Projection Scale from the year 2014

The many actuarial assumptions used in the valuation were primarily based on the result of actuarial experience studies performed by the ERS retirement plan actuaries for the period Sept. 1, 2011 to Aug. 31, 2016 for state agency members. The mortality rates were based on the tables identified in the table above titled *Actuarial Methods and Assumptions*.

The following assumptions and other inputs have been adopted since the prior valuation to reflect plan experience and trends as expected by ERS and the actuaries attesting to the results of the valuation:

a. assumed expenses, assumed Per Capita Health Benefit Costs and assumed Health Benefit Cost, Retiree Contribution and expense trends have been updated to reflect recent experience and its effects on our short-term expectations;
b. percentage of current retirees and their spouses not yet eligible to participate in the HealthSelect Medicare Advantage plan and future retirees and their spouses who will elect to participate in the plan at the earliest date at which coverage can commence;
c. percentage of future retirees assumed to be married and electing coverage for their spouse have been updated to reflect recent plan experience and expected trends; and
d. discount rate assumption was increased from 3.51 percent to 3.96 percent, which was based upon the Bond Buyer Index of general obligation bonds with 20 years to maturity with an average credit quality that is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA rating.

The discount rate used to measure the total OPEB liability was the municipal bond rate of 3.96 percent as of the end of the measurement year and 3.51 percent as of the beginning of the measurement year. Projected cash flows into the plan are equal to projected benefit payments out of the plan. Since the plan operates on a pay-as-you-go basis and is not intended to accumulate assets, there is no long-term expected rate of return. The investment rate of return used to calculate the projected earnings on OPEB investments was 3.51 percent.

Sensitivity analysis was performed on the impact of changes in the discount rate on the proportionate share of TxDOT's net OPEB liability. The result of the analysis is presented in the table below:

Sensitivity of TxDOT's Proportionate Share of Net OPEB Liability to Changes in Discount Rate			
(Amount in Thousands)			
	1% Decrease	Current Discount Rate	1% Increase
ERS Plan Discount Rate	2.96%	3.96%	4.96%
Net OPEB Liability	$ 2,575,483	$ 2,169,316	$ 1,861,894

Sensitivity analysis was performed on the impact of changes in the healthcare cost trend rates on the proportionate share of TxDOT's net OPEB liability. The result of the analysis is presented in the table below:

Sensitivity of TxDOT's Proportionate Share of Net OPEB Liability to Changes in Healthcare Cost Trend Rates			
(Amount in Thousands)			
	1% Decrease (6.30% decreasing to 3.50%)	Current Healthcare Cost Trend Rates (7.30% decreasing to 4.50%)	1% Increase (8.30% decreasing to 5.50%)
Net OPEB Liability	$ 1,837,131	$ 2,169,316	$ 2,597,837

The OPEB plan's fiduciary net position is determined using the economic resources measurement focus and the accrual basis of accounting, which is the same basis used by ERS. Benefits and refunds of contributions are recognized when due and payable in accordance with the terms of the plan. Investments of the Other Employee Benefit Trust Fund are reported at fair value in accordance with GASB Statement No. 72. The fair value of investments is based on published market prices and quotations from major investment brokers at available current exchange rates. However, corporate bonds in general are valued based on currently available yields of comparable securities by issuers with similar credit ratings. More detailed information of the plan's investment valuation, investment policy, assets, and fiduciary net position may be obtained from ERS's fiscal 2018 CAFR:

Employees Retirement System of Texas
P.O. Box 13207
Austin, Texas 78711-3207

At Aug. 31, 2019, TxDOT reported a liability of $2.2 billion for its proportionate share of the collective net OPEB liability. The collective OPEB liability was measured as of Aug. 31, 2018, and the total OPEB liability used to calculate the net liability was determined by an actuarial valuation as of that date. TxDOT's proportional percentage at Aug. 31, 2018 was 7.32 percent. TxDOT's proportion of the collective net OPEB liability was based on its contributions to the OPEB plan relative to the contributions of all the employers and non-employer contributing entities to the plan for the period Sept. 1, 2017 through Aug. 31, 2018.

The schedule of changes in TxDOT's net OPEB liability for the fiscal year ending Aug. 31, 2019, is presented as follows:

Schedule of Changes in Net OPEB Liability			
(Amounts in Thousands)			
	Total OPEB Liability (a)	**Plan Fiduciary Net Position (b)**	**Net OPEB Liability (a) - (b)**
Balances at 09/01/18	$ 3,878,705	$ 79,151	$ 3,799,554
Changes for the year:			
Service Cost	109,497		109,497
Interest	92,361		92,361
Differences between Expected and Actual Experience	(68,487)		(68,487)
Contributions-Employer		22,473	(22,473)
Contributions-Non-employer Contributing Entities		1,214	(1,214)
Contributions-Employee		14,868	(14,868)
Contributions-Federal Revenues for Medicare Part D RDS		104	(104)
Other (Federal Revenues and Other Additions)		5,587	(5,587)
Net Investment Income		798	(798)
Benefit Payments, including Refunds of Employee-Contributions	(48,508)	(48,508)	0
Benefit Payments financed by Employee-Contributions and Federal Revenues		(20,216)	20,216
Administrative Expense		(426)	426
Assumption Changes	(433,607)		(433,607)
Net Effect of the Change in TxDOT's Proportional Percentage	(1,305,600)		(1,305,600)
Net Changes	(1,654,344)	(24,106)	(1,630,238)
Balances at 08/31/19	$2,224,361	$ 55,045	$2,169,316

For the year ending Aug. 31, 2019, TxDOT recognized a negative OPEB expense of $293.9 million. The negative expense was due to a change in accounting policy for the measurement year ending Aug. 31, 2018 that resulted in TxDOT's proportional share of OPEB liability being reduced to from 11.15 percent to 7.32 percent from the measurement year ending Aug. 31, 2017 to Aug. 31, 2018. All contributions by employers and the State of Texas Non Employer Contributing Entity (NECE) to the Group Employees Life, Accident and Health Insurance and Benefits Fund Program (GBP) are available to pay claims of active and retired members. Employer and NECE contributions are based on a blended rate. Allocation of the OPEB liability and related accounts should be based on the total contributions that are available to pay current and future claims of the OPEB plan, as this best reflects the relationship between the contributions and the collective net OPEB liability. The employer's proportional share of OPEB contributions for the measurement year ending Aug. 31, 2018 includes both active and retiree contributions.

As of Aug. 31, 2019, TxDOT reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

Outstanding Deferred Outflows and Deferred Inflows Related to OPEB at August 31, 2019
(Amounts in Thousands)

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between Expected and Actual Experience	$	$ 79,477
Changes of assumptions		760,188
Net Difference between Projected and Actual Investment Return	1,027	
Change in Proportion & Contribution Difference		1,124,041
Contributions Subsequent to the Measurement Date	216,838	
Total	$ 217,865	$ 1,963,706

The $216.8 million reported as deferred outflows of resources resulting from contributions subsequent to the measurement date will be recognized as a reduction in the net OPEB liability for the year ending Aug. 31, 2020.

Amounts reported as deferred outflows and inflows of resources related to OPEB will be recognized in OPEB expense in the following years:

Fiscal Year Ended August 31: (Amounts in Thousands)	
2020	$ (494,562)
2021	$ (494,562)
2022	$ (494,562)
2023	$ (425,197)
2024	$ (53,796)
Thereafter	$ 0

NOTE 11 – INTERFUND ACTIVITY AND TRANSACTIONS

Interfund activity refers to financial interactions between funds and/or blended component units and is restricted to internal events. Interfund transactions refer to financial interactions between TxDOT and another agency of the state of Texas.

Interfund services are sales and purchases of goods and services between funds for a price approximating their external exchange value. This activity is reported as revenues in seller funds and expenditures or expenses in purchaser funds. Unpaid amounts are reported as receivables and payables.

Interfund transfers represent the flow of assets (cash or goods) without equivalent flow of assets in return or a requirement for repayment. In governmental funds, transfers are reported as other financing uses or sources. Transfers are reported in proprietary funds after nonoperating revenues and expenses in the statement of revenues, expenses and changes in fund net position.

As a general rule, the effect of interfund activity within TxDOT funds is eliminated from the government-wide financial statements, with exception of activities between governmental activities and business-type activities. Interfund activity with fiduciary funds is reclassified and reported as an external activity.

Interfund Activity

TxDOT's operations are primarily managed through the state highway fund. As such, several routine transfers are reported between the state highway fund and TxDOT's other major and nonmajor funds. The following tables detail the principal purposes of TxDOT's significant routine interfund transfers as well as provide a summary of interfund transfers by individual major funds, nonmajor funds in the aggregate and fiduciary funds.

Interfund Transfers In/Out by Purpose
August 31, 2019 (Amounts in Thousands)

Purpose	Interfund Transfer In (Fund)	Interfund Transfer Out (Fund)		Amount
Reimburse the state highway fund for costs incurred on projects funded by local government contributions.	State Highway Fund	County/Political Subdivision/ Local Government Road/Airport Trust Account	$	226,617
Provide funds to pay debt service principal and interest payments on outstanding Proposition 12/Highway Improvement General Obligation Bonds.	Proposition 12 Debt Service Fund	State Highway Fund	$	434,583
Provide funds to pay debt service principal and interest payments on outstanding Proposition 14/State Highway Fund Revenue Bonds.	Proposition 14 Debt Service Fund	State Highway Fund	$	399,095

Interfund Transfers In/Out
August 31, 2019 (Amounts in Thousands)

		Transfers In Other Funds		Transfers Out Other Funds
Governmental Funds				
Major Funds:				
State Highway Fund	$	226,617	$	836,292
Local Government Political Sub Account				226,617
Nonmajor Funds		833,678		
		1,060,295		1,062,909
Proprietary Funds				
Central Texas Turnpike System*		2,614		
		2,614		0
Total	$	1,062,909	$	1,062,909

*Capital asset transfers of $1.5 million from Governmental Activities are reported in "Transfers - Internal Activities" table.

Interfund reimbursements are repayments from funds responsible for payment of expenditures or expenses to the funds that actually made the payment. Reimbursements are not displayed in the financial statements.

Amounts not transferred at fiscal year-end are accrued as due to/due from other funds. Due to/due from amounts between governmental or business-type activities and fiduciary funds are reported as due to/due from amounts between funds in the fund financial statements and are reclassified to receivables from fiduciary funds/payables to fiduciary funds, as if they were external transactions in the government-wide financial statements.

Due From/To
August 31, 2019 (Amounts in Thousands)

		Due From Other Funds		Due To Other Funds
Governmental Funds				
Major Funds:				
State Highway Fund	$	9,423	$	212
Local Government Political Sub Account		831		
Nonmajor Funds				6,078
		10,254		6,290
Proprietary Funds				
Major Funds:				
Central Texas Turnpike System		212		1,984
Grand Parkway Transportation Corp.				2,184
Nonmajor Funds - SH 249 System				9
		212		4,177
Total	$	10,466	$	10,467

Activity occurring within the same fund is eliminated. Certain reclassifications and eliminations are made between the fund financial statements and the government-wide financial statements. Transfers between the governmental or business-type activities and the fiduciary funds are reported as transfers on the fund financial statements and are reclassified to revenues and expenses, as if they were external transactions on the government-wide financial statements. Additional eliminations are made and transfers in and out are netted and presented in the government-wide statement of activities as “transfers-internal activities”.

Transfers-Internal Activities per the Government-Wide Financial Statements
August 31, 2019 (Amounts in Thousands)

Fund Category		Other Funds*
Governmental Activities	$	(195,176)
Business-Type Activities	$	195,176

*Amounts include capital asset transfers of $192.6 million from Governmental Activities to Business-Type Activities.

Internal Balances per the Government-Wide Financial Statements
August 31, 2019 (Amounts in Thousands)

		Governmental Activities		Business-Type Activities		Total
Current Liabilities:						
Internal Balances - Payables	$	3,965	$	(3,965)	$	0

Interfund Transactions

The state highway fund is considered a shared fund and is appropriated for use by multiple State of Texas agencies. TxDOT is considered the controlling agency for the state highway fund and reports the total cash in state treasury balance for the fund at fiscal year-end. TxDOT reports interagency transfers in and out with the other agencies that collect and deposit to or expend out of the state highway fund.

The following tables detail the balances of transfers to/from and due to/from other state agencies and TxDOT. Approximately $1.7 billion of the interagency transfers-in balance for the state highway fund is related to the net amount of cash collected by Texas Department of Motor Vehicles for certificate of title fees and motor vehicle registration fees. The transfer-in, received in fiscal 2019, resulted in an increase to the TxDOT highway fund cash in state treasury balance.

On Nov. 4, 2014, Texas voters approved the ballot measure that authorized a constitutional amendment for transportation funding. Under the amendment, half of the funds that would have previously gone into the Economic Stabilization Fund (ESF), are now deposited to the state highway fund. TxDOT recorded a due from in the state highway fund related to Proposition 1 ballot measure in the amount of $1.7 billion in fiscal 2019. The Comptroller of Public Accounts transferred this amount to TxDOT in November 2019.

TxDOT also has interagency activity with federal funds. See Schedule 1A of this report for more details.

Transfers In/Out to Other State Agencies
August 31, 2019 (Amounts in Thousands)

	Transfers In Other Agencies	Transfers Out Other Agencies
Governmental Funds		
Major Funds:		
State Highway Fund	$ 1,688,611	$ 145,660
Nonmajor Funds	1,522	
Total	$ 1,690,133	$ 145,660

Due From/To Other State Agencies
August 31, 2019 (Amounts in Thousands)

	Due From Other Agencies	Due To Other Agencies
Governmental Funds		
Major Funds:		
State Highway Fund	$ 1,905,336	$ 2,407
Nonmajor Funds	116	
Total	$ 1,905,452	$ 2,407

Pass-Throughs To/From Other State Agencies
August 31, 2019 (Amounts in Thousands)

	State Highway Fund
Federal Pass-throughs:	
Expenditures	$ (12,185)
Revenue	3,520
Total	(8,665)
State Pass-throughs:	
Expenditures	$ (96)
Total	(96)

NOTE 12 – CONTINUANCE SUBJECT TO REVIEW

TxDOT is currently subject to a continuance review. Under the Texas Sunset Act, TxDOT will be abolished effective Sept. 1, 2029, unless continued in existence by the 91st Legislature as provided by the Act. If abolished, TxDOT may continue until Sept. 1, 2030 to wind down its operations. In the event that TxDOT is abolished pursuant to the Texas Sunset Act or other law, Texas Government Code, Section 325.017(f), acknowledges that such action will not alter the obligation of the state to pay bonded indebtedness and all other obligations of the abolished agency.

NOTE 13 - CLASSIFICATION OF FUND BALANCE AND NET POSITION

The table below presents a summary of the Aug. 31, 2019 governmental fund balances by major and nonmajor governmental funds. With the exception of nonspendable fund balances, fund balance is presented based on specific purpose for which the funds are restricted, committed, assigned or unassigned.

Governmental Fund Balances –
Disaggregation of Nonspendable, Restricted, Committed, Assigned and Unassigned Fund Balances
August 31, 2019 (Amounts in Thousands)

MAJOR FUNDS	State Highway Fund	Texas Mobility Fund	Prop.12 Highway Improv. Project	Total Major Funds
Nonspendable:				
Inventory	$ 138,937	$	$	$ 138,937
Restricted For:				
Capital Projects	5,485,004		15,492	5,500,496
Debt Service		218,588		218,588
Committed To:				
Transportation Infrastructure	720,346	192,056		912,402
Assigned To:				
Transportation	1,119,247			1,119,247
Total	$ 7,463,534	$ 410,644	$ 15,492	$ 7,889,670

NONMAJOR FUNDS	General Fund	Special Revenue Funds	Debt Service Funds	Total Nonmajor Funds
Restricted For:				
Debt Service	$	$	$ 335,307	$ 335,307
Committed To:				
Transportation Infrastructure		10,940		10,940
Assigned To:				
Transportation	109			109
Unassigned	1,844			1,844
Total	$ 1,953	$ 10,940	$ 335,307	$ 348,200

Restrictions of net position are listed on the face of the government-wide and proprietary statements of net position. Balances reported as restricted in the fund financial statements are reported as restricted in the statement of net position. All other fund financial balances are reported as unrestricted in the statement of net position.

Restatements to Fund Balances/ Net Position

(Amounts in Thousands)

	September 1, 2018, As Previously Reported	Restatements	September 1, 2018 As Restated
GOVERNMENTAL ACTIVITIES			
Major Funds:			
State Highway Fund	$ 5,963,495	$	$ 5,963,495
Texas Mobility Fund	545,706		545,706
Proposition 12 Project Fund	398,406		398,406
Total Major Funds	6,907,607	0	6,907,607
Nonmajor Funds:			
General Fund Accounts	5,243		5,243
Special Revenue Funds	10,155		10,155
Debt Service Funds	206,939		206,939
Total Nonmajor Funds	222,337	0	222,337
Governmental Activities Adjustments			
Capital Assets	107,193,999		107,193,999
Long-Term Liabilities	(34,673,264)		(34,673,264)
Other Adjustments	1,605,919		1,605,919
Total Governmental Activities Adjustments	74,126,654	0	74,126,654
Total Governmental Activities	81,256,598	0	81,256,598
BUSINESS-TYPE ACTIVITIES			
Central Texas Turnpike System	353,238		353,238
Grand Parkway Transportation Corp.	(143,502)		(143,502)
Nonmajor Fund SH 249			
Total Business-Type Activities	209,736	0	209,736
Total Primary Government	$ 81,466,334	$ 0	$ 81,466,334

NOTE 15 – COMMITMENTS AND CONTINGENCIES

Contingencies

Unpaid Claims and Lawsuits

The type and volume of activity for which TxDOT is responsible exposes it to a large number of claims and lawsuits. TxDOT has vigorously contested lawsuits brought against it and has usually prevailed or made settlements substantially less than the amounts originally sought.

TxDOT is exposed to claims by contractors. TxDOT will most likely settle these claims at substantially less than the amount originally sought. However, if a settlement between TxDOT's claims committee and the contractor cannot be reached, these claims will result in future litigation. As of Aug. 31, 2019, outstanding contractor claims pending at the TxDOT claims committee totaled $77.9 million.

Settlements are paid by the Texas Comptroller of Public Accounts from the claims and refunds appropriation. The Attorney General's office indicates that the lawsuits listed below were pending as of Aug. 31, 2019. TxDOT management's opinion is that the probable outcome of these cases will not materially affect the financial position of TxDOT.

Type of Suit	Amounts in Controversy
Eminent Domain	Total claims with amounts indicated range from $1 to $8.5 million with a total of $505.2 million.
Contract	Amounts claimed range from $3 thousand to $420 thousand. Total claims of amounts indicated is $2.0 million.
Inverse Condemnation	Monetary amounts have not been specified in any of these cases.
Declaratory Judgment	Monetary amounts have not been specified in eighteen of the nineteen cases. Up to $10.0 million has been claimed on a singular case.
Employment Law and Related Lawsuits	Monetary amounts have not been specified in any of these cases. Liability against TxDOT is limited to $600 thousand; however, there is no limit on attorney fees and front pay.
Tort Claims	Statutory limits of liability on these cases are $250 thousand per person or $500 thousand per accident.

Arbitrage

Rebatable arbitrage defined by Internal Revenue Code (IRC), Section 148, is earnings on tax exempt bond proceeds in excess of the yield on the bond. The rebatable arbitrage must be repaid to the federal government. Pursuant to the applicable bond Indenture of Trust, a Rebate Fund will be established under the Indenture to which deposits will be made upon the determination by a verification agent that a rebate payment may be due. The amount of rebate due to the federal government is determined and payable during each five-year period and upon final payment of the tax-exempt bonds. IRC Section 148 also provides for certain rebate exceptions, including an exception if certain spend-out requirements of the bond proceeds are met. TxDOT estimates that rebatable arbitrage liability, if any, will be immaterial to the agency's overall financial condition.

Federal Reimbursements and Grants

TxDOT receives federal financial assistance for specific purposes that are subject to review or audit by the federal grantor agencies. Entitlement to this assistance is generally conditional upon compliance with the terms and conditions of grant agreements and applicable federal regulations, including the expenditure of assistance for allowable purposes. Such audits could lead to requests for reimbursements to grantor agencies for expenditures disallowed under the terms of the grant. Based on prior experience, management believes such disallowance, if any, will be immaterial.

On Dec. 16, 2011, TxDOT and the Federal Highway Administration (FHWA) approved and executed a Memorandum of Understanding (MOU) for FHWA participation in TxDOT's pass-through funding (PTF) program. This MOU will apply to all pass-through finance (PTF) projects approved by TxDOT after Feb. 26, 2009 with some stipulations as detailed within the agreement. This agreement was done in order to facilitate maximum Federal reimbursement on TxDOT PTF projects. The MOU is not applicable to any PTF project agreements executed prior to Feb. 26, 2009. Federal reimbursement for these projects will be set up on an individual basis in separate agreements between TxDOT and FHWA and with compliance reviews being performed on each project.

Significant Commitments

Construction Related Contracts

As of Aug. 31, 2019, TxDOT had outstanding contractual commitments related to the award of construction contracts, terms of outstanding design-build contracts and terms requiring contribution of public funds to provide for a portion of construction costs related to service concession arrangements (SCAs). Of the amounts committed under these contracts, TxDOT expects to receive future reimbursements from the Federal Highway Administration (FHWA). In addition, the Grand Parkway Transportation Corporation (GPTC), our blended component unit, has outstanding construction commitments. Disclosure of these construction related commitments and potential FHWA reimbursement is displayed below.

Construction Related Contract Commitments
August 31, 2019 (Amounts in Thousands)

	Total Remaining Commitment	FHWA Reimbursements
Construction Contracts	$ 12,691,280	$ 7,802,494
Design-Build Projects	1,504,071	1,090,217
SCA Projects	1,883,032	1,449,356
GPTC Project	683,542	
Totals	$ 16,761,925	$ 10,342,067

Pass-Through Toll Agreements

Transportation Code, Section 222.104 authorizes TxDOT to enter into an agreement with a public or private entity that provides for the payment of pass-through tolls to the public or private entity as reimbursement for the design, development, financing, construction, maintenance, or operation of a toll or non-toll facility on the state highway system by the public or private entity. As of Aug. 31, 2019, there were 31 outstanding pass-through financing agreements.

TxDOT recognizes liabilities associated with pass-through toll projects as notes payable as the projects are being constructed. Notes payable amounts are determined by contractually negotiated agreements with pass-through toll partners. See Note 5 for details on the payables recognized related to pass-through toll repayment obligations.

The maximum total remaining repayment commitments for pass-through toll projects executed as of Aug. 31, 2019 was approximately $837.7 million. Approximately $915.3 million was repaid as of Aug. 31, 2019 since the inception of the pass-through toll agreements. The actual repayment obligation for each agreement is not determinable until total construction costs are known.

Toll Equity Grants and Loan Agreements

Transportation Code, Section 222.103 authorizes TxDOT to participate, by spending money from any available source, in the cost of acquisition, construction, maintenance or operation of a toll facility of a public or private entity. The Commission adopted administrative rules (toll equity rules) to prescribe conditions for the Commission's financing of such toll facilities. Under these guidelines the Commission has committed funds in the form of toll equity grants and toll equity loans. As of Aug. 31, 2019, the Commission has outstanding toll equity grant commitments and toll equity loan commitments totaling $173.4 million and $9.4 billion, respectively. Payments of these amounts are made subject to executed financial assistance agreements between TxDOT and the applicable public or private entity.

The toll equity loan commitment is related to a toll equity loan agreement (TELA) with the GPTC. This agreement makes a loan available to be drawn on in the event revenues and certain reserves are insufficient to pay certain debt service or operations and maintenance costs of the toll systems of aforementioned entities.

The GPTC funds financed by TELA-supported debt are to be used to pay for certain costs relating to the development, construction, operation, maintenance and financing of Segments D (Harris County), E, F1, F2, G, H, and I and the predevelopment of possible extensions or expansions of the Grand Parkway. The maximum amount of money that can be paid by TxDOT to GPTC under the TELA is equal to the aggregate amount of costs that are authorized under Article 8, Section 7-a of the Texas Constitution and Section 222.103 of the Texas Transportation Code, i.e. the "Eligible Costs".

NOTE 16 – SUBSEQUENT EVENTS

The following debt has been issued since Aug. 31, 2019.

Description	Series	Actual Par Amount (Amount in Millions)	Actual Date of Issuance	Purpose
Texas Highway Improvement General Obligation Refunding Bonds	2019	$ 789.6	12/11/2019	To refund outstanding bonds issued to finance highway improvement projects.
Texas Private Activity Bond Surface Transportation Corporation Senior Lien Revenue Refunding Bonds	2019A; 2019B	$ 1,202.9	12/17/2019	To refund outstanding conduit debt issued to finance the North Tarrant Express Managed Lanes Project.

NOTE 17 – RISK MANAGEMENT

TxDOT is exposed to various risks of loss related to property, general and employer liability, net income, and personnel. TxDOT and its employees are covered by various immunities and defenses that limit some of these risks of loss, particularly in liability actions brought against TxDOT or its employees. Remaining exposures are managed by self-insurance arrangements.

Property and Liability

TxDOT administers a self-insured workers compensation program. Due to the nature of worker compensation claims, amounts are not reasonably estimable. Claims are paid as they become due. The activity related to claims and judgements for the year is recorded in the below table.

Claims and Judgments
August 31, 2019 (Amounts in Thousands)

	Beginning Balance	Increases	Decreases	Ending Balance
2019	$ 0	3,142	(3,142)	$ 0
2018	$ 0	20,276	(20,276)	$ 0

TxDOT self-insures the Central Texas Turnpike System, the Interstate Highway 35E Managed Lanes, and the SH 249 System. GPTC self-insures the Grand Parkway System. Each system or project is insured through funds on deposit within its Rate Stabilization Fund. Amounts on deposit in Rate Stabilization Funds for self-insurance has been certified as actuarially sound by AMI Risk Consultants, Inc for CTTS, IH 35E, and GPTC. An actuary will evaluate the self-insurance for the SH 249 system after substantial completion of the project. To date, neither TxDOT or GPTC have had to draw upon the Rate Stabilization Fund to settle any claims, and therefore settlements have not exceeded self-insurance coverage.

During the fiscal year, the Texas Transportation Commission maintained a Not-for-Profit Entity and Directors, Officers Liability Insurance Policy Including Employment Practices Claims Coverage in connection with the Central Texas Turnpike System. Grand Parkway Transportation Corporation also maintained Directors and Officers Liability insurance and certain public official's liability coverage for the Grand Parkway System.

Health, Life and Dental

Insurance coverage is provided to active state employees and their dependents by one of three health plan administrators. All TxDOT employees are included in the Texas Employees Group Benefits Program (GBP) administered by the Employees Retirement System of Texas (ERS).

Claims for health, life, accidental death and dismemberment (AD&D), disability and dental insurance coverages are established under the GBP. These coverages are provided through a combination of insurance contracts, a self-funded health plan, a self-funded dental indemnity plan, HMO contracts and dental health maintenance organizations (DHMO) contracts.

Commitments

TxDOT incurs commitments related to outstanding construction contracts and comprehensive development agreements. Further detail of these commitments is provided in Note 15.

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NOTE 18 - FINANCIAL REPORTING ENTITY

As required by Generally Accepted Accounting Principles, the financial statements present TxDOT, a state agency, and its component units. The component units discussed in this note are included in TxDOT's reporting entity because of the significance of their operational and financial relationships with TxDOT.

Blended Component Units

The Commission is authorized to create Transportation Corporations in Transportation Code, Chapter 431. The Commission approves the creation of transportation corporations, approves the articles of incorporation, appoints directors and approves by-laws. At any time, the Commission may terminate and dissolve a transportation corporation. In the event of dissolution or liquidation of a corporation, all assets shall be turned over to TxDOT.

As of Aug. 31, 2019, two transportation corporations are authorized by the Commission. In both instances TxDOT contains the voting majority, is able to impose its will upon the transportation corporations, and the services of both transportation corporations benefit TxDOT. Furthermore, the two transportation corporations are classified as blended component units.

The Texas Private Activity Bond Surface Transportation Corporation (TxPABST) acts on behalf of TxDOT in the promotion and development of transportation facilities, by issuing private activity bonds for projects developed under comprehensive development agreements (CDAs) entered into by TxDOT. Bonds issued by TxPABST are not legal obligations of the state of Texas and are payable solely from payments received or on behalf of a CDA developer. See Note 6 for additional details about the TxPABST private activity bond issuances as of Aug. 31, 2019. TxPABST does not publish financial statements. Further information can be obtained by writing:

Texas Private Activity Bond Surface Transportation Corporation
125 East 11th Street
Austin, Texas 78701

The Grand Parkway Transportation Corporation (GPTC) acts on behalf of TxDOT in the promotion and development of the Grand Parkway Project, by issuing bonds and entering into comprehensive development agreements with developers for the design and construction of several segments of the Grand Parkway project. Bonds issued by GPTC are not legal obligations of the state of Texas and are payable solely from revenues and other funds of the Grand Parkway System, which is comprised of Segments D in Harris County, E, F-1, F-2, G, H, I-1, and I-2. See Note 6 for additional details about the GPTC bond issuances as of Aug. 31, 2019. GPTC has a fiscal year end of Aug. 31, 2019, consistent with TxDOT. The financial activity of GPTC is reported as a Proprietary fund within the accompanying financial statements of TxDOT. Further information can be obtained by writing:

Grand Parkway Transportation Corporation
Financial Management Division
125 East 11th Street
Austin, Texas 78701

NOTE 19 – STEWARDSHIP, COMPLIANCE AND ACCOUNTABILITY

Changes in Accounting Principles

The implementation of GASB statements is addressed in Note 1.

Deficit Net Position

Grand Parkway Transportation Corporation (GPTC) at the end of fiscal 2019 had a $202.0 million deficit balance of net position. The total expense exceeded the total revenue by $58.5 million. The large expense in 2019 included $64.1 million of amortization and $218.1 million of interest.

Changes in Fund Type

The Texas Mobility Fund General Account was reclassified from a debt service fund to a capital projects fund during fiscal 2019. The beginning balance of the General Account is presented in the Texas Mobility Fund capital projects fund.

NOTE 20 – SERVICE CONCESSION ARRANGEMENTS

As of Aug. 31, 2019, TxDOT has entered into ten agreements that are classified as service concession arrangements (SCA) under the definition established by the Governmental Accounting Standards Board. An SCA is an arrangement between TxDOT and an operator in which all of the following criteria are met:

a. TxDOT conveys to the operator the right and related obligation to provide public services through the use and operation of an infrastructure asset in exchange for significant consideration, such as up-front payments, a new infrastructure asset, or improvements to an existing infrastructure asset.

b. The operator collects and is compensated by fees from third parties. In all of the active TxDOT SCAs these fees are in the form of tolls.

c. TxDOT determines or has the ability to modify or approve what services the operator is required to provide, to whom the operator is required to provide the services and the rates that can be charged for the services.

d. TxDOT is entitled to significant residual interest in the service utility of the infrastructure asset at the end of the arrangement.

SCA projects were entered to:

- Improve mobility by expanding existing road capacity and introducing managed toll lanes, traditional toll lanes and other strategies aimed at reducing traffic congestion.
- Enable TxDOT to deliver these projects faster than would be possible using traditional funding sources.
- Shift the majority of the financial risk to the operator.

TxDOT may enter into SCAs with both public and private operators. At the end of these arrangements, operations and maintenance of the projects will transfer to TxDOT. The state of Texas retains ownership rights and title to all assets associated with an SCA.

The structure of each SCA is different due to the unique financial aspects of each arrangement. In all cases, TxDOT receives a benefit due to the department's retention of ownership of the project at end of the concession term. The following table summarizes the status, term and duration of each currently active SCA.

Service Concession Arrangements
As of August 31, 2019

Arrangement Name	Construction Status	Term of Concession	Concession Begin	Concession End
IH 10 "Katy Managed Lanes"	Complete	46 years	2010	2055 *
SH 130 Segments 5 and 6	Complete	50 years	2012	2062
SH 121 Concession	Complete	50 years	2009	2059
North Tarrant Exp Seg 1 and 2-West	Complete	52 years	2009	2061
North Tarrant Exp Seg 3A and 3B	Complete	52 years	2009	2061
LBJ/IH-635 Managed Lanes	Complete	52 years	2009	2061
Grand Parkway Seg D, E, F1, F2, G	Complete	40 years	2013	2053 *
Grand Parkway Seg H - I	Under Construction	36 years	2018	2053 *
SH 288	Under Construction	52 years	2016	2068
North Tarrant Exp Seg 3C	Under Construction	42 years	2019	2061

* Estimated. Concession period extends until Harris County/GPTC is fully reimbursed for costs of construction and debt service.

In the year in which an SCA project opens for traffic TxDOT records the capital assets acquired under the SCA at their acquisition value with a corresponding entry to deferred inflow of resources. The deferred inflow of resources balance will then be reduced and revenue will be recognized in a systematic manner over the term of the arrangement, beginning when the infrastructure asset is placed into operations. Up-front concession payments received are recorded as assets (cash in state treasury) with an offset to deferred inflow of resources on the government-wide financial statements. Revenue is recognized and the deferred inflow of resources is reduced in a systematic and rational manner over the term of the arrangement.

Service Concession Arrangements - Amounts Recognized in Financial Statements – Governmental Activities			
August 31, 2019 (Amounts in Thousands)			
Arrangement Name	**Cash in State Treasury***	**Capital Assets**	**Deferred Inflows of Resources****
IH 10 "Katy Managed Lanes"	$	$ 250,000	$ 195,653
SH 130 Segments 5 and 6	26,786	1,442,386	1,315,945
SH 121 Concession	340,068	1,336,606	3,023,818
North Tarrant Exp Seg 1 and 2-West		2,397,407	1,535,199
North Tarrant Exp Seg 3A and 3B		1,723,983	1,161,159
LBJ/IH-635 Managed Lanes		2,677,107	1,893,801
Grand Parkway Seg D, E, F1, F2, G		2,463,378	2,181,668
SH 288	10,738	54,909	25,479
North Tarrant Exp Seg 3C		5,350	
Total	$ 377,592	$ 12,351,126	$ 11,332,722

* The balance of cash in state treasury is the amount of unspent up-front concession payments.

** The deferred inflows of resources balance that relates to up-front payments received is recorded in governmental fund financials as other financing sources in the year received.

In some cases, TxDOT is obligated to make contributions of public funds to the SCA project during the construction period for portions of the project's design, construction or right-of-way costs. Outlays of TxDOT funds related to SCA projects are recorded as additions to construction in progress as they are incurred. In addition, TxDOT has committed funds in the form of a toll equity loan to the Grand Parkway Transportation Corporation (GPTC). Refer to Note 15 for further detail on TxDOT commitments related to SCAs.

GPTC has recognized an intangible asset in the amount of $2.6 billion for its costs of design, construction and right-of-way acquisition through Aug. 31, 2019. This amount is reported in the business-type activities.

NOTE 21 – DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

As of Aug. 31, 2019, TxDOT reported deferred outflows of resources and deferred inflows of resources in the Statement of Net Position as presented in the table below.

Deferred Outflows and Deferred Inflows of Resources
Statement of Net Position
As of August 31, 2019 (Amounts in Thousands)

Description	Deferred Outflows of Resources	Deferred Inflows of Resources
Governmental Activities		
Loss on Bond Refunding	$ 147,099	$
Gain on Bond Refunding		3,160
Pensions (Note 8)	240,808	165,901
Service Concession Arrangements (Note 20)		11,332,722
Other Postemployment Benefits (Note 10)	217,865	1,963,706
Total Governmental Activities	605,772	13,465,489
Business-Type Activities		
Loss on Bond Refunding	26,264	
Total Business-Type Activities	26,264	0
Total	$ 632,036	$ 13,465,489

Deferred outflows of resources in the amounts of $147.1 million in governmental activities and $26.3 million in business-type activities relate to losses on bond refunding transactions. The deferred inflow of $3.2 million reported in governmental activities relates to a gain on a bond refunding transaction. These deferred outflows and inflows are amortized on a straight-line basis over the remaining life of the old debt, or the life of the new debt, whichever is shorter.

Deferred inflows of resources of $11.3 billion reported in governmental activities relate to ten different service concession arrangements, to which TxDOT was a party, as of Aug. 31, 2019. The amount recorded in the financial statements represents the balance of unamortized upfront payments and capital improvements TxDOT received under the agreements.

TxDOT reported $240.8 million in deferred outflows of resources and $165.9 million in deferred inflows of resources in governmental activities for pension-related adjustments. The reported deferred outflows of resources include TxDOT's share of pension contributions made subsequent to the measurement date and the unamortized balance of changes in assumptions used to calculate net pension liability. The reported deferred inflows of resources are comprised of the unamortized balance of other changes in the components of net pension liability.

Deferred outflows of resources of $217.9 million and deferred inflows of resources of $2.0 billion reported in governmental activities relate to other postemployment benefits. The reported deferred outflows of resources include TxDOT's share of OPEB contributions made subsequent to the measurement date and the unamortized balance of the net difference between projected and actual return on plan investments used to calculate net OPEB liability. The reported deferred inflows of resources are comprised of the unamortized balances of differences between expected and actual experience on earnings on OPEB plan investments and changes in assumptions used to calculate net OPEB liability.

Deferred inflows of $2.1 billion were reported on the governmental funds balance sheet as presented in the table as follows. These deferred inflows relate to unavailable revenues that were earned as of Aug. 31, 2019, but not available within 60 days of year end.

Deferred Inflows of Resources Balance Sheet-Governmental Funds As of August 31, 2019 (Amounts in Thousands)		
Description		**Deferred Inflows of Resources**
State Highway Fund		
Oil and Natural Gas Production Tax	$	1,665,321
Local Revenue		75,604
Federal Revenue		314,333
Motor Fuel Tax		2,899
Total State Highway Fund		2,058,157
Nonmajor Funds		
Federal Revenue		4,880
Total Nonmajor Fund		4,880
Total		2,063,037

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Section Two (continued)

Required Supplementary Information

Other Than MD&A

(Unaudited)

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Texas Department of Transportation
Budgetary Comparison Schedule - State Highway Fund
For the Fiscal Year Ended August 31, 2019 (Amount in Thousands)

	Budgetary Amounts			
	Original	Final	Actual Amounts Budgetary Basis	Final to Actual Variance
REVENUES				
Taxes	$ 8,231,026	$ 8,043,650	$ 6,956,202	$ (1,087,448)
Federal	5,127,564	5,323,135	3,975,806	(1,347,329)
Licenses, Fees and Permits	123,674	123,834	98,011	(25,823)
Interest and Investment Income	85,196	82,489	142,805	60,316
Land Income			29,567	29,567
Settlement of Claims			41,902	41,902
Sales of Goods and Services	45,347	46,000	61,608	15,608
Other	125,032	214,265	4,990	(209,275)
Total revenues	13,737,839	13,833,373	11,310,891	(2,522,482)
EXPENDITURES				
Transportation:	12,784,664	13,652,295	10,065,829	3,586,466
Total Expenditures	12,784,664	13,652,295	10,065,829	3,586,466
Excess (Deficiency) of Revenues Over (Under) Expenditures	953,175	181,078	1,245,062	1,063,984
OTHER FINANCING SOURCES (USES)				
Transfers In			1,915,228	1,915,228
Transfers Out			(981,952)	(981,952)
Sale of Capital Assets			10,121	10,121
Upfront Payment - Serv. Conc. Agmt.			510	510
Available Beginning Balances	3,653,798	3,653,798	3,653,798	
Total Other Financing Sources (Uses)	3,653,798	3,653,798	4,597,705	943,907
Excess (Deficiency) of Revenue and Other Financing Sources Over (Under) Expenditures and Other Financing Uses	$ 4,606,973	$ 3,834,876	$ 5,842,767	$ 2,007,891

NOTES TO THE BUDGETARY COMPARISION SCHEDULE

The budgetary comparison schedule presents comparisons of the legally adopted budget with actual data on a budgetary basis. Since accounting principles applied for purposes of developing data on a budgetary basis differ significantly from those used to present financial statements in conformity with generally accepted accounting principles (GAAP), a reconciliation of these differences is required and is presented below.

The major reconciling items between the budgetary comparison schedule and the GAAP financial statements are due to the following items.

Basis of Accounting Differences

Revenues and expenditures are reported on the cash basis of accounting in the budgetary comparison schedule but are reported on the modified accrual basis of accounting on the GAAP fund financial statements. Therefore, deferred inflows, receivables and payables are included as reconciling items.

Perspective Differences

Certain revenues and expenditures, including debt service are not budgeted by the Legislature. The activity for these programs is excluded from the budgetary comparison schedule. The beginning cash balances are included as other financing sources in the budgetary comparison schedule and are not included as financing sources on the GAAP financial statements.

RECONCILIATION OF BUDGETARY BASIS TO GAAP BASIS
August 31, 2019 (Amounts in Thousands)

		State Highway Fund
Excess of Revenues and Other Financing Sources Over Expenditures and Other Financing Uses- Actual Budgetary Basis	$	5,842,767
Basis of Accounting Differences:		
Receivables and Deferred Inflows		(8,297)
Payables		(521,615)
Perspective Differences:		
Beginning Cash Balances Reported as Other Financing Sources		(3,653,798)
Other Revenues Not Budgeted		
Other Expenditures Not Budgeted		(159,018)
Excess of Revenues and Other Financing Sources Over Expenditures and Other Financing Uses - GAAP Basis	$	1,500,039

Basis of Budgeting

The state's budget is prepared on a cash basis. The Texas Constitution limits appropriation bills to two years. The Legislative Budget Board (LBB) is required by statute to adopt an estimated rate of growth for the next biennium and calculate a limit on the amount of state tax revenue, not dedicated by the Texas Constitution, that is available for spending in the next biennium. If the Legislature, by adoption of a resolution approved by a record vote of a majority of the members of each house, finds that an emergency exists and identifies the nature of the emergency, the Legislature may provide appropriations in excess of the adopted limit.

The Governor's Budget Office and the LBB initiate the process of submitting budget requests to the Legislature. At final passage of the General Appropriations Act by the Legislature, it is sent to the Comptroller of Public Accounts for certification. If the Comptroller certifies that appropriated amounts are available in the affected funds, the bill is sent to the Governor. If not certified, the Legislature may pass the bill with a four-fifths majority vote. The Governor has the option of vetoing the total bill or specific line-item appropriations, but does not have the authority to reduce a line item of appropriation.

Upon approval by the Governor, the bill becomes law and is the budget authority for state agencies to spend state funds. The Comptroller is responsible for controlling, accounting and reporting expenditures in accordance with expenditure budgets.

Legal Level of Budgetary Control

The Texas Constitution requires the Comptroller to submit a *Biennial Revenue Estimate* to the Legislature prior to each regular session. This document contains an itemized estimate of beginning cash balances, anticipated revenues based on laws then in effect and estimated expenditures from prior appropriations. The Texas Constitution also requires the Comptroller to submit supplementary revenue estimates at any special session of the Legislature and at other necessary times to show probable changes.

The level of legal control for the budget is established at the strategy (line item) level by agency. For example "Right-of-Way Acquisition" and "Routine Maintenance" are two of the strategies for TxDOT. The legal level of budgetary control is defined as the level at which the governing body must approve any over expenditure of appropriations or transfers of appropriated amounts. Agencies are authorized limited transfer authority between strategies, not to exceed 20 percent, by the General Appropriations Act. Transfers and expenditures are monitored against the original budget by the Comptroller's office to ensure the agency's authorized budget is not exceeded.

The level of legal control is documented in the *Appropriation Summary Report*, which is available by request from the Comptroller's office. This separate document includes budget and actual data by appropriation line item for each state agency. State agencies cannot exceed approved appropriations. In certain emergency situations, the Governor may authorize additional appropriations from deficiency and emergency appropriation reserves.

Unexpended appropriations generally lapse 60 days after the fiscal year unless they are encumbered during the 60-day "lapse" period. Other appropriations referred to as "reappropriated unexpended balances" represent a continuation of prior year's balances for completion of a program.

Schedules of Changes in Net Pension Liability and Related Ratios

For each of the fiscal years presented, the measurement date for the information on the schedules of changes in net pension liability and related ratios was the prior fiscal year-end.

Schedule of Changes in Net Pension Liability
(Amounts in Thousands)

	2019	2018	2017	2016	2015
Total Pension Liability					
Service Cost	$ 139,071	$ 132,525	$ 108,528	$ 118,614	$ 109,957
Interest	246,260	228,274	238,733	228,696	224,284
Benefit Changes				(8,462)	
Differences between Expected and Actual Experience	8,840	10,516	12,639	(27,433)	(24,411)
Assumption Changes	(190,768)	201,859	501,760	(330,365)	115,710
Benefit Payments and Refunds	(231,505)	(208,148)	(203,213)	(197,428)	(189,477)
Change in Proportional Percentage	115,111	(73,016)	(22,595)	(2,322)	
Net Change in Total Pension Liability	87,009	292,010	635,852	(218,700)	236,063
Total Pension Liability-Beginning	4,521,978	4,229,968	3,594,116	3,812,816	3,576,753
Total Pension Liability-Ending (a)	$ 4,608,987	$ 4,521,978	$ 4,229,968	$ 3,594,116	$ 3,812,816
Plan Fiduciary Net Position					
Contributions-Employer	67,074	63,666	64,993	48,208	46,536
Contributions-Member	65,798	62,336	63,849	44,524	41,553
Net Investment Income	233,808	257,602	120,512	5,486	313,859
Benefit Payments and Refunds	(231,505)	(208,148)	(203,213)	(197,428)	(189,477)
Administrative Expense	(2,265)	(2,100)	(1,935)	(2,104)	(1,949)
Net Change in Plan Fiduciary Net Position	132,910	173,356	44,206	(101,314)	210,522
Plan Fiduciary Net Position-Beginning	2,533,592	2,360,236	2,316,030	2,417,344	2,206,822
Plan Fiduciary Net Position-Ending (b)	2,666,502	2,533,592	2,360,236	2,316,030	2,417,344
Net Pension Liability-Ending (a) - (b)	$ 1,942,485	$ 1,988,386	$ 1,869,732	$ 1,278,086	$ 1,395,472
Plan Fiduciary Net Position as a percentage of Total Pension Liability	57.85%	56.03%	55.80%	64.44%	63.40%
Covered Payroll	$655,345	$623,828	$638,053	$592,508	$574,704
Net Pension Liability as a percentage of covered payroll	296.41%	318.74%	293.04%	215.71%	242.82%

Notes to Schedule:
1. The change in total pension liability is due to the change in the single discount rate included as an assumption change.
2. The covered payroll is the actual annual payroll for the fiscal year as reported by ERS.
3. This schedule is intended to present 10 years of information. Currently, only five years of information is available. Information- for future years will be added when it becomes available.

Schedules of Employer Contributions - Pension

The information on the schedules of employer contributions was determined as of the end of the fiscal year presented.

Schedule of Employer Contributions
(Amounts in Thousands)

	2019	2018	2017	2016	2015
Actuarially determined contributions	$ 92,592	$ 89,848	$ 67,526	$ 65,492	$ 71,131
Actual Contribution	69,733	67,073	66,253	66,163	48,288
Contribution deficiency (excess)	22,859	22,774	1,273	(670)	22,843
Covered payroll	679,824	655,345	649,179	649,536	593,496
Contribution as a percentage of covered payroll	10.26%	10.23%	10.21%	10.19%	8.14%

Notes to Schedule of Employer Contributions:

Valuation Date:

Actuarially determined contribution rates are calculated as of August 31. Members and employers contribute based on statutorily fixed rates.

A new set of assumptions were adopted for the August 31, 2017 actuarial valuation and was first reflected for the ADEC determined for the fiscal year ending 2018.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Open
Remaining Amortization Period	31 years
Asset Valuation Method	Marked to market as of August 31, 2017. Future gains and losses each recognized over closed five-year period, with allowance of direct offsetting of deferrals by subsequent gains or losses.
Inflation	2.5%
Salary Increases	0% to 9.5%
Investment Rate of Return	7.50%
Retirement Age	Experience-based table of rates that are specific to the class of employee. Updated for the 2017 valuation pursuant to an experience study of the 5-year period from September 1, 2011 through August 31, 2016.
Mortality	2017 State Retirees of Texas (SRT) mortality table. Generational mortality improvements in accordance with the ultimate rates from the scale most recently published by Retirement Plans Experience Committee of the Society of Actuaries ("Scale U-MP") and projected from the year 2017.

Other Information:

1. Actuarially determined contributions are adjusted for actual payroll and administrative expenses.
2. Members and employers contribute based on statutorily fixed rates.
3. The covered employee payroll is the actual annual payroll for the fiscal year as reported by ERS.

Schedules of Changes in Net OPEB Liability and Related Ratios

For each of the fiscal years presented, the measurement date for the information on the schedules of changes in net pension liability and related ratios was the prior fiscal year-end.

Schedule of Changes in Net OPEB Liability
(Amounts in Thousands)

	2019	2018
Total OPEB Liability		
Service Cost	$ 109,497	$ 256,922
Interest	92,361	136,668
Differences between Expected and Actual Experience	(68,487)	(55,942)
Assumption Changes	(433,607)	(973,369)
Benefit Payments, including Refunds of Employee- Contributions	(48,508)	(81,242)
Change in Proportional Percentage	(1,305,600)	
Net Change in Total OPEB Liability	(1,654,344)	(716,963)
Total OPEB Liability-Beginning	3,878,705	4,595,668
Total OPEB Liability-Ending (a)	$ 2,224,361	$ 3,878,705
Plan Fiduciary Net Position		
Contributions-Employer	$ 22,473	$ 99,328
Contributions-Non-employer Contributing Entities	1,214	5,140
Contributions-Employee	14,868	21,835
Contributions-Federal Revenues for Medicare Part D RDS	104	
Other (Federal Revenues and Other Additions)	5,587	8,009
Net Investment Income	798	504
Benefit Payments, including Refunds of Employee- Contributions	(48,508)	(81,242)
Benefit Payments financed by Employee- Contributions and Federal Revenues	(20,216)	(29,803)
Administrative Expense	(426)	(627)
Net Change in Plan Fiduciary Net Position	(24,106)	23,144
Plan Fiduciary Net Position-Beginning	79,151	56,007
Plan Fiduciary Net Position-Ending (b)	$ 55,045	$ 79,151
Net OPEB Liability-Ending (a) - (b)	$ 2,169,316	$ 3,799,554
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	1.27%	2.04%
Covered-Employee Payroll	$ 881,785	$ 1,309,744
Net OPEB Liability as a Percentage of Covered- Employee Payroll	246.01%	290.10%

Notes to Schedule:

1. This schedule is intended to present 10 years of informaiton. Currently, only two years of information are available. Information for future years will be added when it becomes available.
2. Information is presented using an Aug. 31, 2018 measurement date.
3. Benefit payments are net of member contributions and Federal Revenues.

Schedule of Employer Contributions – OPEB

Schedule of Employer Contributions
(Amounts in Thousands)

	2019	2018**
Actuarially determined contribution	$ 196,639	$ 170,736
Actual Contribution	216,838	212,627
Contribution deficiency (excess)	(20,199)	(41,891)
Covered-Employee Payroll	901,530	881,785
Contribution as a percentage of Covered-Employee Payroll	3.43%	2.70%

Notes to Schedule of Employer Contributions:
Methods and assumptions used to determine contribution rates:

Valuation Date	August 31, 2018
Actuarial Cost Method	Entry Age
Remaining Amortization Period	30 Years
Asset Valuation Method	Not applicable
Actuarial Assumptions:	
Discount Rate	3.96%*
Inflation	2.50%
Projected Annual Salary Increase	2.50% to 9.50%
Annual Healthcare Trend Rate	7.30% for FY 2020, 7.40% for FY 2021, 7.00% for FY 2022, decreasing 0.50% per year to an ultimate rate of 4.50% for FY 2027 and later years
Aggregate Payroll Growth	3.00%
Retirement Age	Experience-based tables of rates that are specific to the class of employee
Mortality-State Agency Members	
	Service Retirees, Survivors and Other Inactive Members: 2017 State Retirees of Texas Mortality table with a 1 year set forward for male CPO/CO members and Ultimate MP Projection Scale projected from the year 2017
	Disabled Retirees: RP-2014 Disabled Retiree Mortality with Ultimate MP Projection Scale projected from the year 2014
	Active Members: RP-2014 Active Member Mortality tables with Ultimate MP Projection Scale from the year 2014
Ad hoc Postemployment Benefit Changes	None

*The source of the municipal bond rate is the Bond Buyer Index of general obligations bonds with 20 years to maturity and mixed credit quality. The bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.

** Prior year 2018 numbers were revised to be consistent with the 2019 presentation. For 2018 , the actuarially determined contribution and actual contribution should be based on the measurement year ended Aug. 31, 2018.

Other Information:
This schedule is intended to present 10 years of information. Currently, only two years of information is available. Information for future years will be added when it becomes available.

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Section Two (continued)

Other Supplementary Information

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State Highway Funds

Combining Financial Statements

TxDOT reports the following accounts/sub-funds, which are consolidated into the state highway fund for the financial statements.

State Highway Fund Accounts - These funds contain the activity related to public road construction, maintenance and monitoring of the state's highway system. The significant ongoing revenue sources are federal revenues and motor fuels taxes, which are constitutionally restricted and dedicated to the highway fund.

Appropriated Fund	GAAP Fund	USAS D23 Funds
0006	0006	0006 - State Highway Fund
0006	0006	0020 - Prop 14 Tax Exempt Bonds
0006	0006	0121 - SH121 Concession-Project Fund
0006	0006	0122 - SH121 Concession-Revolving Fund
0006	0006	0130 - SH130 Concession
0006	0006	0161 - SH161 Project Fund
0006	0006	0162 - SH161 Revolving Fund
0006	0006	0288 - SH 288 Concession-Project Fund
0006	0006	0512 - Escrow - PT Toll-Montgomery CO
0006	0006	0635 - LBJ Project Concession Refund
0006	0006	0820 - NTE Segments 1&2W Concession Fund
0006	0006	0823 - NTE Segment 3A&3B Concession Fund
0006	0006	1016 - Texas State Cemetery Committee
0006	0006	8006 - Depository Interest Default Fund
0006	0006	9000 - Deposit Default Fund
0006	0006	9001 - Returned Items Default Fund
0369*	0006	0369 - Federal American Recovery & Reinvestment Fund
0899	0006	0835 - I-35E Project Disbursing Account

Proposition 1 - This fund was created to record, track and report the receipt and disbursement of the Proposition 1 Fund.

Appropriated Fund	GAAP Fund	USAS D23 Funds
0006	0006	1006 - Proposition 1 Fund

Proposition 7 - This fund was created to record, track and report the receipt and disbursement of the Proposition 7 Fund.

Appropriated Fund	GAAP Fund	USAS D23 Funds
0006	0006	1007 - Proposition 7 Fund

State Infrastructure Bank Accounts – This fund operates as a revolving loan program that makes loans to public and private entities to encourage the development of transportation projects and facilities.

Appropriated Fund	GAAP Fund	USAS D23 Funds
0006	0006	0099 - State Infrastructure Bank

Texas Department of Transportation
Combining Balance Sheet - State Highway Fund
August 31, 2019 (Amounts in Thousands)

	State Highway Fund Accounts	Proposition 1	Proposition 7	State Infrastructure Bank	TOTAL
ASSETS					
Cash and Cash Equivalents:					
Cash on Hand	$ 134	$	$	$	$ 134
Cash in Bank	3,895				3,895
Cash in State Treasury	1,299,400	1,247,907	3,980,460	355,782	6,883,549
Cash Equivalents	18,845				18,845
Short Term Investments	17,275				17,275
Receivables:					
Taxes	246,938				246,938
Federal	983,072				983,072
Other Intergovernmental	144,523				144,523
Interest and Dividends	7,375			2,103	9,478
Accounts Receivable	56,015				56,015
Due from Other Funds	9,423				9,423
Due from Other Agencies	240,015	1,665,321			1,905,336
Consumable Inventories	138,937				138,937
Loans and Contracts	606,905			158,692	765,597
Restricted:					
Cash Equivalents	7,668				7,668
Short Term Investments	4,971				4,971
Investments	2,497				2,497
Total Assets	$ 3,787,888	$ 2,913,228	$ 3,980,460	$ 516,577	$ 11,198,153
LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND FUND BALANCES					
Liabilities:					
Payables:					
Accounts	1,293,394	169,823	105,000	73	1,568,290
Payroll	82,090				82,090
Contract Retainage	6,601				6,601
Due to Other Funds				212	212
Due to Other Agencies	2,407				2,407
Unearned Revenues	16,862				16,862
Total Liabilities	1,401,354	169,823	105,000	285	1,676,462
Deferred Inflows of Resources:					
Unavailable Revenue	392,836	1,665,321			2,058,157
Total Deferred Inflows of Resources	392,836	1,665,321	0	0	2,058,157
Fund Balances:					
Nonspendable:					
Inventory	138,937				138,937
Restricted	15,168	1,078,084	3,875,460	516,292	5,485,004
Committed	720,346				720,346
Assigned	1,119,247				1,119,247
Total Fund Balances	1,993,698	1,078,084	3,875,460	516,292	7,463,534
Total Liabilities, Deferred Inflows of Resources, and Fund Balances	$ 3,787,888	$ 2,913,228	$ 3,980,460	$ 516,577	$ 11,198,153

Texas Department of Transportation
Combining Statement of Revenues, Expenditures and
Changes in Fund Balances - State Highway Fund
For the Fiscal Year Ended, August 31, 2019 (Amounts in Thousands)

	State Highway Fund Accounts	Proposition 1	Proposition 7	State Infrastructure Bank	Total
REVENUES					
Legislative Appropriations:					
Taxes	$ 2,802,371	$ 1,384,115	$ 2,500,000	$	$ 6,686,486
Federal Revenues	4,204,305				4,204,305
Federal Pass-Through Revenues	3,520				3,520
Licenses, Fees and Permits	98,011				98,011
Interest & Investment Income	48,394	37,495	45,223	14,354	145,466
Net Increase (Decrease) Fair Value	33				33
Land Income	29,567				29,567
Settlement of Claims	41,902				41,902
Sales of Goods and Services	88,313				88,313
Other Revenues	4,990				4,990
Total Revenues	7,321,406	1,421,610	2,545,223	14,354	11,302,593
EXPENDITURES					
Transportation	3,641,322	240,831	62,642		3,944,795
Capital Outlay	5,175,824	1,098,148	368,677		6,642,649
Debt Service:					
Principal on Pass-Through Tolls	158,066				158,066
Other Financing Fees	952				952
Total Expenditures	8,976,164	1,338,979	431,319	0	10,746,462
Excess (Deficiency) of Revenues Over (Under) Expenditures	(1,654,758)	82,631	2,113,904	14,354	556,131
OTHER FINANCING SOURCES (USES)					
Transfers In	1,915,228				1,915,228
Transfers Out	(547,369)		(434,583)		(981,952)
Sale of Capital Assets	10,122				10,122
Upfront Payment - Service Concession Arrangement	510				510
Total Other Financing Sources (Uses)	1,378,491	0	(434,583)	0	943,908
Net Change in Fund Balances	(276,267)	82,631	1,679,321	14,354	1,500,039
Fund Balances, September 1, 2018	2,269,965	995,453	2,196,139	501,938	5,963,495
Fund Balances, August 31, 2019	$ 1,993,698	$ 1,078,084	$ 3,875,460	$ 516,292	$ 7,463,534

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Texas Mobility Funds

Combining Financial Statements

TxDOT reports the following accounts/sub-funds, which are consolidated into the Texas Mobility Fund for the financial statements.

Debt Service Fund Accounts – These funds report the activity related the payment of debt service on outstanding mobility fund bonds.

Appropriated Fund	GAAP Fund	USAS D23 Funds
0365	0365	0367 - TMF-Interest & Sinking Account
		0373 - TMF-Rebate Account

Capital Projects Fund Accounts – These funds report the activity related to the expenditure of the mobility fund bond proceeds on eligible transportation projects.

Appropriated Fund	GAAP Fund	USAS D23 Funds
0365	0365	0365 - TMF-General Account

Texas Department of Transportation
Combining Balance Sheet - Texas Mobility Fund
August 31, 2019 (Amounts in Thousands)

	Debt Service Fund	Capital Projects Fund	Total
ASSETS			
Cash and Cash Equivalents:			
Cash in State Treasury	$ 220,413	$ 243,931	$ 464,344
Total Assets	$ 220,413	$ 243,931	$ 464,344
LIABILITIES AND FUND BALANCES			
Liabilities:			
Payables:			
Accounts		51,875	51,875
Unearned Revenues	1,825		1,825
Total Liabilities	1,825	51,875	53,700
Fund Balances:			
Restricted	218,588		218,588
Committed		192,056	192,056
Total Fund Balances	218,588	192,056	410,644
Total Liabilities and Fund Balances	$ 220,413	$ 243,931	$ 464,344

Texas Department of Transportation
Combining Statement of Revenues, Expenditures and
Changes in Fund Balances - Texas Mobility Fund
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

	Debt Service Fund	Capital Projects Fund	Total
REVENUES			
Federal Revenues	$ 21,851	$	$ 21,851
Licenses, Fees and Permits	354,254	110,027	464,281
Interest and Investment Income	2,810	7,670	10,480
Other Revenues		25	25
Total Revenues	378,915	117,722	496,637
EXPENDITURES			
Transportation		3,195	3,195
Capital Outlay		259,955	259,955
Debt Service:			
Principal on State Bonds	81,635		81,635
Interest on State Bonds	286,060		286,060
Other Financing Fees		854	854
Total Expenditures	367,695	264,004	631,699
Excess (Deficiency) of Revenues Over (Under) Expenditures	11,220	(146,282)	(135,062)
Net Change in Fund Balances	11,220	(146,282)	(135,062)
Fund Balances, September 1, 2018*	207,368	338,338	545,706
Fund Balances, August 31, 2019	$ 218,588	$ 192,056	$ 410,644

*The Texas Mobility Fund General Account was reclassified from the debt service fund to the capital Projects fund during fiscal 2019. The beginning balance of the General Account is presented in the capital projects fund.

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Nonmajor Governmental Funds

Combining Financial Statements

TxDOT reports the following accounts/sub-funds, which are consolidated into the Nonmajor Governmental funds for the financial statements.

General Fund - The general fund accounts for all financial resources except those accounted for in other funds.

Appropriated Fund	GAAP Fund	USAS D23 Funds
0001	0001	0001 - General Revenue Fund
0036	0036	0036 - Traffic Safety Crash Records
0900	0900	0090 - Suspense Fund
0999	0001	0998 - Miscellaneous-Utility Fund (Non-Cash)
7604	7604	7604 - TPFA G.O. Commercial Paper Series 2002B Colonias Project Fund

Special Revenue Funds - These funds are used to report the proceeds of specific revenue sources that are restricted or committed for specified purposes other than debt service or capital project.

Appropriated Fund	GAAP Fund	USAS D23 Funds
0184	0184	0184 - Transportation Infrastructure Fund

Debt Service Funds - These funds are used to report financial resources that are restricted, committed or assigned to expenditure for principal and interest.

Appropriated Fund	GAAP Fund	USAS D23 Funds
0008	0008	0010 - State Highway Debt Service Fund
0008	0008	0022 - Proposition 12 Debt Service

Texas Department of Transportation
Combining Balance Sheet - Nonmajor Governmental Funds
August 31, 2019 (Amounts in Thousands)

	General Fund	Special Revenue Fund*	Debt Service Fund	Total Nonmajor Funds
ASSETS				
Cash and Cash Equivalents:				
Cash in State Treasury	$ 6,078	$ 10,940	$ 337,519	$ 354,537
Legislative Appropriations	2,039			2,039
Receivables:				
Federal			4,781	4,781
Due from Other Agencies	116			116
Loans and Contracts	23			23
Total Assets	8,256	10,940	342,300	$ 361,496
LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND FUND BALANCES				
Liabilities:				
Payables:				
Accounts	116			116
Payroll	109			109
Due to Other Funds	6,078			6,078
Unearned Revenues			2,113	2,113
Total Liabilities	6,303	0	2,113	8,416
Deferred Inflows of Resources:				
Unavailable Revenue			4,880	4,880
Total Deferred Inflows of Resources	0	0	4,880	4,880
Fund Balances:				
Restricted			335,307	335,307
Committed		10,940		10,940
Assigned	109			109
Unassigned	1,844			1,844
Total Fund Balances	1,953	10,940	335,307	348,200
Total Liabilities, Deferred Inflows of Resources and Fund Balances	$ 8,256	$ 10,940	$ 342,300	$ 361,496

Texas Department of Transportation
Combining Statement of Revenues, Expenditures and
Changes in Fund Balances - Nonmajor Governmental Funds
For the Fiscal Year Ended, August 31, 2019 (Amounts in Thousands)

	General Fund	Special Revenue Fund*	Debt Service Fund	Total Nonmajor Funds
REVENUES				
Legislative Appropriations:				
Original Appropriations	$ 1,208	$	$	$ 1,208
Additional Appropriations	267			267
Federal Revenues			32,103	32,103
Licenses, Fees and Permits	38			38
Interest and Investment Income		347	2,541	2,888
Sales of Goods and Services	451			451
Total Revenues	1,964	347	34,644	36,955
EXPENDITURES				
Transportation	6,308	(438)		5,870
Capital Outlay	148			148
Debt Service:				
Principal on State Bonds			354,875	354,875
Interest on State Bonds			385,079	385,079
Total Expenditures	6,456	(438)	739,954	745,972
Excess (Deficiency) of Revenues Over (Under) Expenditures	(4,492)	785	(705,310)	(709,017)
OTHER FINANCING SOURCES (USES)				
Transfers In	1,522		833,678	835,200
Sale of Capital Assets	1,609			1,609
Appropriations Lapsed	(1,929)			(1,929)
Total Other Financing Sources (Uses)	1,202	0	833,678	834,880
Net Change in Fund Balances	(3,290)	785	128,368	125,863
Fund Balances, September 1, 2018	5,243	10,155	206,939	222,337
Fund Balances, August 31, 2019	$ 1,953	$ 10,940	$ 335,307	$ 348,200

*No combining statements presented.

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Non Major General Funds

Combining Financial Statements

TxDOT reports the following accounts/sub-funds, which are consolidated into the Nonmajor Governmental funds for the financial statements.

General Fund - The general fund accounts for all financial resources except those accounted for in other funds.

Appropriated Fund	GAAP Fund	USAS D23 Funds
0001	0001	0001 - General Revenue Fund
0999	0001	0998 - Mis-Utility Fund (Non-Cash)

Traffic Safety-Crash Records Information Systems

Appropriated Fund	GAAP Fund	USAS D23 Funds
0036	0036	0036 - Traffic Safety Crash Records

Colonias Projects Fund

Appropriated Fund	GAAP Fund	USAS D23 Funds
7604	7604	7604 - TPFA G.O. Commercial Paper Series 2002B Colonias Project Fund

Suspense Fund

Appropriated Fund	GAAP Fund	USAS D23 Funds
0900	0900	0090 - Suspense Fund

Texas Department of Transportation
Combining Balance Sheet - Nonmajor General Funds
August 31, 2019 (Amounts in Thousands)

	General Revenue Fund	Traffic Safety Crash Records	Colonias Projects Fund	Suspense Fund	Total
ASSETS					
Cash and Cash Equivalents:					
Cash in State Treasury	$	$	$	$ 6,078	$ 6,078
Legislative Appropriations	2,039				2,039
Due from Other Agencies			116		116
Loans and Contracts	23				23
Total Assets	$ 2,062	$ 0	$ 116	$ 6,078	$ 8,256
LIABILITIES AND FUND BALANCES					
Liabilities:					
Payables:					
Accounts			116		116
Payroll	109				109
Due to Other Funds				6,078	6,078
Total Liabilities	109	0	116	6,078	6,303
Fund Balances:					
Assigned	109				109
Unassigned	1,844				1,844
Total Fund Balances	1,953	0	0	0	1,953
Total Liabilities and Fund Balances	$ 2,062	$ 0	$ 116	$ 6,078	$ 8,256

Texas Department of Transportation
Combining Statement of Revenues, Expenditures and
Changes in Fund Balances - Nonmajor General Funds
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

	General Revenue Fund	Traffic Safety Crash Records	Colonias Projects Fund	Suspense Fund	Total
REVENUES					
Legislative Appropriations:					
Original Appropriations	$ 1,208	$	$	$	$ 1,208
Additional Appropriations	267				267
Licenses, Fees and Permits	38				38
Sales of Goods and Services	451				451
Total Revenues	1,964	0	0	0	1,964
EXPENDITURES					
Transportation	4,786	730	792		6,308
Capital Outlay	148				148
Total Expenditures	4,934	730	792	0	6,456
Excess (Deficiency) of Revenues Over (Under) Expenditures	(2,970)	(730)	(792)	0	(4,492)
OTHER FINANCING SOURCES (USES)					
Transfers In		730	792		1,522
Sale of Capital Assets	1,609				1,609
Appropriations Lapsed	(1,929)				(1,929)
Total Other Financing Sources (Uses)	(320)	730	792	0	1,202
Net Change in Fund Balances	(3,290)	0	0	0	(3,290)
Fund Balances, September 1, 2018	5,243				5,243
Fund Balances, August 31, 2019	$ 1,953	$ 0	$ 0	$ 0	$ 1,953

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Nonmajor Debt Service Funds
Combining Financial Statements

TxDOT reports the following accounts/sub-funds, which are consolidated into the Nonmajor Debt Service funds for the financial statements.

Proposition 14 Debt Service Fund

Appropriated Fund	GAAP Fund	USAS D23 Funds
0008	0008	0010 - State Highway Debt Service Fund

Proposition 12 Debt Service Fund

Appropriated Fund	GAAP Fund	USAS D23 Funds
0008	0008	0022 - Proposition 12 Debt Service Fund

Texas Department of Transportation
Combining Balance Sheet - Nonmajor Debt Service Funds
August 31, 2019 (Amounts in Thousands)

	Prop 14 Debt Service Fund	Prop 12 Debt Service Fund	Total Nonmajor Debt Service Funds
ASSETS			
Cash and Cash Equivalents:			
Cash in State Treasury	$ 212,377	$ 125,142	$ 337,519
Receivables:			
Federal		4,781	4,781
Total Assets	212,377	129,923	342,300
LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND FUND BALANCES			
Liabilities:			
Unearned Revenues	2,113		2,113
Total Liabilities	2,113	0	2,113
Deferred Inflows of Resources:			
Unavailable Revenue		4,880	4,880
Total Deferred Inflows of Resources	0	4,880	4,880
Fund Balances:			
Restricted	210,264	125,043	335,307
Total Fund Balances	210,264	125,043	335,307
Total Liabilities, Deferred Inflows of Resources and Fund Balances	$ 212,377	$ 129,923	$ 342,300

Texas Department of Transportation
Combining Statement of Revenues, Expenditures and
Changes in Fund Balances - Nonmajor Debt Service Funds
For the Fiscal Year Ended, August 31, 2019 (Amounts in Thousands)

	Prop 14 Debt Service Fund	Prop 12 Debt Service Fund	Total
REVENUES			
Federal Revenues	$ 25,344	$ 6,759	$ 32,103
Interest and Investment Income	2,541		2,541
Total Revenues	27,885	6,759	34,644
EXPENDITURES			
Debt Service:			
Principal on State Bonds	225,500	129,375	354,875
Interest on State Bonds	198,155	186,924	385,079
Total Expenditures	423,655	316,299	739,954
Excess (Deficiency) of Revenues Over (Under) Expenditures	(395,770)	(309,540)	(705,310)
OTHER FINANCING SOURCES (USES)			
Transfers In	399,095	434,583	833,678
Total Other Financing Sources (Uses)	399,095	434,583	833,678
Net Change in Fund Balances	3,325	125,043	128,368
Fund Balances, September 1, 2018	206,939		206,939
Fund Balances, August 31, 2019	$ 210,264	$ 125,043	$ 335,307

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Agency Funds

Combining Financial Statements

These funds are used to account for the assets held for distribution by the state as an agent for another entity for which the government has custodial responsibility and accounts for the flow of assets.

Agency Funds

Appropriated Fund	GAAP Fund	USAS D23 Funds
9995	9999	1997 - Toll Custodial Account
0001	1000	1001 - General Revenue Fund-Agency Funds
0980	0980	0980 - Direct Deposit Correction Fund
0980	0980	9014 - USPS-Direct Deposit Return
0942	0942	0942 - 401K Payroll
0900	0900	0900 - Suspense Fund
0900	0900	9015 - USPS-Overpayments To Employees
0900	0900	9016 - Warrant Hold Offset-Gc403.0551
0882	0882	0882 - City County MTA & SPD Sales Tax
0807	0807	8070 - Child Support Addenda Deductions

Texas Department of Transportation
Combining Statement of Changes in Assets and Liabilities - Agency Funds
For the Fiscal Year Ended August 31, 2019

		Balances September 1, 2018		Additions		Deductions		Balances August 31, 2019
UNAPPROPRIATED RECEIPTS								
General Revenue Fund								
Assets:								
Cash on Hand	$	0	$	4,620	$	4,620	$	0
Total Assets	$	0	$	4,620	$	4,620	$	0
Liabilities:								
Funds Held for Others	$	0	$	4,620	$	4,620	$	0
Total Liabilities	$	0	$	4,620	$	4,620	$	0
OTHER AGENCY FUNDS								
Child Support Deducts Account								
Assets:								
Cash in State Treasury	$	327	$	4,366	$	4,370	$	323
Total Assets	$	327	$	4,366	$	4,370	$	323
Liabilities:								
Funds Held for Others	$	327	$	4,366	$	4,370	$	323
Total Liabilities	$	327	$	4,366	$	4,370	$	323
Direct Deposit Correction Account								
Assets:								
Cash in State Treasury	$	119	$	16,581	$	16,700	$	0
Total Assets	$	119	$	16,581	$	16,700		0
Liabilities:								
Funds Held for Others	$	119	$	16,581	$	16,700	$	0
Total Liabilities	$	119	$	16,581	$	16,700	$	0
Toll Revenue Custodial Account								
Assets:								
Cash on Hand		12		39		12		39
Cash in Bank		987		2,211,241		2,211,548		680
Cash Equivalents		25,197		663,617		653,460		35,354
Short-Term Investments		21,839		60,902		55,819		26,922
Total Assets	$	48,035	$	2,935,799	$	2,920,839	$	62,995
Liabilities:								
Funds Held For Others	$	48,035	$	2,935,799	$	2,920,839	$	62,995
Total Liabilities	$	48,035	$	2,935,799	$	2,920,839	$	62,995
TOTALS - ALL AGENCY FUNDS								
Assets:								
Cash on Hand	$	12	$	4,659	$	4,632	$	39
Cash in Bank		987		2,211,241		2,211,548		680
Cash In State Treasury		446		20,947		21,070		323
Cash Equivalents		25,197		663,617		653,460		35,354
Short-Term Investments		21,839		60,902		55,819		26,922
Total Assets:	$	48,481	$	2,961,366	$	2,946,529	$	63,318
Liabilities:								
Funds Held for Others	$	48,481	$	2,961,366	$	2,946,529	$	63,318
Total Liabilities	$	48,481	$	2,961,366	$	2,946,529	$	63,318

Section Three

Statistical Section

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Texas Department of Transportation

Statistical Section

This section presents detailed information as a context for understanding what the information in the financial statements, note disclosures, required supplementary information and other supplementary information says about the department's overall financial health.

Contents **Pages**

Sources: Unless otherwise noted, the information in these schedules is derived from the Texas Department of Transportation for the relevant years.

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Texas Department of Transportation
Statistical Section - Financial Trends Information
Net Position - Government-wide
Last Ten Fiscal Years
(Amounts in Millions)

	2010*	2011*	2012	2013	2014
GOVERNMENTAL ACTIVITIES					
Net Investment in Capital Assets	$	$	$ 62,448	$ 62,877	$ 67,775
Restricted			975	774	292
Unrestricted			338	893	(1,139)
Total Governmental Activities Net Position	0	0	63,761	64,544	66,928
BUSINESS-TYPE ACTIVITIES					
Net Investment in Capital Assets			512	690	637
Restricted			7	35	65
Unrestricted			(92)	(176)	(246)
Total Business-Type Activities Net Position	0	0	427	549	456
PRIMARY GOVERNMENT					
Net Investment in Capital Assets			62,960	63,567	68,412
Restricted			982	809	357
Unrestricted			246	717	(1,385)
Total Primary Government Net Position	$ 0	$ 0	$ 64,188	$ 65,093	$ 67,384

	2015	2016	2017	2018	2019
GOVERNMENTAL ACTIVITIES					
Net Investment in Capital Assets	$ 70,083	$ 71,358	$ 76,120	$ 79,966	$ 85,381
Restricted	394	3,438	2,666	5,552	7,964
Unrestricted	95	(212)	(114)	(4,261)	(3,855)
Total Governmental Activities Net Position	70,572	74,584	78,672	81,257	89,490
BUSINESS-TYPE ACTIVITIES					
Net Investment in Capital Assets	621	638	597	558	769
Restricted	115	161	272	344	379
Unrestricted	(327)	(475)	(619)	(692)	(759)
Total Business-Type Activities Net Position	409	324	250	210	389
PRIMARY GOVERNMENT					
Net Investment in Capital Assets	70,704	71,996	76,717	80,524	86,150
Restricted	509	3,599	2,938	5,896	8,343
Unrestricted	(232)	(687)	(733)	(4,953)	(4,614)
Total Primary Government Net Position	$ 70,981	$ 74,908	$ 78,922	$ 81,467	$ 89,879

* Governmental and business-type activities information was not available in fiscal 2010-2011 TxDOT financial statements

Source: Fiscal 2012 - 2019 TxDOT financial statements

Texas Department of Transportation
Statistical Section - Financial Trends Information
Changes in Net Position - Government-wide
Last Ten Fiscal Years
(Amounts in Millions)

	2010*	2011*	2012	2013	2014	2015	2016	2017	2018	2019
GOVERNMENTAL ACTIVITIES:										
Expenses										
Transportation	$	$	$ $4,907	$ $5,829	$ $5,688	$ $5,710	$ $5,686	$ $6,135	$ $6,475	$ $6,048
Total Expenses	0	0	4,907	5,829	5,688	5,710	5,686	6,135	6,475	6,048
Program Revenues:										
Charges for Services			707	742	779	746	916	1,114	1,277	1,148
Operating Grants and Contributions			2,898	2,870	3,417	3,297	3,942	3,835	3,972	4,483
Capital Grants and Contributions			35	30	90	52	39	50	62	117
Total Program Revenues	0	0	3,640	3,642	4,286	4,095	4,897	4,999	5,311	5,748
Total Governmental Activities										
Net Program Expense	0	0	(1,267)	(2,187)	(1,402)	(1,615)	(789)	(1,136)	(1,164)	(300)
General Revenues:										
Appropriations			53	12	598	195	219	269	1	
Taxes			2,378	2,407	2,488	3,747	3,035	3,447	6,589	6,970
Unrestricted Investment Earnings			48	29	37	34	52	77	99	166
Settlement of Claims			23	12	17	22	48	28	21	42
Other General Revenues			2	2	23	9	17	9	4	4
Gain on Sale of Capital Assets			5	1		48	53			2
Capital Contributions					(153)					
Transfers - Internal Activities			(55)	(225)	(33)	(2)	(2)	(5)	(26)	(195)
Transfers - Other State Agencies			592	616	842	2,529	1,379	1,399	1,496	1,544
Total General Revenues, Contributions and Transfers	0	0	3,046	2,854	3,819	6,582	4,801	5,224	8,184	8,533
Changes in Net Position - Governmental Activities	$ 0	$ 0	$ 1,779	$ 667	$ 2,417	$ 4,967	$ 4,012	$ 4,088	$ 7,020	$ 8,233
BUSINESS-TYPE ACTIVITIES:										
Expenses										
Transportation	$	$	$ 216	$ 229	$ 249	$ 252	$ 353	$ 452	$ 491	$ 559
Total Expenses	0	0	216	229	249	252	353	452	491	559
Program Revenues:										
Charges for Services			86	119	155	194	256	359	397	455
Operating Grants and Contributions					7	2	2	14	23	77
Capital Grants and Contributions										12
Total Program Revenues	0	0	86	119	162	196	258	373	420	544
Total Business-Type Activities										
Net Program Expense	0	0	(130)	(110)	(87)	(56)	(95)	(79)	(71)	(15)
General Revenues:										
Appropriations										
Taxes										
Unrestricted Investment Earnings			6	6		5	8			
Settlement of Claims			1	1					5	
Capital Contributions						2				
Other General Revenues										
Transfers - Internal Activities			55	225	33	2	2	5	26	195
Transfers - Other State Agencies										
Total General Revenues, Contributions and Transfers	0	0	62	232	33	9	10	5	31	195
Changes in Net Position - Business-Type Activities	0	0	(68)	122	(54)	(47)	(85)	(74)	(40)	180
Changes in Net Position - Primary Government	$ 0	$ 0	$ 1,711	$ 789	$ 2,363	$ 4,920	$ 3,927	$ 4,014	$ 6,980	$ 8,413

* Governmental and business-type activities information was not available in fiscal 2010-2011 TxDOT financial statements

Source: Fiscal 2012 - 2019 TxDOT financial statements

Texas Department of Transportation
Statistical Section - Financial Trends Information
Fund Balances - Governmental Funds
Last Ten Fiscal Years
(Amounts in Millions)

	2010
STATE HIGHWAY FUND	
Reserved	$ 524
Unreserved	701
Total State Highway Fund	$ 1,225
TEXAS MOBILITY FUND	
Reserved	$
Unreserved	1,359
Total Texas Mobility Fund	$ 1,359
ALL OTHER GOVERNMENTAL FUNDS	
Reserved	$ 1,086
Unreserved	26
Total All Other Governmental Funds	$ 1,112

	2011*	2012	2013	2014	2015	2016	2017	2018	2019
STATE HIGHWAY FUND									
Nonspendable	$ 369	$ 125	$ 142	$ 139	$ 181	$ 162	$ 154	$ 146	$ 139
Restricted	841	914	533	855	2,388	2,622	2,227	3,710	5,485
Committed	178	202		1,843	1,411	1,140	927	788	720
Assigned				723	39	573	877	1,320	1,119
Unassigned	(735)	(511)	(688)						
Total State Highway Fund	$ 653	$ 730	$ (13)	$ 3,560	$ 4,019	$ 4,497	$ 4,185	$ 5,964	$ 7,463
TEXAS MOBILITY FUND									
Restricted	$ 1,280	$ 1,109	$ 1,197	$ 373	$ 1,191	$ 1,081	$ 910	$ 546	$ 219
Committed									192
Unassigned				(19)					
Total Texas Mobility Fund	$ 1,280	$ 1,109	$ 1,197	$ 354	$ 1,191	$ 1,081	$ 910	$ 546	$ 411
ALL OTHER GOVERNMENTAL FUNDS									
Restricted	$ 1,725	$ 258	$ 319	$ 140	$ 442	$ 503	$ 874	$ 605	$ 351
Committed				222	153	72	25	10	11
Assigned	2		2	2	1	6	5		
Unassigned	72	76	21	(486)	20		7	5	2
Total All Other Governmental Funds	$ 1,799	$ 334	$ 342	$ (122)	$ 616	$ 581	$ 911	$ 620	$ 364

* Due to the changes in the fund structure initiated when GASB Statement No. 54, Fund Balance Reporting and Governmental Fund Type Definitions was implemented, information for fund balances is only available for the line items presented beginning in fiscal 2011.

Source: Fiscal 2010 - 2019 TxDOT financial statements

Texas Department of Transportation
Statistical Section - Financial Trends Information
Changes in Fund Balances - Governmental Funds
Last Ten Fiscal Years*
(Amounts in Millions)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
REVENUES										
Legislative Appropriations:										
Original Appropriations	$ 46	$ 82	$ 116	$ 12	$ 610	$ 196	$ 219	$ 273	$ 1	$ 1
Additional Appropriations	1	1	1	1	1	1	1	1	1	1
Taxes	40	2,313	2,366	2,419	2,488	2,583	3,760	3,115	5,976	6,686
Federal Revenues	2,668	3,032	2,886	2,874	3,419	3,230	3,993	3,840	3,891	4,258
Federal Pass-Through Revenues	22	8	6	1			1	1	13	4
Licenses, Fees and Permits	541	514	494	469	425	393	462	504	524	562
Interest & Investment Income	73	81	49	52	37	34	52	78	99	166
Land Income	7	7	10	16	14	16	12	13	23	30
Settlement of Claims	1		23	12	17	22	47	28	21	42
Sales of Goods and Services	204	214	190	216	226	171	135	280	441	315
Other Revenues	7	5	2	2	23	9	17	10	4	5
Total Revenues	3,610	6,257	6,143	6,074	7,260	6,655	8,699	8,143	10,994	12,070
EXPENDITURES										
Transportation	3,497	3,409	3,683	4,566	3,503	3,484	3,524	3,595	3,696	3,954
Capital Outlay	2,823	3,499	3,215	3,225	5,209	5,198	6,052	6,700	6,444	7,292
Debt Service:										
Principal on State Bonds	139	149	181	194	377	278	272			437
Principal on Pass-Through Tolls	1	34	58	105	105	112	121	314	412	158
Interest on State Bonds	409	560	528	537	590	567	613	109	111	671
Other Financing Fees	20	11	6	6	12	16	9	665	688	2
Total Expenditures								11	1	
	6,889	7,662	7,671	8,633	9,796	9,655	10,591	11,394	11,352	12,514
Excess (Deficiency) of Revenues Over (Under) Expenditures	(3,279)	(1,405)	(1,528)	(2,559)	(2,536)	(3,000)	(1,892)	(3,251)	(358)	(444)
OTHER FINANCING RESOURCES (USAS)										
Transfers In	3,646	1,648	2,024	1,865	2,315	3,746	2,006	2,250	2,509	2,750
Transfers Out	(1,208)	(1,221)	(1,487)	(1,245)	(1,476)	(1,219)	(627)	(851)	(1,035)	(1,209)
Long-Term Debt Issued**	2,731	1,000		1,104	645	2,160	615	1,475		
Insurance Recoveries	10	11								
Bond Issued for Refunding					1,787	1,711	1,165	859		
Premium/Discount on Bonds Issued					351	598	307	367		
Payment to Escrow on Refunding					(2,072)	(2,034)	(1,335)	(1,010)		
Sale of Capital Assets	8	5	13	6	18	73	68	12	9	12
Upfront Payment - Service Concession Arrangement							26			1
Appropriations Lapsed			(64)		(12)	(1)		(4)	(1)	(2)
Total Other Financing Sources (Uses)	5,187	1,443	486	1,730	1,556	5,034	2,225	3,098	1,482	1,552
Net Change in Fund Balances	1,908	38	(1,042)	(829)	(980)	2,034	333	(153)	1,124	1,108
Fund Balance, Beginning Fiscal Year	1,788	3,694	3,215	2,173	1,526	3,792	5,826	6,159	6,006	7,130
Restatements	-	-	-	182	3,246	-	-	-	-	-
Fund Balance, Ending Fiscal Year	$ 3,696	$ 3,732	$ 2,173	$ 1,526	$ 3,792	$ 5,826	$ 6,159	$ 6,006	$ 7,130	$ 8,238
Debt Service as a Percentage of Noncapital Expenditures	10.1%	14.3%	13.2%	11.9%	15.2%	15.2%	16.2%	9.0%	10.7%	15.9%

* This table comprises the following funds: general, special revenue, debt service, and capital projects.
** In fiscal 2010-2015, Long-Term Debt Issued was reported under Bond & Note Proceeds line.

Source: Fiscal 2010 - 2019 TxDOT financial statements

Texas Department of Transportation
Statistical Section - Revenue Capacity Information
Revenue Collections - Taxes - State and TxDOT
Last Ten Fical Years
(Amounts in Millions, Eexcept Gallons)

	Motor Fuels Tax*			Crude Oil Production Tax**			Natural Gas Production Tax **			Sales & Use Tax***		Total
Fiscal Year	Gallons Sold	State Receipts	TxDOT Receipts	Gallons Produced	State Receipts	TxDOT Receipts	Gallons Produced	State Receipts	TxDOT Receipts	State Receipts	TxDOT Receipts	TxDOT Receipts
2010	15,352	$ 3,042	$ 2,227	1,544	$ 3,887	$	7,357	$ 726	$	$ 19,630	$ 40	$ 2,267
2011	15,678	3,104	2,275	1,272	3,392		7,601	1,110		21,479	41	2,316
2012	15,985	3,169	2,311	1,048	2,107		7,738	1,535		24,191	42	2,353
2013	16,517	3,222	2,366	1,036	1,704		7,790	1,495		25,944	43	2,409
2014	17,020	3,316	2,422	1,080	2,877		7,715	1,900		27,386	43	2,465
2015	17,666	3,446	2,522	893	3,872	1,253	7,938	1,280	487	28,911	45	4,307
2016	18,047	3,514	2,581	703	2,990	879	7,593	579	255	28,246	45	3,760
2017	18,353	3,584	2,630	532	2,102	440	7,227	983		28,900	45	3,115
2018	18,895	3,675	2,694	400	1,472	591	7,993	1,431	144	31,937	982	4,410
2019	19,221	3,743	2,735	350	1,008	1,072	9,306	1,686	312	34,024	4,104	8,223

* Motor Fuels include the following:
Gasoline
Diesel Fuel
Liquefied Gas (repealed in 84th Legislative Session 2015)
Liquefied and Compressed Natural Gas (previously included in RO-3009)

** Under Proposition 1 (Prop 1), voters approved a portion of oil and gas production taxes to State Highway Fund (SHF) in fiscal 2014. The SHF started receiving Prop 1 funds in fiscal 2015.
For natural gas production tax fiscal 2017 didn’t reach constitutional required level of $599.78 million in the preceeding year.

*** On Nov.2, 2015 Texas voters approved Proposition 7 ballot measure that dedicates a portion of the revenue from the state sales and use tax and motor vehicle sales and rental tax to the state highway fund. TxDOT started receiving Prop 7 funds in fiscal 2018.

Source: State of Texas Comptroller of Public Accounts

Texas Department of Transportation
Statistical Section - Revenue Capacity Information
Tax Rates
Last Ten Fiscal Years

Fiscal Year	Motor Fuel Tax Rate*	Motor Fuel Tax Rate**	Crude Oil Production Tax Rate	Natural Gas Production Tax Rate	Sales and Use Tax Rate
2010	0.20%	0.15%	4.54%	7.50%	6.25%
2011	0.20%	0.15%	4.51%	7.50%	6.25%
2012	0.20%	0.15%	4.49%	7.50%	6.25%
2013	0.20%	0.15%	4.41%	7.50%	6.25%
2014	0.20%	0.15%	4.45%	7.50%	6.25%
2015	0.20%	0.15%	4.42%	7.50%	6.25%
2016	0.20%	0.15%	4.37%	7.50%	6.25%
2017	0.20%	0.15%	4.29%	7.50%	6.25%
2018	0.20%	0.15%	4.16%	7.50%	6.25%
2019	0.20%	0.15%	4.07%	7.50%	6.25%

* Tax rate for Gasoline and Diesel Fuel
** Tax rate for Liquified Gas and Liquified and Compressed Natural Gas

Source: State of Texas Comptroller of Public Accounts

Texas Department of Transportation
Statistical Section - Revenue Capacity Information
Federal Revenue and Percentage
Last Ten Fical Years
(Amounts in Millions)

Fiscal Year	Federal Revenue	Increase /Decrease	Percentage Change
2010*	$ 2,668	$ (113)	(4.1) %
2011	3,032	364	13.6 %
2012	2,887	(145)	(4.8) %
2013	2,874	(13)	(0.5) %
2014	3,419	545	19.0 %
2015	3,230	(189)	(5.5) %
2016	3,994	764	23.7 %
2017	3,840	(154)	(3.9) %
2018	3,891	51	1.3 %
2019	4,258	367	9.4 %

* The fiscal 2009 federal revenue of $2,781 million was used to calculate the percenatge change.

Source: Fiscal 2010 - 2019 TxDOT financial statements

Texas Department of Transportation
Statistical Section - Revenue Capacity Information
Traffic and Toll Revenue - Toll Roads
Last Ten Fiscal Years

Fiscal Year	Annual Vehicle Transactions	Annual Toll Revenue, Net	Increase/ Decrease	Toll Revenue Percentage Change	Toll Rate per Transaction
2010*	81,393,148	$ 69,350,840	$ 2,988,530	4.5%	$ 0.85
2011	86,293,347	72,417,754	3,066,913	4.4%	0.84
2012	93,883,708	79,940,960	7,523,206	10.4%	0.85
2013	102,506,784	103,988,447	24,047,487	30.1%	1.01
2014	118,545,176	134,662,667	30,674,220	29.5%	1.14
2015	146,208,519	173,332,922	38,670,255	28.7%	1.19
2016	210,526,490	239,209,148	65,876,226	38.0%	1.14
2017	284,881,295	318,197,882	78,988,734	33.0%	1.12
2018	323,480,170	360,308,873	42,110,991	13.2%	1.11
2019	345,998,872	396,608,648	36,299,775	10.1%	1.15

* Fiscal 2009 had revenue only for CTTS in the amount of $66,362,310, which is used to calculate the percentage change in fiscal 2010.

Note: The above numbers are for Central Texas Turnpike System and Grand Parkway Transportation Corporation.

Source: TxDOT's Toll Operations Division

Texas Department of Transportation
Statistical Section - Debt Capacity Information
Ratios of Outstanding Debt by Type
Last Ten Fiscal Years
(Amounts in Millions Except Percentage Data and Per Capita)

	Government Activities			Business-Type Activities						
Fiscal Year	General Obligation Bonds	Revenue Bonds	Notes and Loans	Revenue Bonds	Notes and Loans	Total Primary Government	Personal Income	Percentage of Personal Income	Population	Per Capita*
2010	$ 6,246	$ 4,291	$ 247	$ 1,538	$ 1,007	$ 13,329	$ 966,900	1.4%	25,293	$ 527
2011	7,193	4,175	1,061	1,578	1,033	15,040	1,058,034	1.4%	25,701	585
2012	7,113	4,055	1,128	1,617	1,058	14,971	1,133,801	1.3%	26,126	573
2013	8,121	3,928	1,186	4,545	1,083	18,863	1,160,362	1.6%	26,543	711
2014	7,868	4,538	1,210	3,875	1,877	19,368	1,250,850	1.5%	27,019	717
2015	10,188	4,396	1,183	5,133	758	21,658	1,282,380	1.7%	27,508	787
2016	10,795	4,223	1,094	5,166	746	22,024	1,287,687	1.7%	27,952	788
2017	11,247	4,733	1,308	5,089	863	23,240	1,340,568	1.7%	28,357	820
2018	10,971	4,470	1,256	6,107	1,552	24,356	1,409,544	1.7%	28,775	846
2019	10,683	4,202	1,119	6,387	1,575	23,966	1,456,900	1.6%	29,041	825

* Prior years numbers are subject to revisions. Calculation based on resident population figures from U.S. Bureau of the Census and Texas Comptroller of Public Accounts.

Source: Fiscal 2010 - 2019 TxDOT financial statements

Texas Department of Transportation
Statistical Section - Debt Capacity Information
Ratios of General Bonded Debt Outstanding
Last Ten Fiscal Years*
(Amounts in Millions Except Percentage Data and General Bonded Debt Per Capita)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Bonded Debt (General Obligation Bonds Only)	$ 6,246	$ 7,193	$ 7,113	$ 8,121	$ 7,868	$ 10,188	$ 10,795	$ 11,247	$ 10,971	$ 10,683
Percentage Bonded Debt Change From Prior Year	(0.7) %	15.2 %	(1.1) %	14.2 %	(3.1) %	29.5 %	6.0 %	4.2 %	(2.5) %	(2.6) %
Tax Collections**	$ 35,868	$ 39,632	$ 44,171	$ 47,857	$ 51,413	$ 51,096	$ 47,971	$ 50,194	$ 55,963	$ 59,785
Percentage Bonded Debt to Tax Collections	17.4%	18.1%	16.1%	17.0%	15.3%	19.9%	22.5%	22.4%	19.6%	17.9%
Resident Population	25.3	25.7	26.1	26.5	27.0	27.5	28.0	28.4	28.8	29.0
General Bonded Debt Per Capita	$ 246.88	$ 279.88	$ 272.53	$ 306.45	$ 291.41	$ 370.47	$ 385.54	$ 396.02	$ 380.94	$ 367.88

* Historical data may reflect a variety of changes in methodology, inflation factors, price indicators and revisions to interim census figures made by the U.S. Bureau of Econimic Analysis.

** Fiscal 2019 Tax Collections is an estimate.

Source: Bonded debt and tax collection amounts are from the fiscal 2010 - 2019 TxDOT financial statements. Resident population figures are from the U.S. Department of Commerce, Bureau of Census and Bureau of Economic Analysis.

Texas Department of Transportation
Statistical Section - Debt Capacity Information
Pledged Revenue Bond Coverage
Last Ten Fiscal Years*
(Amounts in Millions Except Ratio Data)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
GOVERNMENTAL ACTIVITIES										
State Highway Fund Revenue Bonds										
Pledged Revenue Amount*	N/A	$ 6,021	$ 6,552	$ 6,762	$ 7,441	$ 7,427	$ 8,267	$ 8,450	$ 8,407	$ 8,973
Operating Expenditures	$ 5,102	5,730	6,308	6,584	7,242	7,791	8,553	9,563	9,334	10,587
Net Available Revenue*	N/A	$ 291	$ 244	$ 178	$ 199	$ (364)	$ (286)	$ (1,113)	$ (927)	$ (1,614)
Debt Service -										
Principal	$ 104	$ 109	$ 115	$ 120	$ 126	$ 132	$ 139	$ 145	$ 216	$ 226
Interest	118	179	200	195	189	198	176	195	206	186
Total Debt Service	$ 222	$ 288	$ 315	$ 315	$ 315	$ 331	$ 315	$ 340	$ 422	$ 412
Coverage Ratio*	N/A	1.0	0.8	0.6	0.6	(1.1)	(0.9)	(3.3)	(2.2)	(3.9)
BUSINESS-TYPE ACTIVITIES										
Central Texas Turnpike System										
Pledged Revenue Amount**	N/A	N/A	$ 93	$ 125	$ 150	$ 169	$ 179	$ 208	$ 224	$ 266
Operating Expenditures	$ 68	$ 69	73	67	107	110	101	106	111	110
Net Available Revenue**	N/A	N/A	$ 20	$ 58	$ 43	$ 59	$ 78	$ 102	$ 113	$ 156
Debt Service -										
Principal	$	$	$ 5	$ 8	$ 10	$ 8	$ 2	$ 8	$ 14	$ 20
Interest	63	75	71	72	66	92	107	107	107	107
Total Debt Service	$ 63	$ 75	$ 76	$ 80	$ 76	$ 100	$ 109	$ 115	$ 121	$ 127
Coverage Ratio**	N/A	N/A	0.3	0.7	0.6	0.6	0.7	0.9	0.9	1.2
Grand Parkway Transportation Corporation										
Pledged Revenue Amount***	N/A	N/A	N/A	N/A	N/A	N/A	$ 86	$ 162	$ 186	$ 229
Operating Expenditures***	N/A	N/A	N/A	N/A	N/A	N/A	77	94	101	108
Net Available Revenue***	N/A	N/A	N/A	N/A	N/A	N/A	$ 9	$ 68	$ 85	$ 121
Debt Service -										
Principal***	N/A	N/A	N/A	N/A	N/A	N/A	$	$	$	$
Interest***	N/A	N/A	N/A	N/A	N/A	N/A	111	105	90	152
Total Debt Service***	N/A	N/A	N/A	N/A	N/A	N/A	$ 111	$ 105	$ 90	$ 152
Coverage Ratio***	N/A	N/A	N/A	N/A	N/A	N/A	0.1	0.6	0.9	0.8

* State Highway Fund pledged revenue is not published in fiscal 2010.
** Central Texas Turnpike System pledged revenue is not published in fiscal 2010 and 2011.
*** Grand Parkway Transportation Corporation published its first annual financial report in fiscal 2016.

Source: Fiscal 2010 - 2019 TxDOT financial statements

Texas Department of Transportation
Statistical Section - Demographic and Economic Information
Texas and U.S. Population, Total Personal Income and Per Capital Income
Last Ten Calendar Years*

	Population (Thousands)				Total Personal Income (Million)				Per Capita Income			
Year	Texas	Percent Changes	U.S.	Percent Changes	Texas	Percent Changes	U.S.	Percent Changes	Texas	Percent Changes	U.S.	Percent Changes
2010	25,191	1.8%	309,467	0.6%	$ 945,659	2.2%	$ 12,382,450	2.7%	$ 37,540	0.3%	$ 40,012	2.1%
2011	25,598	1.6%	311,760	0.7%	1,037,628	9.7%	13,157,358	6.3%	40,536	8.0%	42,203	5.5%
2012	26,032	1.7%	313,979	0.7%	1,111,334	7.1%	13,781,869	4.7%	42,691	5.3%	43,894	4.0%
2013	26,445	1.6%	316,147	0.7%	1,156,440	4.1%	14,190,212	3.0%	43,730	2.4%	44,885	2.3%
2014	26,918	1.8%	318,425	0.7%	1,227,543	6.1%	14,751,549	4.0%	45,603	4.3%	46,327	3.2%
2015	27,419	1.9%	320,741	0.7%	1,280,346	4.3%	15,577,862	5.6%	46,696	2.4%	48,568	4.8%
2016	27,877	1.7%	323,041	0.7%	1,282,518	0.2%	16,004,634	2.7%	46,006	(1.5)%	49,544	2.0%
2017	28,274	1.4%	325,158	0.7%	1,325,779	3.4%	16,656,656	4.1%	46,890	1.9%	51,226	3.4%
2018	28,655	1.3%	327,184	0.6%	1,391,754	5.0%	17,606,245	5.7%	48,569	3.6%	53,811	5.0%
2019**	29,041	1.3%	329,463	0.7%	1,456,900	4.7%	18,452,584	4.8%	50,167	3.3%	56,008	4.1%

*Prior years numbers are subject to revisions.
** Numbers for 2019 include some estimates for the latter part of the year.

Source: U.S. Bureau of Economic Analysis, US Bureau of the Census and Texas Comptroller of Public Accounts

Texas Department of Transportation
Statistical Section - Demographic and Economic Information
Texas and U.S. Employment and Unemployment Rates
Last Ten Calendar Years*
(Amounts in Thousands Except Unemployment Percentage Rate)

	Nonfarm Employment (Thousands)				Unemployment Percentage Rate	
Year	**Texas**	**Percent Changes**	**U.S.**	**Percent Changes**	**Texas**	**U.S.**
2010	10,375	(0.6)%	130,161	(0.9)%	8.2%	9.7%
2011	10,605	2.2%	131,442	1.0%	7.9%	9.2%
2012	10,915	2.9%	133,638	1.7%	7.0%	8.3%
2013	11,241	3.0%	135,779	1.6%	6.4%	7.6%
2014	11,593	3.1%	138,225	1.8%	5.4%	6.5%
2015	11,865	2.3%	141,142	2.1%	4.5%	5.5%
2016	12,014	1.3%	143,752	1.8%	4.6%	4.9%
2017	12,228	1.8%	146,070	1.6%	4.5%	4.5%
2018	12,504	2.3%	148,401	1.6%	3.9%	4.0%
2019**	12,776	2.2%	150,868	1.7%	3.6%	3.7%

*Prior years are subject to revisions.
**Numbers for 2019 include some estimates for the latter part of the year.

Source: Texas Workforce Commission, Texas Comptroller of Public Accounts and U.S. Bureau of Labor Statistics.

Texas Department of Transportation
Statistical Section - Demographic and Economic Information
Texas Nonfarm Employment Detail: Number of Jobs
Last Ten Calendar Years
(Amounts in Thousands)

Employment by Industry	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019**
GOODS-PRODUCING										
Natural Resrouces and Mining	206.4	237.4	270.8	289.0	311.2	272.5	213.3	222.0	246.2	259.5
Construction	564.4	564.0	584.6	613.5	651.9	683.9	700.4	712.2	738.5	770.4
Manufacturing										
Durables	524.0	550.1	576.8	582.0	590.2	578.4	541.8	542.0	564.3	584.5
Nondurables	293.2	291.6	293.5	293.9	297.5	301.0	305.4	310.9	316.6	319.2
Total, Good-Producing	1,588.1	1,643.1	1,725.6	1,778.4	1,850.8	1,835.7	1,761.0	1,787.1	1,865.7	1,933.5
SERVICE-PROVIDING										
Trade, Transportation, and Utilities										
Whoesale Trade	482.0	500.8	524.6	541.9	561.1	573.0	569.1	577.1	596.3	620.0
Retail Trade	1,136.0	1,159.5	1,185.9	1,221.2	1,257.9	1,298.7	1,324.5	1,328.2	1,330.4	1,326.0
Transportation and Warehousing	370.9	385.3	402.1	415.3	433.8	457.9	471.3	490.4	507.8	519.0
Utilities	48.2	48.5	48.4	48.8	49.0	49.5	49.9	50.7	51.9	52.3
Information	195.2	195.2	196.8	200.5	201.6	200.4	202.3	203.1	204.0	201.6
Financial Activities										
Finance and Insurance	454.5	466.8	481.9	496.2	503.9	517.8	531.6	547.0	555.2	572.4
Real Estate and Rental and Leasing	170.9	174.2	179.9	187.9	196.6	201.1	204.7	214.1	221.7	225.2
Professional and Business Services										
Professional, Scientific and Technical	571.1	592.6	626.5	651.6	684.7	716.1	732.8	749.5	782.1	822.4
Management, Administrative and Support	715.5	760.0	796.8	831.4	871.0	891.7	907.2	928.5	951.6	961.8
Educational and Health Services										
Educational Services, Private	155.8	161.4	166.6	173.9	180.4	188.4	195.2	201.9	208.5	214.7
Health Care and Social Assistance	1,225.2	1,252.5	1,280.4	1,312.2	1,341.2	1,388.6	1,430.2	1,464.5	1,488.4	1,523.0
Leisure and Hospitality	1,008.0	1,041.7	1,086.5	1,139.6	1,188.0	1,242.0	1,290.0	1,319.5	1,354.8	1,393.3
Other Services	363.3	370.4	385.7	400.1	413.0	419.8	423.5	426.8	433.3	446.3
Government										
Federal Civilian	209.6	201.4	199.2	197.1	193.3	194.3	197.7	199.9	201.4	203.7
State and Local	1,681.2	1,652.2	1,627.7	1,644.8	1,666.6	1,689.9	1,722.8	1,739.7	1,750.9	1,760.7
Total, Service-Providing	8,787.2	8,962.2	9,189.0	9,462.5	9,741.8	10,029.1	10,252.6	10,440.8	10,638.4	10,842.3
Total Nonfarm Employment	10,375.3	10,605.3	10,914.6	11,240.9	11,592.6	11,864.8	12,013.6	12,227.9	12,504.1	12,775.8

*Data in the table are annual averages. Prior years are subject to annual benchmark revisions.

**Numbers for 2019 include some estimates for the latter part of the year.

Note: Due to confidentiality issues, the names of the ten largest revnue payers are not available. This table prvides alternative infomration regarding the source of the state's major tax revenue.

Source: Texas Workforce Commission, Labor Market Information (LMI) and Texas Comptroller of Public Accounts

Texas Department of Transportation
Statistical Section - Operating Information
Full-Time Equivalent Employees (FTE)
Last Ten Fiscal Years

	2010	2011	2012	2013	2014
FTE Cap*	14,710	14,088	12,203	12,203	12,087
FTE	12,222	11,819	11,558	11,614	11,647
Contractor	38	143	205	108	68
Total Usage	12,260	11,962	11,763	11,722	11,715
Over/Under	(2,450)	(2,126)	(440)	(481)	(372)

	2015	2016	2017	2018	2019
FTE Cap	12,087	11,900	11,900	12,214	12,214
FTE	11,574	11,795	11,369	11,597	11,886
Contractor	72	77	36	20	19
Total Usage	11,646	11,872	11,405	11,617	11,905
Over/Under	(441)	(28)	(495)	(597)	(309)

* Incorporates Article IX, §18.92, of this Act, due to the enactment of SB 1420, 82nd Legislature, Regular Session, relating to the transfer of powers, duties, functions, programs, and activities of the Department of Transportation relating to oversize and overweight vehicles of the Department of Motor Vehicles, resulting in the transfer of $7,010,653 in fiscal 2012 and $7,010,653 in fiscal 2013 in State Highway Funds and 116.0 FTEs in each fiscal year of the 2012-2013 biennium to the Department of Motor Vehicles from the Department of Transportation. Pursuant to SB 1420 and Article IX, §18.92, the functions of and appropriations to the Department of Transportation relating to oversize and overweight vehicles will be transferred to the Department of Motor Vehicles o later than Jan. 1, 2012.

Notes:

1. Full-Time Equivalents (FTE) Cap was obtained from the General Appropriations Act (GAA) for each biennium.
2. Usage was determined based on Texas State Auditor's Office (SAO) reports.
3. Summer Hire FTEs are not included in usage totals.
4. Over/Under is the difference between total usage and FTE Cap.

Texas Department of Transportation
Statistical Section - Operating Information
Capital Assets Indicators
Schedule of Assessed Conditions
Last Ten Fiscal Years

	Assessed Conditions in Percentages				
	2010	**2011**	**2012**	**2013**	**2014**
Interstate Condition	83.6 %	83.0 %	82.0 %	80.3 %	77.8 %
Non-Interstate Condition	77.9 %	78.5 %	77.7 %	77.4 %	76.0 %
Central Texas Turnpike System	87.9 %	89.9 %	86.3 %	85.1 %	83.4 %
Grand Parkway Transportation Corporation	N/A	N/A	N/A	N/A	N/A
	2015	**2016**	**2017**	**2018**	**2019**
Interstate Condition	76.6 %	78.6 %	80.8 %	80.3 %	80.9 %
Non-Interstate Condition	75.3 %	77.5 %	77.8 %	77.8 %	79.6 %
Central Texas Turnpike System	79.0 %	76.9 %	81.9 %	79.7 %	84.9 %
Grand Parkway Transportation Corporation	N/A	N/A	N/A	N/A	N/A

Note: Texas Maintenance Assessment Program (TxMAP) doesn't assess GPTC separately. The information is for inspected on-system roadways.

Source: Assessed conditions provided by TxDOT's Maintenance Division

Texas Department of Transportation
Statistical Section - Operating Information
Capital Assets Indicators
Schedule of State-Owned Centerline Miles
Last Ten Calendar Years

	2010	2011	2012	2013	2014
Interstate highways	3,233	3,231	3,237	3,272	3,415
U.S.highways	12,110	12,105	12,100	12,062	11,900
State highways	16,293	16,336	16,364	16,411	16,396
Farm or Ranch to Market roads	40,966	40,939	40,935	40,933	40,931
Frontage roads	6,962	7,041	7,258	7,245	7,336
Park roads	339	340	339	345	345
Total Miles	79,903	79,992	80,233	80,268	80,323

	2015	2016	2017	2018	2019
Interstate highways	3,417	3,417	3,436	3,459	3,459
U.S.highways	11,905	11,905	11,887	11,851	11,852
State highways	16,390	16,390	16,426	16,390	16,380
Farm or Ranch to Market roads	40,910	40,910	40,910	40,849	40,846
Frontage roads	7,453	7,453	7,476	7,546	7,570
Park roads	348	348	348	349	349
Total Miles	80,423	80,423	80,483	80,444	80,456

Notes:

1. The information are for roadways under TxDOT's jursidiction.
2. Total public roadway mileage was held constant from calendar year 2014 to 2015 due to the transition to a new roadway inventory database system (GRID). This transition continued in calendar year 2016, when mileage updates were limited to select on-system routes.
3. In calendar year 2017, the transition from the legacy system to GRID was completed. Mileage and traffic data were reported for the first time using GRID, and the routine work of roadway edits and additions was resumed.

Source: Centerline miles provided by TxDOT's Transportation Planning and Program Division

Texas Department of Transportation
Statistical Section - Operating Information
Capital Assets Indicators
Schedule of Rated Lane Miles Conditions
Last Ten Fiscal Years

	2010	2011	2012	2013	2014
Total Lane Miles	195,287	196,322	196,821	197,202	197,142
Rated Lane Miles	190,396	190,759	190,918	190,695	190,798
Good or Better Lane Miles	165,585	165,319	165,090	168,441	166,351
% Good or Better Lane Miles	87.0 %	86.7 %	86.5 %	88.3 %	87.2 %
% Change from Prior Year	2.9 %	(0.2) %	(0.1) %	2.0 %	(1.2) %

	2015	2016	2017	2018	2019
Total Lane Miles	197,757	197,549	197,295	197,438	197,558
Rated Lane Miles	191,049	192,990	196,438	196,120	195,287
Good or Better Lane Miles	166,055	168,521	169,522	172,442	171,804
% Good or Better Lane Miles	86.9 %	87.3 %	86.3 %	87.9 %	88.0 %
% Change from Prior Year	(0.2) %	1.5 %	0.6 %	1.7 %	(0.4) %

Note: Statewide Lane Mileage Conditions

Source: TxDOT's Transportation Planning and Program Division

Section Four

Other Information

Schedule 1A - Schedule of Expenditures of Federal Awards (Unaudited)

Schedule 1B - Schedule of State Grant Pass-Throughs from/to State Agencies (Unaudited)

Schedule 2 - Bond Schedules

- **Schedule 2A - Miscellaneous Bond Information**
- **Schedule 2B - Changes in Bonded Indebtedness**
- **Schedule 2C - Debt Service Requirements**
- **Schedule 2D - Analysis of Funds Available for Debt Service**
- **Schedule 2E - Defeased Outstanding Bonds**

Schedule 3 - Matrix of Expenditures Reported by Function - Governmental Funds (Unaudited)

* All schedules are presented unrounded (in dollars and cents).

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 1A-SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
Year Ended August 31, 2019

Federal Grantor/ Pass-Through Grantor/ Program Title	Federal CFDA Number	Pass-Through From Agency Number	State Entities	Other Entities	Direct Program Amount
			$	$	$
Federal Aviation Administration (FAA):					
Direct Program:					
Airport Improvement Program	20.106				52,446,653.16
Pass-Through Funds to Other Entities:					
Airport Improvement Program	20.106				150,000.00
Total FAA:			0.00	0.00	52,596,653.16
Federal Highway Administration (FHWA):					
Direct Program:					
Highway Research and Development Program	20.200				319,793.55
Total FHWA:			0.00	0.00	319,793.55
Federal Railroad Administration (FRA):					
Direct Program:					
Capital Assistance to States - Intercity Passenger Rail Service	20.317				5,558.86
Total FRA:			0.00	0.00	5,558.86
Federal Transit Administration (FTA):					
Direct Program:					
Metropolitan Transportation Planning and State and Non-Metropolitan Planning and Research	20.505				302,782.41
Formula Grants for Rural Areas and Tribal Transit Program	20.509				1,159,488.89
Rail Fixed Guideway Public Transportation System State Safety Oversight Formula Grant Program	20.528				702,269.07
Pass-Through Funds to Other Entities:					
Metropolitan Transportation Planning and State and Non-Metropolitan Planning and Research	20.505				1,249,121.87
Formula Grants for Rural Areas and Tribal Transit Program	20.509				45,932,148.53
Total FTA:			0.00	0.00	49,345,810.77
National Highway Traffic Safety Admin. (NHTSA):					
Direct Program:					
NHTSA Discretionary Safety Grants	20.614				269,554.53
Total NHTSA:			0.00	0.00	269,554.53
Office of the Secretary (OST) Administration Secretariat:					
Direct Program:					
National Infrastructure Investments	20.933				(1.82)
Pass-Through Funds to Other Entities:					
National Infrastructure Investments	20.933				6,190,197.57
Total OST:			0.00	0.00	6,190,195.75
General Services Administration (GSA):					
Pass-Through Funds:					
Donation of Federal Surplus Personal Property-NonMonetary Pass-Through from Texas Facilities Commission	39.003	303	244,261.71		
Total GSA:			244,261.71	0.00	0.00
Department of Homeland Security (DHS):					
Pass-Through Funds:					
Disaster Grants - Public Assistance Pass-Through from Texas Department of Public Safety	97.036	405	3,519,860.46		
Total DHS:			3,519,860.46	0.00	0.00

Through From and Direct Program	Pass-Through To Agency Number	Pass-Through To State Entities	Pass-Through To Other Entities	Expenditures	Through To and Expenditures Amount
$		$	$	$	$
52,446,653.16				52,446,653.16	52,446,653.16
150,000.00			150,000.00		150,000.00
52,596,653.16		0.00	150,000.00	52,446,653.16	52,596,653.16
319,793.55				319,793.55	319,793.55
319,793.55		0.00	0.00	319,793.55	319,793.55
5,558.86				5,558.86	5,558.86
5,558.86		0.00	0.00	5,558.86	5,558.86
302,782.41				302,782.41	302,782.41
1,159,488.89				1,159,488.89	1,159,488.89
702,269.07				702,269.07	702,269.07
1,249,121.87			1,249,121.87		1,249,121.87
45,932,148.53			45,932,148.53		45,932,148.53
49,345,810.77		0.00	47,181,270.40	2,164,540.37	49,345,810.77
269,554.53				269,554.53	269,554.53
269,554.53		0.00	0.00	269,554.53	269,554.53
(1.82)				(1.82)	(1.82)
6,190,197.57			6,190,197.57		6,190,197.57
6,190,195.75		0.00	6,190,197.57	(1.82)	6,190,195.75
244,261.71				244,261.71	244,261.71
244,261.71		0.00	0.00	244,261.71	244,261.71
3,519,860.46				3,519,860.46	3,519,860.46
3,519,860.46		0.00	0.00	3,519,860.46	3,519,860.46

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 1A-SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS (Continued)
Year Ended August 31, 2019

Federal Grantor/ Pass-Through Grantor/ Program Title	Federal CFDA Number	Pass-Through From Agency Number	State Entities	Other Entities	Direct Program Amount
			$	$	$
Other Clusters					
Federal Transit Cluster:					
Federal Transit Administration (FTA):					
Direct Program:					
Bus and Bus Facilities Formula Program	20.526				0.58
Pass-Through Funds to Other Entities:					
Bus and Bus Facilities Formula Program	20.526				4,469,267.83
Total FTA:			0.00	0.00	4,469,268.41
Transit Services Programs Cluster:					
Federal Transit Administration (FTA):					
Direct Program:					
Enhanced Mobility of Seniors and Individuals with Disabilities	20.513				818,133.98
Job Access - Reverse Commute Program	20.516				(46,721.92)
New Freedom Program	20.521				(1.63)
Pass-Through to Other Entities:					
Enhanced Mobility of Seniors and Individuals with Disabilities	20.513				6,791,862.56
Total FTA:			0.00	0.00	7,563,272.99
Highway Planning and Construction Cluster:					
Federal Highway Administration (FHWA):					
Direct Program:					
Highway Planning and Construction	20.205				3,834,312,160.31
Pass-Through Funds:					
Highway Planning and Construction					
Texas Southern University	20.205				247,722.81
University of Texas at El Paso	20.205				731,166.80
University of Texas at San Antonio	20.205				238,747.88
Pass-Through to Other Entities	20.205				206,142,211.22
Total FHWA:			0.00	0.00	4,041,672,009.02

Through From and Direct Program	Agency Number	Pass-Through To State Entities	Pass-Through To Other Entities	Expenditures	Through To and Expenditures Amount
$		$	$	$	$
0.58				0.58	0.58
4,469,267.83			4,469,267.83		4,469,267.83
4,469,268.41		0.00	4,469,267.83	0.58	4,469,268.41
818,133.98				818,133.98	818,133.98
(46,721.92)				(46,721.92)	(46,721.92)
(1.63)				(1.63)	(1.63)
6,791,862.56			6,791,862.56		6,791,862.56
7,563,272.99		0.00	6,791,862.56	771,410.43	7,563,272.99
3,834,312,160.31				3,834,312,160.31	3,834,312,160.31
247,722.81	717	247,722.81			247,722.81
731,166.80	724	731,166.80			731,166.80
238,747.88	743	238,747.88			238,747.88
206,142,211.22			206,142,211.22		206,142,211.22
4,041,672,009.02		1,217,637.49	206,142,211.22	3,834,312,160.31	4,041,672,009.02

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 1A-SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS (Concluded)
Year Ended August 31, 2019

Federal Grantor/ Pass-Through Grantor/ Program Title	Federal CFDA Number	Pass-Through From			Direct Program Amount
		Agency Number	State Entities	Other Entities	
			$	$	$
Highway Safety Cluster:					
National Highway Traffic Safety Admin. (NHTSA):					
Direct Program:					
State and Community Highway Safety	20.600				(321,272.18)
National Priority Safety Programs	20.616				9,768,049.82
Pass-Through Funds:					
State and Community Highway Safety					
Texas Department of Public Safety	20.600				562,007.08
Texas Alcoholic Beverage Commission	20.600				541,911.97
Texas Department of State Health Services	20.600				350,121.43
Texas A&M AgriLife Extension Service	20.600				1,354,000.25
University of Texas at Arlington	20.600				426,332.03
Texas A&M Engineering Extension Service	20.600				312,604.75
Texas A&M Transportation Institute	20.600				2,958,657.89
Texas Tech University	20.600				143,737.86
Texas State University	20.600				158,134.04
National Priority Safety Programs					
Texas Department of Public Safety	20.616				1,016,889.23
Texas Department of State Health Services	20.616				888,560.61
Texas A&M Transportation Institute	20.616				1,335,488.03
Sam Houston State University	20.616				919,220.35
Pass-Through to Other Entities					
State and Community Highway Safety	20.600				14,162,829.49
National Priority Safety Programs	20.616				7,295,648.33
Total NHTSA:			0.00	0.00	41,872,920.98
Total Other Clusters			0.00	0.00	4,095,577,471.40
TOTAL FEDERAL ASSISTANCE			$ 3,764,122.17	$ 0.00	$ 4,204,305,038.02

Total Pass-Through From and Direct Program	Pass-Through To Agency Number	Pass-Through To State Entities	Pass-Through To Other Entities	Expenditures	Total Pass-Through To and Expenditures Amount
$		$	$	$	$
(321,272.18)				(321,272.18)	(321,272.18)
9,768,049.82				9,768,049.82	9,768,049.82
562,007.08	405	562,007.08			562,007.08
541,911.97	458	541,911.97			541,911.97
350,121.43	537	350,121.43			350,121.43
1,354,000.25	555	1,354,000.25			1,354,000.25
426,332.03	714	426,332.03			426,332.03
312,604.75	716	312,604.75			312,604.75
2,958,657.89	727	2,958,657.89			2,958,657.89
143,737.86	733	143,737.86			143,737.86
158,134.04	754	158,134.04			158,134.04
1,016,889.23	405	1,016,889.23			1,016,889.23
888,560.61	537	888,560.61			888,560.61
1,335,488.03	727	1,335,488.03			1,335,488.03
919,220.35	753	919,220.35			919,220.35
14,162,829.49			14,162,829.49		14,162,829.49
7,295,648.33			7,295,648.33		7,295,648.33
41,872,920.98		10,967,665.52	21,458,477.82	9,446,777.64	41,872,920.98
4,095,577,471.40		12,185,303.01	238,861,819.43	3,844,530,348.96	4,095,577,471.40
$ 4,208,069,160.19		$ 12,185,303.01	$ 292,383,287.40	$ 3,903,500,569.78	$ 4,208,069,160.19

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
For the Fiscal Year Ended August 31, 2019

Note 1 - Nonmonetary Assistance

The "Donation of Federal Surplus Personal Property" is presented at 22.47% of the federal acquisition cost of $1,087,057.00. The surplus property is passed through from the Texas Facilities Commission. The federal grantor agency is the General Services Administration (GSA) and the federal CFDA number is 39.003. The estimated fair market value (FMV) for fiscal year 2019 is $244,261.71. The difference of the value of the surplus property recorded on the federal schedule and Exhibit II (Federal Revenues and Federal Pass-Through Revenues) is a reconciling item under Note 2.

Note 2 - Reconciliation

Per Combined Statement of Revenues, Expenditures, and Changes in Fund Balances/Statement of Activities - Governmental Funds:

Federal Revenues before Other Adjustments	$4,258,259,073.42
Federal Pass-Through Revenues	3,519,860.46
Subtotal	$4,261,778,933.88
Reconciling Items:	
Federal Surplus Personal Property Donation (Non-Monetary)	244,261.71
Build America Bonds Federal Subsidy	(53,954,035.40)
Total Pass-Through and Expenditures per Federal Schedule	$4,208,069,160.19

Note 7 - Federal Deferred Inflow

Federal Deferred Inflow September 1, 2018	$98,836,783.37
Increase	215,496,267.86
Federal Deferred Inflow August 31, 2019	$314,333,051.23

The federal deferred inflow ending balance of $314,333,051.23 pertains to federal expenditures which were incurred and are reimbursable from the Federal Highway Administration, but the federal receivable is not collectable within 60 days after the end of the fiscal year. Federal CFDA number 20.205 applies to this $314,333,051.23.

Note 8 - Disaster Grants - Public Assistance (CFDA 97.036)

After a Presidentially-Declared Disaster, FEMA provides a Public Assistance Grant to reimburse eligible costs associated with repair, replacement, or restoration of disaster-damaged facilities. The federal government reimburses in the form of cost-shared grants which requires state matching funds. In fiscal 2019, FEMA approved $3,313,313.08 eligible expenditures that were incurred in a prior year are included in the fiscal 2019 Schedule.

Note 10 - 10% de Minimis Indirect Cost Rate

The Texas Department of Transportation did not elect to use the 10% de minimis indirect cost rate allowed under the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. The department does not currently bill any federal agency for indirect cost.

TEXAS DEPARTMENT OF TRANSPORTATION

SCHEDULE 1B-SCHEDULE OF STATE GRANT PASS-THROUGHS FROM/TO STATE AGENCIES

Year Ended August 31, 2019

Pass-Through To:	Grant ID	Amount
Airport Routine Maintenance		
Texas A&M University System (Agency 710)	601.0029	$ 50,000.00
Airport Routine Maintenance		
Texas State Technical College System (Agency 719)	601.0030	46,000.00
Total Pass-Through To Other Agencies		$ 96,000.00

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Schedule 2 - Bond Schedules

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2A - MISCELLANEOUS BOND INFORMATION
For the Fiscal Year Ended August 31, 2019

Governmental Activities

	Bonds Issued to Date	Range of Interest Rates		Terms of Variable Interest Rates *	Scheduled Maturities First Year	Scheduled Maturities Last Year	First Call Date
General Obligation Bonds:							
Texas Mobility Fund (Self-Supporting)							
Series 2006-B Variable Rate Bonds	$ 150,000,000.00	VAR	VAR	Weekly	2036	2036	**
Series 2009-A Taxable Fixed Rate Bonds	1,208,495,000.00	5.3670%	5.5170%		2029	2039	**
Series 2014 Fixed Rate Refunding Bonds	973,775,000.00	4.0000%	5.0000%		2016	2034	4/1/2024
Series 2014-A Fixed Rate Refunding Bonds	1,580,160,000.00	4.0000%	5.0000%		2017	2044	10/1/2024
Series 2014-B SIFMA Index Bonds	250,000,000.00	VAR	VAR	Weekly	2041	2041	10/1/2021
Series 2015-A Fixed Rate Refunding Bonds	911,360,000.00	3.2000%	5.0000%		2018	2036	10/1/2025
Series 2015-B Fixed Rate Refunding Bonds	254,105,000.00	5.0000%	5.0000%		2031	2036	10/1/2025
Series 2017-A Fixed Rate Refunding Bonds	296,020,000.00	5.0000%	5.0000%		2030	2034	10/1/2027
Series 2017-B Fixed Rate Refunding Bonds	474,135,000.00	5.0000%	5.0000%		2029	2036	10/1/2027
Total General Obligation Bonds (Self-Supporting)	6,098,050,000.00						
Texas Highway Improvement (Non-Self-Supporting)							
Series 2010-A Taxable Fixed Rate Bonds	815,420,000.00	3.2030%	4.6810%		2019	2040	**
Series 2012-A Fixed Rate Bonds	818,635,000.00	5.0000%	5.0000%		2019	2042	4/1/2022
Series 2012-B Taxable Fixed Rate Bonds*	99,570,000.00	0.3000%	1.5000%		2014	2019	n/a
Series 2014 Fixed Rate Bonds	1,260,000,000.00	2.0000%	5.0000%		2015	2044	4/1/2024
Series 2016 Fixed Rate Bonds	615,000,000.00	5.0000%	5.0000%		2017	2046	4/1/2026
Series 2016-A Fixed Rate Bonds	588,755,000.00	4.0000%	5.0000%		2018	2046	4/1/2026
Total General Obligation (Non-Self Supporting)	4,197,380,000.00						
Revenue Bonds:							
State Highway Fund (Self-Supporting)							
Series 2008 Fixed Rate Bonds	162,995,000.00	3.5000%	5.2500%		2010	2028	4/1/2018
Series 2010 Taxable Fixed Rate Bonds	1,500,000,000.00	5.0280%	5.1780%		2026	2030	**
Series 2014-A Refunding Fixed Rate Bonds	1,157,795,000.00	4.7500%	5.0000%		2017	2034	4/1/2024
Series 2014-B1 Variable Rate Bonds	150,000,000.00	VAR	VAR	Weekly	2032	2032	**
Series 2014-B2 LIBOR Bonds	150,000,000.00	VAR	VAR	Monthly	2032	2032	**
Series 2015 Revenue Refunding Bonds	781,080,000.00	3.0000%	5.0000%		2017	2026	n/a
Series 2016-A Fixed Rate Bonds	601,210,000.00	3.0000%	5.0000%		2017	2030	10/1/2026
Series 2016-B Variable Rate Bonds	89,370,000.00	4.0000%	4.0000%		2025	2026	10/1/2021
Total Revenue Bonds (Self-Supporting)	4,592,450,000.00						
Total Governmental Activities	$ 14,887,880,000.00						

* These bonds are not outstanding as of 08/31/2019
** Bonds are subject to redemption prior to their respective maturities at the option of the Commission.

Continued on following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2A - MISCELLANEOUS BOND INFORMATION (Concluded)
For the Fiscal Year Ended August 31, 2019

Business-Type Activities

		Bonds Issued to Date	Range of Interest Rates		Terms of Variable Interest Rates *	Scheduled Maturities First Year	Scheduled Maturities Last Year	First Call Date
Revenue Bonds:								
Central Texas Turnpike System (Self-Supporting)								
First Tier Revenue Bonds Series 2002-A								
Non-Callable Capital Appreciation Bonds***	$	680,837,195.80	4.4700%	5.7500%		2012	2030	n/a
Callable Capital Appreciation Bonds*		325,494,476.65	6.0000%	6.1000%		2025	2038	8/15/2012
First Tier Revenue Refunding Bonds Series 2012-A		585,330,000.00	4.0000%	5.0000%		2038	2041	8/15/2022
First Tier Revenue Refunding Put Bonds, Series 2015-A		225,000,000.00	5.0000%	5.0000%		2041	2042	4/1/2020
First Tier Revenue Refunding Bonds Series 2015-B								
Current Interest Bonds + Term Bond		198,025,000.00	5.0000%	5.0000%		2032	2037	8/15/2024
Capital Appreciation Bonds ***		112,874,773.33	4.3600%	4.3800%		2036	2037	8/15/2024
Second Tier Revenue Refunding Bonds, Series 2015-C		1,157,320,000.00	5.0000%	5.0000%		2022	2042	8/15/2024
Total Central Texas Turnpike System (Self-Supporting)		3,284,881,445.78						
Blended Component Unit-Grand Parkway Transportation Corporation****								
First Tier Toll Revenue Bonds, Series 2013-A		200,000,000.00	5.1250%	5.5000%		2031	2053	10/1/2023
Subordinate Tier Toll Revenue Bonds, Series 2013-B								
Convertible Capital Appreciation Bonds***		389,276,363.44	4.9500%	5.8500%		2029	2048	10/1/2028
Current Interest Bonds		1,137,935,000.00	5.0000%	5.2500%		2048	2053	10/1/2023
Subordinate Tier Toll Revenue Bonds, Series 2013-E		361,810,000.00	5.1840%	5.1840%		2036	2042	**
Subordinate Tier Toll Revenue Refunding Bonds, Series 2016		83,775,000.00	2.2000%	2.2000%		2023	2023	n/a
Subordinate Tier Toll Revenue Bonds, Series 2018-A		712,100,000.00	5.0000%	5.0000%		2030	2048	4/1/2028
Subordinate Tier Toll Revenue Put Bonds, Series 2018-B		166,525,000.00	5.0000%	5.0000%		2049	2052	10/1/2023
Total Blended Component Unit-Grand Parkway Transportation Corporation		3,051,421,363.44						
State Highway 249 System								
First Tier Toll Revenue Bonds, Series 2019A								
Current Interest Bonds		144,085,000.00	5.0000%	5.0000%		2053	2057	2/1/2029
Capital Appreciation Bonds***		94,665,113.38	3.3900%	5.1000%		2028	2053	2/1/2029
First Tier Toll Revenue Bonds, Taxable Series 2019B		12,795,000.00	4.5500%	4.7000%		2030	2033	2/1/2029
Total State Highway 249 System		251,545,113.38						
Total Business-Type Activities	$	6,587,847,922.60						

* These bonds are not outstanding as of 08/31/2019
** Bonds are subject to redemption prior to their respective maturities at the option of the Corporation.
***Bonds issued to date include interest accreted to principal.
****Grand Parkway Transportation Corporation bonds are not obligations of the State.

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2B - CHANGES IN BONDED INDEBTEDNESS
For the Fiscal Year Ended August 31, 2019

Governmental Activities

Description of Issue	Bonds Outstanding 9/1/2018	Bonds Issued	Bonds Matured or Retired	Bonds Refunded or Extinguished	Bonds Outstanding 8/31/2019
General Obligation Bonds:					
Texas Mobility Fund					
Series 2006-B	$ 150,000,000.00	$	$	$	$ 150,000,000.00
Series 2009-A	1,208,495,000.00				1,208,495,000.00
Series 2014	925,140,000.00		33,185,000.00		891,955,000.00
Series 2014-A	1,555,510,000.00		30,155,000.00		1,525,355,000.00
Series 2014-B	250,000,000.00				250,000,000.00
Series 2015-A	911,360,000.00		18,295,000.00		893,065,000.00
Series 2015-B	254,105,000.00				254,105,000.00
Series 2017-A	296,020,000.00				296,020,000.00
Series 2017-B	474,135,000.00				474,135,000.00
Texas Highway Improvement					
Series 2010-A	815,420,000.00		27,720,000.00		787,700,000.00
Series 2012-A	818,635,000.00		10,915,000.00		807,720,000.00
Series 2012-B	7,935,000.00		7,935,000.00		
Series 2014	1,092,000,000.00		42,000,000.00		1,050,000,000.00
Series 2016	574,000,000.00		20,500,000.00		553,500,000.00
Series 2016-A	568,450,000.00		20,305,000.00		548,145,000.00
Total General Obligation Bonds	9,901,205,000.00	0.00	211,010,000.00	0.00	9,690,195,000.00
Revenue Bonds:					
State Highway Fund					
Series 2008	58,355,000.00		-		58,355,000.00
Series 2010	1,500,000,000.00				1,500,000,000.00
Series 2014-A	998,725,000.00		85,465,000.00		913,260,000.00
Series 2014-B1	150,000,000.00				150,000,000.00
Series 2014-B2	150,000,000.00				150,000,000.00
Series 2015	719,955,000.00		71,710,000.00		648,245,000.00
Series 2016-A	535,900,000.00		68,325,000.00		467,575,000.00
Series 2016-B	89,370,000.00				89,370,000.00
Total Revenue Bonds	4,202,305,000.00	0.00	225,500,000.00	0.00	3,976,805,000.00
Total Governmental Activities	$ 14,103,510,000.00	$ 0.00	$ 436,510,000.00	$ 0.00	$ 13,667,000,000.00

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2B - CHANGES IN BONDED INDEBTEDNESS *(Continued)*
For the Fiscal Year Ended August 31, 2019

Governmental Activities

Description of Issue	Unamortized Premium	Unamortized Discount	Adjustments	Net Bonds Outstanding 8/31/2019	Amounts Due Within One Year
General Obligation Bonds:					
Texas Mobility Fund					
Series 2006-B	$	$	$	$ 150,000,000.00	$
Series 2009-A				1,208,495,000.00	420,000.00
Series 2014	91,670,772.91			983,625,772.91	47,092,805.98
Series 2014-A	193,519,143.82			1,718,874,143.82	48,778,933.11
Series 2014-B				250,000,000.00	
Series 2015-A	98,077,154.71			991,142,154.71	28,640,944.04
Series 2015-B	32,807,556.76			286,912,556.76	1,985,728.36
Series 2017-A	46,105,977.56			342,125,977.56	3,153,629.03
Series 2017-B	73,531,237.00			547,666,237.00	4,894,120.60
Texas Highway Improvement					
Series 2010-A				787,700,000.00	28,300,000.00
Series 2012-A	122,609,945.82			930,329,945.82	28,188,933.17
Series 2012-B					
Series 2014	143,109,241.95			1,193,109,241.95	53,008,403.23
Series 2016	101,382,280.35			654,882,280.35	27,741,591.45
Series 2016-A	90,402,680.27			638,547,680.27	26,762,675.11
Total General Obligation Bonds	993,215,991.15	0.00	0.00	10,683,410,991.15	298,967,764.08
Revenue Bonds:					
State Highway Fund					
Series 2008	2,288,073.94			60,643,073.94	322,167.13
Series 2010				1,500,000,000.00	
Series 2014-A	99,127,185.48			1,012,387,185.48	102,586,241.16
Series 2014-B1				150,000,000.00	
Series 2014-B2				150,000,000.00	
Series 2015	57,381,184.25			705,626,184.25	87,844,252.78
Series 2016-A	58,513,630.30			526,088,630.30	83,318,159.21
Series 2016-B	7,644,585.09			97,014,585.09	1,129,082.57
Total Revenue Bonds	224,954,659.06	0.00	0.00	4,201,759,659.06	275,199,902.85
Total Governmental Activities	$ 1,218,170,650.21	$ 0.00	$ 0.00	$ 14,885,170,650.21	$ 574,167,666.93

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2B - CHANGES IN BONDED INDEBTEDNESS *(Continued)*
For the Fiscal Year Ended August 31, 2019

Business-Type Activities

Description of Issue	Bonds Outstanding 9/1/2018	Bonds Issued		Bonds Matured or Retired	Bonds Refunded or Extinguished	Bonds Outstanding 8/31/2019
Revenue Bonds:						
Central Texas Turnpike System						
First Tier Bonds Series 2002-A, Non-Callable CAB's	$ 482,876,192.31	$ 27,657,400.94	**	$ 20,365,000.00	$	$ 490,168,593.25
First Tier Bonds Series 2012-A	585,330,000.00					585,330,000.00
First Tier Bonds Series 2015-A	225,000,000.00					225,000,000.00
First Tier Bonds Series 2015-B:						
Current Interest Bonds	198,025,000.00					198,025,000.00
Capital Appreciation Bonds	108,099,200.00	4,775,573.33	**			112,874,773.33
Second Tier Bonds Series 2015-C	1,157,320,000.00					1,157,320,000.00
Blended Component Unit-Grand Parkway Transportation Corp.*:						
First Tier Toll Revenue Bonds, Series 2013-A	200,000,000.00					200,000,000.00
Subordinate Tier Toll Revenue Bonds, Series 2013-B:						
Callable CAB	368,099,466.40	21,176,897.04	**			389,276,363.44
Current Interest Bonds	1,137,935,000.00					1,137,935,000.00
Subordinate Tier Toll Revenue Bonds, Series 2013-E	361,810,000.00					361,810,000.00
Subordinate Tier Toll Revenue Refunding Bonds, Series 2016	83,775,000.00					83,775,000.00
Subordinate Tier Toll Revenue Bonds, Series 2018-A	712,100,000.00					712,100,000.00
Subordinate Tier Toll Revenue Put Bonds, Series 2018-B	166,525,000.00					166,525,000.00
State Highway 249 System						
First Tier Toll Revenue Bonds Series 2019-A:						
Current Interest Bonds		144,085,000.00				144,085,000.00
Capital Appreciation Bonds		94,665,113.38				94,665,113.38
First Tier Toll Revenue Taxable Bonds Series 2019-B:		12,795,000.00				12,795,000.00
Total Business-Type Activities	$ 5,786,894,858.71	$ 305,154,984.69		$ 20,365,000.00	$ 0.00	$ 6,071,684,843.40

*Grand Parkway Transportation Corporation debt issuances are not obligations of the State
**Due to annual principal accretion.

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2B - CHANGES IN BONDED INDEBTEDNESS *(Concluded)*
For the Fiscal Year Ended August 31, 2019

Business-Type Activities

Description of Issue	Unamortized Premium	Unamortized Discount	Adjustments	Net Bonds Outstanding 8/31/19	Amounts Due Within One Year
Revenue Bonds:					
Central Texas Turnpike System					
First Tier Bonds Series 2002-A, Non-Callable CAB's	$	$	$	$ 490,168,593.25	$ 26,715,000.00
First Tier Bonds Series 2012-A	38,292,741.36			623,622,741.36	1,864,508.47
First Tier Bonds Series 2015-A	30,746,137.75			255,746,137.75	1,347,322.45
First Tier Bonds Series 2015-B:					
Current Interest Bonds	22,813,051.95			220,838,051.95	1,465,537.11
Capital Appreciation Bonds				112,874,773.33	
Second Tier Bonds Series 2015-C	113,197,955.00			1,270,517,955.00	7,489,215.68
Blended Component Unit-Grand Parkway Transportation Corp.*:					
First Tier Toll Revenue Bonds, Series 2013-A		(2,508,163.58)		197,491,836.42	(86,941.84)
Subordinate Tier Toll Revenue Bonds, Series 2013-B:					
Callable CAB				389,276,363.44	
Current Interest Bonds	5,523,276.61	(13,973,053.24)		1,129,485,223.37	(242,705.82)
Subordinate Tier Toll Revenue Bonds, Series 2013-E				361,810,000.00	
Subordinate Tier Toll Revenue Refunding Bonds, Series 2016				83,775,000.00	
Subordinate Tier Toll Revenue Bonds, Series 2018-A	90,191,624.46			802,291,624.46	3,956,112.92
Subordinate Tier Toll Revenue Put Bonds, Series 2018-B	19,387,341.35			185,912,341.35	596,741.70
State Highway 249 System					
First Tier Toll Revenue Bonds Series 2019-A:					
Current Interest Bonds	11,393,109.50			155,478,109.50	315,237.60
Capital Appreciation Bonds				94,665,113.38	
First Tier Toll Revenue Taxable Bonds Series 2019-B:				12,795,000.00	
Total Business-Type Activities	$ 331,545,237.98	$ (16,481,216.82)	$ 0.00	$ 6,386,748,864.56	$ 43,420,028.27

*Grand Parkway Transportation Corporation debt issuances are not obligations of the State.

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2C - DEBT SERVICE REQUIREMENTS
For the Fiscal Year Ended August 31, 2019

Governmental Activities

Description of Issue	Year	Principal	Interest
TMF General Obligation Bonds			
Series 2006-B	2020	$	$ 2,041,863.01
	2021		2,038,136.96
	2022		2,039,999.96
	2023		2,039,999.96
	2024		2,041,863.01
	2025-2029		10,198,136.85
	2030-2034		10,199,999.85
	2035-2039	150,000,000.00	2,958,015.26
		150,000,000.00	33,558,014.86
Series 2009-A	2020	420,000.00	66,582,669.16
	2021	730,000.00	66,560,127.76
	2022	2,095,000.00	66,520,948.66
	2023	3,555,000.00	66,408,510.00
	2024	4,470,000.00	66,217,713.16
	2025-2029	48,730,000.00	325,633,815.34
	2030-2034	103,090,000.00	306,894,434.88
	2035-2039	1,045,405,000.00	247,329,316.82
		1,208,495,000.00	1,212,147,535.78
Series 2014	2020	36,875,000.00	42,042,225.00
	2021	40,950,000.00	40,096,600.00
	2022	44,240,000.00	37,966,850.00
	2023	47,710,000.00	35,668,100.00
	2024	51,445,000.00	33,189,225.00
	2025-2029	320,305,000.00	121,718,375.00
	2030-2034	291,165,000.00	43,556,550.00
	2035-2039	59,265,000.00	1,481,625.00
		$ 891,955,000.00	$ 355,719,550.00

Continued on the following page

Description of Issue	Year		Principal		Interest
TMF General Obligation Bonds (continued)					
Series 2014-A	2020	$	35,990,000.00	$	72,914,050.00
	2021		42,205,000.00		70,959,175.00
	2022		48,770,000.00		68,684,800.00
	2023		55,750,000.00		66,071,800.00
	2024		63,115,000.00		63,100,175.00
	2025-2029		342,670,000.00		262,507,000.00
	2030-2034		225,310,000.00		194,879,775.00
	2035-2039		61,545,000.00		159,995,075.00
	2040-2044		483,025,000.00		107,877,625.00
	2045-2049		166,975,000.00		4,004,375.00
			1,525,355,000.00		1,070,993,850.00
Series 2014-B	2020				4,128,767.15
	2021				4,121,232.91
	2022				4,125,000.05
	2023				4,125,000.05
	2024				4,128,767.15
	2025-2029				20,621,233.07
	2030-2034				20,625,000.21
	2035-2039				20,625,000.21
	2040-2044		250,000,000.00		6,254,662.36
			250,000,000.00		88,754,663.16
Series 2015-A	2020		20,030,000.00		41,904,600.00
	2021		21,845,000.00		40,857,725.00
	2022		23,775,000.00		39,717,225.00
	2023		25,805,000.00		38,477,725.00
	2024		28,575,000.00		37,118,225.00
	2025-2029		279,225,000.00		156,386,875.00
	2030-2034		244,800,000.00		82,314,000.00
	2035-2039		249,010,000.00		22,870,150.00
		$	893,065,000.00	$	459,646,525.00

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2C - DEBT SERVICE REQUIREMENTS (Continued)
For the Fiscal Year Ended August 31, 2019

Description of Issue	Year	Principal	Interest
TMF General Obligation Bonds (concluded)			
Series 2015-B	2020	$	$ 12,705,250.00
	2021		12,705,250.00
	2022		12,705,250.00
	2023		12,705,250.00
	2024		12,705,250.00
	2025-2029		63,526,250.00
	2030-2034	63,450,000.00	58,026,500.00
	2035-2039	190,655,000.00	18,480,375.00
		254,105,000.00	203,559,375.00
Series 2017-A	2020		14,801,000.00
	2021		14,801,000.00
	2022		14,801,000.00
	2023		14,801,000.00
	2024		14,801,000.00
	2025-2029		74,005,000.00
	2030-2034	220,030,000.00	59,080,000.00
	2035-2039	75,990,000.00	1,899,750.00
		296,020,000.00	208,989,750.00
Series 2017-B	2020		23,706,750.00
	2021		23,706,750.00
	2022		23,706,750.00
	2023		23,706,750.00
	2024		23,706,750.00
	2025-2029		118,533,750.00
	2030-2034	256,080,000.00	89,396,750.00
	2035-2039	218,055,000.00	17,862,125.00
		$ 474,135,000.00	$ 344,326,375.00

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2C - DEBT SERVICE REQUIREMENTS (Continued)
For the Fiscal Year Ended August 31, 2019

Description of Issue	Year	Principal	Interest
Texas Highway Improvement General Obligation Bonds			
Series 2010-A	2020	$ 28,300,000.00	$ 34,949,470.90
	2021	28,920,000.00	33,994,911.90
	2022	29,580,000.00	32,976,060.30
	2023	30,290,000.00	31,889,586.90
	2024	31,040,000.00	30,731,600.20
	2025-2029	168,420,000.00	133,333,339.82
	2030-2034	195,090,000.00	92,355,854.62
	2035-2039	226,530,000.00	44,040,252.32
	2040-2044	49,530,000.00	2,318,499.30
		787,700,000.00	436,589,576.26
Series 2012-A	2020	19,495,000.00	40,386,000.00
	2021	20,470,000.00	39,411,250.00
	2022	21,495,000.00	38,387,750.00
	2023	22,570,000.00	37,313,000.00
	2024	23,700,000.00	36,184,500.00
	2025-2029	137,490,000.00	161,919,000.00
	2030-2034	175,470,000.00	123,933,250.00
	2035-2039	223,955,000.00	75,453,750.00
	2040-2044	163,075,000.00	16,572,500.00
		807,720,000.00	569,561,000.00
Series 2014	2020	42,000,000.00	51,240,000.00
	2021	42,000,000.00	49,140,000.00
	2022	42,000,000.00	47,040,000.00
	2023	42,000,000.00	44,940,000.00
	2024	42,000,000.00	42,840,000.00
	2025-2029	210,000,000.00	182,700,000.00
	2030-2034	210,000,000.00	131,460,000.00
	2035-2039	210,000,000.00	84,000,000.00
	2040-2044	210,000,000.00	31,500,000.00
		$ 1,050,000,000.00	$ 664,860,000.00

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2C - DEBT SERVICE REQUIREMENTS (Continued)
For the Fiscal Year Ended August 31, 2019

Description of Issue	Year		Principal		Interest
Texas Highway Improvement General Obligation Bonds (concluded)					
Series 2016	2020	$	20,500,000.00	$	27,675,000.00
	2021		20,500,000.00		26,650,000.00
	2022		20,500,000.00		25,625,000.00
	2023		20,500,000.00		24,600,000.00
	2024		20,500,000.00		23,575,000.00
	2025-2029		102,500,000.00		102,500,000.00
	2030-2034		102,500,000.00		76,875,000.00
	2035-2039		102,500,000.00		51,250,000.00
	2040-2044		102,500,000.00		25,625,000.00
	2045-2049		41,000,000.00		3,075,000.00
			553,500,000.00		387,450,000.00
Series 2016-A	2020		20,305,000.00		27,001,250.00
	2021		20,305,000.00		25,986,000.00
	2022		20,305,000.00		24,970,750.00
	2023		20,305,000.00		23,955,500.00
	2024		20,305,000.00		22,940,250.00
	2025-2029		101,520,000.00		99,472,500.00
	2030-2034		101,500,000.00		74,095,000.00
	2035-2039		101,500,000.00		48,720,000.00
	2040-2044		101,500,000.00		23,345,000.00
	2045-2049		40,600,000.00		2,436,000.00
			548,145,000.00		372,922,250.00
Total General Obligation Bonds		$	9,690,195,000.00	$	6,409,078,465.06

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2C - DEBT SERVICE REQUIREMENTS (Continued)
For the Fiscal Year Ended August 31, 2019

Description of Issue	Year	Principal	Interest
SHF Revenue Bonds			
Series 2008	2020	$	$ 3,063,637.50
	2021		3,063,637.50
	2022		3,063,637.50
	2023		3,063,637.50
	2024	10,510,000.00	3,063,637.50
	2025-2029	47,845,000.00	6,440,175.00
		58,355,000.00	21,758,362.50
Series 2010	2020		77,226,067.50
	2021		77,226,067.50
	2022		77,226,067.50
	2023	70,495,000.00	77,226,067.50
	2024	72,855,000.00	73,681,578.90
	2025-2029	1,007,420,000.00	285,958,353.00
	2030-2034	349,230,000.00	18,083,129.40
		1,500,000,000.00	686,627,331.30
Series 2014-A	2020	89,730,000.00	45,663,000.00
	2021	94,230,000.00	41,176,500.00
	2022	98,935,000.00	36,465,000.00
	2023	103,885,000.00	31,518,250.00
	2024	109,070,000.00	26,324,000.00
	2025-2029	58,785,000.00	92,595,500.00
	2030-2034	358,625,000.00	78,339,250.00
		913,260,000.00	352,081,500.00
Series 2014-B1	2020		2,101,917.81
	2021		2,098,082.19
	2022		2,100,000.00
	2023		2,100,000.00
	2024		2,101,917.81
	2025-2029		10,498,082.19
	2030-2034	150,000,000.00	4,460,128.77
		$ 150,000,000.00	$ 25,460,128.77

Continued on the following page

Description of Issue	Year	Principal	Interest
SHF Revenue Bonds (concluded)			
Series 2014-B2	2020	$	$ 3,660,000.00
	2021		3,650,000.00
	2022		3,650,000.00
	2023		3,650,000.00
	2024		3,660,000.00
	2025-2029		18,260,000.00
	2030-2034	150,000,000.00	9,283,598.00
		150,000,000.00	45,813,598.00
Series 2015	2020	75,020,000.00	30,536,750.00
	2021	78,870,000.00	26,689,500.00
	2022	82,910,000.00	22,645,000.00
	2023	87,165,000.00	18,393,125.00
	2024	80,850,000.00	14,192,750.00
	2025-2029	243,430,000.00	16,363,000.00
		648,245,000.00	128,820,125.00
Series 2016-A	2020	71,830,000.00	21,010,300.00
	2021	75,515,000.00	17,326,675.00
	2022	78,635,000.00	13,759,275.00
	2023	9,610,000.00	11,839,500.00
	2024	10,135,000.00	11,345,875.00
	2025-2029	177,670,000.00	27,944,000.00
	2030-2034	44,180,000.00	2,730,250.00
		467,575,000.00	105,955,875.00
Series 2016-B	2020		3,574,800.00
	2021		3,574,800.00
	2022		4,021,650.00
	2023		4,468,500.00
	2024		4,468,500.00
	2025-2029	89,370,000.00	7,912,000.00
		89,370,000.00	28,020,250.00
TOTAL Revenue Bonds		3,976,805,000.00	1,394,537,170.57
TOTAL GOVERNMENTAL ACTIVITIES		$ 13,667,000,000.00	$ 7,803,615,635.63

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TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2C - DEBT SERVICE REQUIREMENTS (Continued)
For the Fiscal Year Ended August 31, 2019

BUSINESS-TYPE ACTIVITIES

Description of Issue	Year		Principal		Interest
CTTS Revenue Bonds					
Series 2002-A	2020	$	26,715,000.00	$	
	2021		36,480,000.00		
	2022		43,150,000.00		
	2023		48,940,000.00		
	2024		54,725,000.00		
	2025-2029		410,840,000.00		
	2030-2034		102,025,000.00		
			722,875,000.00		0.00
Series 2012-A	2020				28,034,150.00
	2021				28,034,150.00
	2022				28,034,150.00
	2023				28,034,150.00
	2024				28,034,150.00
	2025-2029				140,170,750.00
	2030-2034				140,170,750.00
	2035-2039		282,650,000.00		135,241,350.00
	2040-2044		302,680,000.00		21,898,750.00
			585,330,000.00		577,652,350.00
Series 2015-A	2020				11,250,000.00
	2021				11,250,000.00
	2022				11,250,000.00
	2023				11,250,000.00
	2024				11,250,000.00
	2025-2029				56,250,000.00
	2030-2034				56,250,000.00
	2035-2039				56,250,000.00
	2040-2044		225,000,000.00		31,727,000.00
		$	225,000,000.00	$	256,727,000.00

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2C - DEBT SERVICE REQUIREMENTS (Continued)
For the Fiscal Year Ended August 31, 2019

Description of Issue	Year	Principal	Interest
CTTS Revenue Bonds (concluded)			
Series 2015-B	2020	$	$ 9,901,250.00
	2021		9,901,250.00
	2022		9,901,250.00
	2023		9,901,250.00
	2024		9,901,250.00
	2025-2029		49,506,250.00
	2030-2034	40,000,000.00	45,506,250.00
	2035-2039	398,025,000.00	11,126,500.00
		438,025,000.00	155,645,250.00
Series 2015-C	2020		57,866,000.00
	2021		57,866,000.00
	2022	2,200,000.00	57,866,000.00
	2023	5,375,000.00	57,756,000.00
	2024	8,655,000.00	57,487,250.00
	2025-2029	64,135,000.00	279,275,000.00
	2030-2034	540,445,000.00	229,873,250.00
	2035-2039	333,000,000.00	102,254,500.00
	2040-2044	203,510,000.00	20,682,000.00
		1,157,320,000.00	920,926,000.00
Grand Parkway Transportation Corp.*			
Series 2013-A	2020		10,821,012.50
	2021		10,821,012.50
	2022		10,821,012.50
	2023		10,821,012.50
	2024		10,821,012.50
	2025-2029		54,105,062.50
	2030-2034	2,250,000.00	53,975,656.25
	2035-2039	13,900,000.00	52,046,093.76
	2040-2044	31,580,000.00	46,352,475.02
	2045-2049	57,265,000.00	34,680,662.50
	2050-2054	95,005,000.00	13,460,150.00
		$ 200,000,000.00	$ 308,725,162.53

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2C - DEBT SERVICE REQUIREMENTS (Continued)
For the Fiscal Year Ended August 31, 2019

Description of Issue	Year	Principal	Interest
Grand Parkway Transportation Corp.* (Continued)			
Series 2013-B	2020	$	$ 58,334,250.00
	2021		58,334,250.00
	2022		58,334,250.00
	2023		58,334,250.00
	2024		72,213,026.25
	2025-2029		430,459,012.50
	2030-2034	62,235,000.00	425,146,493.75
	2035-2039	95,930,000.00	395,586,903.75
	2040-2044		387,728,837.50
	2045-2049	374,200,000.00	333,178,375.00
	2050-2054	1,094,730,000.00	142,967,456.25
		1,627,095,000.00	2,420,617,105.00
Series 2013-E	2020		18,756,230.40
	2021		18,756,230.40
	2022		18,756,230.40
	2023		18,756,230.40
	2024		18,756,230.40
	2025-2029		93,781,152.00
	2030-2034		93,781,152.00
	2035-2039	122,865,000.00	86,384,232.00
	2040-2044	238,945,000.00	23,186,088.00
		361,810,000.00	390,913,776.00
Series 2016	2020		1,843,050.00
	2021		1,843,050.00
	2022		1,843,050.00
	2023		1,843,050.00
	2024	83,775,000.00	926,645.00
		$ 83,775,000.00	$ 8,298,845.00

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2C - DEBT SERVICE REQUIREMENTS (Continued)
For the Fiscal Year Ended August 31, 2019

Description of Issue	Year	Principal	Interest
Grand Parkway Transportation Corp. (concluded) *			
Series 2018-A	2020	$	$ 35,605,000.00
	2021		35,605,000.00
	2022		35,605,000.00
	2023		35,605,000.00
	2024		35,605,000.00
	2025-2029		178,025,000.00
	2030-2034	56,900,000.00	173,267,000.00
	2035-2039	179,165,000.00	143,261,375.00
	2040-2044	237,065,000.00	90,839,625.00
	2045-2049	238,970,000.00	30,503,750.00
		712,100,000.00	793,921,750.00
Series 2018-B	2020		8,326,250.00
	2021		8,326,250.00
	2022		8,326,250.00
	2023		8,326,250.00
	2024		8,326,250.00
	2025-2029		41,631,250.00
	2030-2034		41,631,250.00
	2035-2039		41,631,250.00
	2040-2044		41,631,250.00
	2045-2049		41,631,250.00
	2050-2054	166,525,000.00	16,558,125.00
		$ 166,525,000.00	$ 266,345,625.00

*Grand Parkway Transportation Corp. bonds is a blended component unit of TxDOT, these are not obligations of the state.

Continued on the following page

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2C - DEBT SERVICE REQUIREMENTS (Concluded)
For the Fiscal Year Ended August 31, 2019

Description of Issue	Year	Principal	Interest
State Highway 249 System			
Series 2019-A	2020	$	$ 7,204,250.00
	2021		7,204,250.00
	2022		7,204,250.00
	2023		7,204,250.00
	2024		7,204,250.00
	2025-2029	1,365,000.00	36,021,250.00
	2030-2034	5,960,000.00	36,021,250.00
	2035-2039	47,545,000.00	36,021,250.00
	2040-2044	79,450,000.00	36,021,250.00
	2045-2049	106,240,000.00	36,021,250.00
	2050-2054	131,960,000.00	34,840,750.00
	2055-2059	92,525,000.00	9,403,000.00
		465,045,000.00	260,371,250.00
Series 2019-B	2020		594,712.50
	2021		594,712.50
	2022		594,712.50
	2023		594,712.50
	2024		594,712.50
	2025-2029		2,973,562.50
	2030-2034	12,795,000.00	1,767,182.50
		12,795,000.00	7,714,307.50
TOTAL BUSINESS-TYPE ACTIVITIES		$ 6,757,695,000.00	$ 6,367,858,421.03

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2D - ANALYSIS OF FUNDS AVAILABLE FOR DEBT SERVICE
For the Fiscal Year Ended August 31, 2019

Governmental Activities

Description of Issue	Application of Funds: Principal	Application of Funds: Interest
Texas Mobility General Obligation Bonds	$ 81,635,000.00	$ 286,060,191.41
	$ 81,635,000.00	$ 286,060,191.41

Pledged and Other Sources and Related Expenditures for FY 2019

Description of Issue	Net Available for Debt Service: Total Pledged and Other Sources	Net Available for Debt Service: Operating Expenses/ Expenditures and Capital Outlay	Debt Service: Principal	Debt Service: Interest
State Highway Fund Revenue Bonds	$ 8,943,598,077.82	(A)	$ 225,500,000.00	$ 198,155,442.51
	$ 8,943,598,077.82		$ 225,500,000.00	$ 198,155,442.51

(A) State Highway Fund expenditures associated with pledged sources were $10,604,882,547.64.

Business-Type and Blended Component Unit Activities

Pledged and Other Sources and Related Expenditures for FY 2019

Description of Issue	Net Available for Debt Service: Total Pledged and Other Sources	Net Available for Debt Service: Operating Expenses/ Expenditures and Capital Outlay	Debt Service: Principal	Debt Service: Interest
Central Texas Turnpike System Series 2002-A, 2012-A, 2015-A, B, C	$ 265,546,387.28	(B)	$ 20,365,000.00	$ 107,051,400.00
Grand Parkway Transportation Corporation Series 2013-A,B,E, 2016. 2018-A, B	228,822,029.02	(C)		126,485,949.26
State Highway 249 System Series 2019-A and 2019-B	1,766,665.49	(D)		3,357,886.68
	$ 496,135,081.79		$ 20,365,000.00	$ 236,895,235.94

(B) Expenses associated with pledged sources were $55,328,335.93.
(C) Expenses associated with pledged sources were $43,708,845.70.
(D) Expenses associated with pledged sources were $0

TEXAS DEPARTMENT OF TRANSPORTATION
SCHEDULE 2E-DEFEASED BONDS OUTSTANDING
For the Fiscal Year Ended August 31, 2019

Description of Issue	Year Defeased		Par Value Outstanding
Business-Type Activities			
Central Texas Turnpike System Revenue Bonds			
Series 2002-A Capital Appreciation Bonds*	2015	$	52,062,147.13
Total Business-Type Activities			52,062,147.13
Total		$	52,062,147.13

* Includes $31,508,290.53 of accreted interest.

Texas Department of Transportation
Schedule 3 - Matrix of Expenditures Reported by Function - Governmental Funds
For the Fiscal Year Ended August 31, 2019

	State Highway Fund	Texas Mobility Fund	Proposition 12 Highway Improvement Project Fund	Local Gevernment Political Subdivision Road/Airport Account	Nonmajor Funds	Transportation Function Total
Salaries and Wages	$ 713,218,169.32	$ 0.00	$ 0.00	$ 0.00	$ 1,001,902.96	$ 714,220,072.28
Payroll Related Costs	338,366,079.54	0.00	0.00	0.00	287,332.94	338,653,412.48
Professional Fees and Services	1,174,262,137.36	0.00	0.00	0.00	829,819.11	1,175,091,956.47
Federal Pass-Through Expenditures	12,185,303.01	0.00	0.00	0.00	0.00	12,185,303.01
State Pass-Through Expenditures	96,000.00	0.00	0.00	0.00	0.00	96,000.00
Travel	11,117,082.56	0.00	0.00	0.00	62,284.88	11,179,367.44
Materials and Supplies	368,174,818.92	0.00	0.00	0.00	850,843.73	369,025,662.65
Communication and Utilities	41,880,045.15	0.00	0.00	0.00	2,238,238.39	44,118,283.54
Repairs and Maintenance	697,621,638.67	0.00	0.00	0.00	85,445.98	697,707,084.65
Rentals and Leases	32,518,156.00	0.00	0.00	0.00	57,757.74	32,575,913.74
Printing and Reproduction	3,622,220.50	0.00	0.00	0.00	0.00	3,622,220.50
Claims and Judgments	3,141,777.13	0.00	0.00	0.00	0.00	3,141,777.13
Intergovernmental Payments	191,569,252.06	3,194,592.87	0.00	0.00	353,768.49	195,117,613.42
Public Assistance Payments	68,429,612.77	0.00	0.00	0.00	0.00	68,429,612.77
Other Expenditures	288,592,108.82	0.00	0.00	0.00	100,980.95	288,693,089.77
Total Expenditures	$ 3,944,794,401.81	$ 3,194,592.87	$ 0.00	$ 0.00	$ 5,868,375.17	$ 3,953,857,369.85

The above schedule represents governmental fund expenditures of the transportation function in the object code detail.

125 East 11th Street. Austin TX 78701

www.txdot.gov

Produced by the **Texas Department of Transportation's Financial Management Division.**

Copies of this publication have been deposited with the Texas State Library in compliance with the State Depository Law.

APPENDIX C

ANNUAL FINANCIAL REPORT OF THE GRAND PARKWAY TRANSPORTATION CORPORATION FOR FISCAL YEAR ENDED AUGUST 31, 2019

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GRAND PARKWAY TRANSPORTATION CORPORATION

A blended component unit of the Texas Department of Transportation

Annual Financial Report

For The Fiscal Year Ended August 31, 2019

(With Independent Auditor's Report)

Texas Department of Transportation

Grand Parkway Transportation Corporation

A Blended Component Unit of the Texas Department of Transportation

FINANCIAL STATEMENTS
For the Fiscal Year Ended
August 31, 2019

Prepared by:
Texas Department of Transportation's Financial Management Division

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GRAND PARKWAY TRANSPORTATION CORPORATION
Annual Financial Report
For the Fiscal Year Ended August 31, 2019

TABLE OF CONTENTS

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Section One

Introductory Section

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Grand Parkway Transportation Corporation
125 E. 11th Street, Austin, Texas 78701

December 17, 2019

TO: The Citizens of Texas and the Bondholders of the Grand Parkway Transportation Corporation

The audited annual financial statements of the Grand Parkway Transportation Corporation (GPTC) for the year ended August 31, 2019 are enclosed in accordance with the Trust Agreement dated August 1, 2013, as supplemented (Trust Agreement). The Trust Agreement requires the preparation and submission of audited annual financial statements beginning with the fiscal year in which substantial completion occurs for the initial project financed with the obligations issued pursuant to the Trust Agreement.

An external audit firm, Crowe LLP, performed an independent audit, in accordance with generally accepted auditing standards, of GPTC's basic financial statements for the year ended August 31, 2019. The audit opinion is presented in this report preceding the financial statements. This report was prepared by the accounting staff of the Financial Management Division of Texas Department of Transportation (TxDOT). GPTC's internal accounting controls provide reasonable assurance regarding the safeguarding of assets against loss from unauthorized use or disposal and the reliability of financial records for preparing financial statements. The concept of reasonable assurance recognizes that the cost of a control should not exceed the resulting benefit.

Management is responsible for the accuracy of the data in this report as well as for the completeness and fairness of the presentation. Consequently, management assumes full responsibility for the completeness and fairness of all of the information presented in the financial statements. To the best of my knowledge and belief, the financial statements are accurate in all material respects, are reported in a manner that presents fairly the financial position and results of operations of GPTC and provide disclosures that enable the reader to understand GPTC's financial condition.

The Management's Discussion and Analysis (MD&A) provides a narrative introduction, overview and analysis of the financial activities of GPTC. We encourage readers to consider the information in this letter of transmittal in conjunction with the MD&A.

Profile of the Government

GPTC is incorporated as a public non-profit corporation. It was created by the Texas Transportation Commission (Commission) in 2012 and is organized and existing pursuant to the provisions of Subchapters A through C, Chapter 431, Texas Transportation Code and the Business Organization Code related to non-profit corporations, including Chapter 22 thereof (collectively, the Act). The Corporation is authorized to act on behalf of the Commission for the public purpose of developing, financing, refinancing, designing, acquiring, constructing, reconstructing, expanding, operating and maintaining some or all of the segments of the Grand Parkway Project.

The Corporation is governed by a three-member board of directors consisting of individuals appointed by the Commission, all of whom are full-time, permanent employees of TxDOT. The directors serve without compensation. The Corporation has no staff, no resources and no taxing power.

The Grand Parkway (State Highway 99) Project is a proposed 184-mile highway around the greater Houston area from State Highway 146 in Galveston County, Texas to State Highway 146 in Baytown, Texas and spread across the seven counties of Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty and Montgomery. The primary purpose of the Grand Parkway Project is to provide an outer loop around the Houston metropolitan area to improve connectivity within the existing network, reduce transportation congestion and enhance mobility and travel options, reduce unsafe "stop and go" conditions and accommodate demographic and economic growth. The Grand Parkway Project is divided into 11 segments designated A through I-2.

GPTC obligations were issued in part to finance the costs of the Grand Parkway System. The Grand Parkway System consisting of Segment D in Harris County, Texas and Segments E, F-1, F-2, G, H, I-1 and I-2. Certain outstanding GPTC obligations are supported, under certain circumstances, by a Toll Equity Loan Agreement (TELA) between the Corporation and TxDOT. Obligations issued by GPTC are not obligations of the Commission, TxDOT or any other agency of the State of Texas.

GPTC has the power to issue toll revenue bonds, notes or other obligations and enter into contracts, and assume agreements of TxDOT in connection with the Grand Parkway Project. The Corporation also has the power to enter into agreements with TxDOT regarding the responsibility of each party for the development, financing, refinancing, design, construction, reconstruction, expansion, operation or maintenance of the Grand Parkway Project and the support to be provided to the Corporation by TxDOT including any necessary toll equity loan agreements between the Corporation and TxDOT and take other actions necessary or convenient to implementing the Grand Parkway Project.

Budgetary Controls

GPTC utilizes the services of TxDOT employees for all accounting, debt financing and administrative services. TxDOT's internal accounting controls provide reasonable assurance regarding the safeguarding of assets against loss from unauthorized use or disposal and the reliability of financial records for preparing financial statements.

Annual budgets must be approved by the board of directors of GPTC on or before the fifth business day preceding the first day of the new fiscal year.

December 17, 2019

Information Useful in Assessing GPTC Financial Condition

GPTC and the Trustee are responsible for ensuring that funds maintain the proper minimum balances as set forth in the Trust Agreement and for investing in securities required to meet liquidity requirements. All moneys held for the credit of the Construction Fund and Reserve Accounts shall, as nearly as may be practicable, be invested and reinvested in permitted investments. In lieu of the investments, at the option of the Corporation, the Corporation may make interest bearing time deposits, invest in certificates of deposits, or make other similar arrangements with the Trustee or any other depositary, as may be permitted by law.

Risk Financing & Management

GPTC has established a self-insurance program funded with $150,000,000 on deposit with the Trustee, held in the Rate Stabilization Fund. TxDOT staff provides all accounting, debt financing and administrative services. Salaries and wages of TxDOT employees who are specifically dedicated to managing the operations of GPTC are reported as expenses in this report.

Acknowledgements

The preparation of the report requires the efforts of individuals throughout TxDOT, including the dedicated efforts of the management and staff of the TxDOT Financial Reports Section of the Financial Management Division and the Project Finance, Debt & Strategic Contracts Division. I sincerely appreciate the efforts of all these individuals who made this report possible.

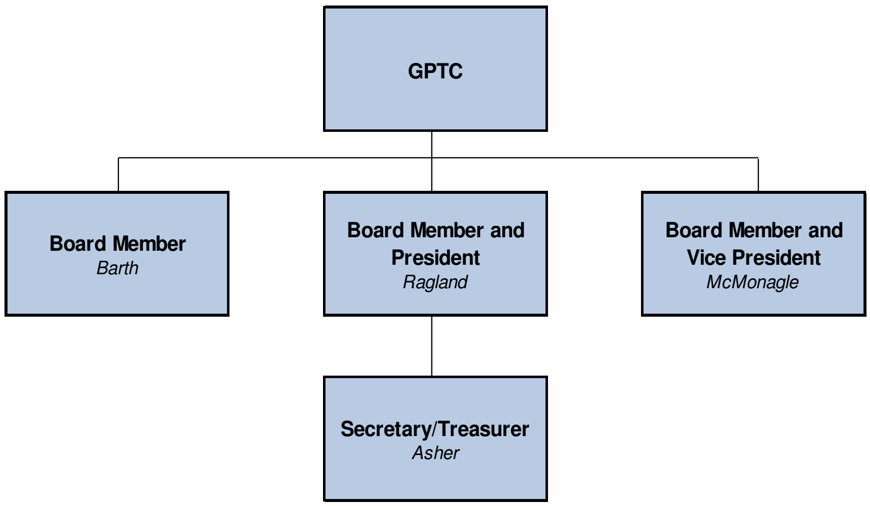
Sincerely,

Brian D. Ragland, CPA

President
Grand Parkway Transportation Corporation

Grand Parkway Transportation Corporation

Organization Chart as of August 31, 2019



Grand Parkway Transportation Corporation
Corporation Officials
As of August 31, 2019

BOARD OF DIRECTORS

Key Personnel	Title	Occupation
Brian Ragland	President, Board of Directors	Chief Financial Officer, TxDOT
Richard McMonagle	Vice President, Board of Directors	Chief Administrative Officer, TxDOT
Brian Barth	Board Member	Project Planning and Development Director, TxDOT

OFFICIALS

Name	Title	Occupation
Benjamin Asher	Secretary/Treasurer	Director, Project Finance, Debt and Strategic Contracts Division, TxDOT

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Section Two

Financial Section

Crowe

Crowe LLP
Independent Member Crowe Global

INDEPENDENT AUDITOR'S REPORT

Members of the Texas Transportation Commission
State of Texas

Report on the Financial Statements

We have audited the accompanying financial statements of the Grand Parkway Transportation Corporation (Corporation), a component unit of the Texas Department of Transportation (TxDOT), an agency of the State of Texas, as of and for the year ended August 31, 2019, and the related notes to the financial statements, which collectively comprise the Corporation's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Corporation, as of August 31, 2019, and the changes in its financial position and its cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the *Management's Discussion and Analysis* on pages 12-16 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Corporation's basic financial statements. The introductory section is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The introductory section has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated December 17, 2019 on our consideration of the Corporation's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Corporation's internal control over financial reporting and compliance.

Crowe LLP

Crowe LLP

Dallas, Texas
December 17, 2019

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Section Two (Continued)

Management's Discussion and Analysis (Unaudited)

MANAGEMENT'S DISCUSSION AND ANALYSIS

As management of the Grand Parkway Transportation Corporation (GPTC), we offer readers of the GPTC financial statements this narrative overview and analysis of its financial activities for the year ended Aug. 31, 2019, with selected comparative information for the year ended Aug. 31, 2018. The information presented should be read in conjunction with our letter of transmittal, the financial statements and the accompanying notes to the financial statements.

GPTC is authorized to act on behalf of the Commission for the public purpose of developing, financing, refinancing, designing, constructing, reconstructing, expanding, operating and/or maintaining the Grand Parkway System (the System). The System consists of eight segments of the Grand Parkway Project including Segments D (Harris County), E, F-1, F-2, G, H, I-1 and I-2 located in Chambers, Harris, Liberty and Montgomery counties.

Highlights

During fiscal year 2019, GPTC generated $201.2 million in toll and fee revenues, net of allowance, an increase of $26.0 million or 14.8 percent over fiscal 2018. Toll revenue increased mainly due to traffic increase. A 2.8 percent toll rate increase that became effective on Jan. 1, 2019 also contributed to the toll revenue growth.

As of Aug. 31, 2019, GPTC has incurred $2.6 billion of costs related to the design and construction of the System which is reported as intangible assets on the statement of net position.

GPTC ended the fiscal year of operation with assets of $4.6 billion; liabilities of $4.8 billion; and deficit net position of $202.0 million. The net position decreased by $58.5 million from fiscal 2018.

Overview of Financial Statements

The financial section of this annual financial report consists of two parts: management's discussion and analysis (this section) and the basic financial statements with their accompanying notes.

Fund Financial Statements

A fund is a group of related accounts that is used to maintain control over resources that have been segregated for specific activities or objectives. Proprietary funds are used to account for a government's business-type activities. The activities related to GPTC are accounted for in an enterprise fund, which is a type of proprietary fund used to report activities in which a fee is charged to external users for goods and services.

Financial Analysis

The overall financial position and operations of GPTC for the past two years is summarized as followed.

Statement of Net Position
(Amounts in Thousands)
August 31, 2019 and 2018

	2019	2018
ASSETS		
Assets Other Than Intangible Assets	$ 2,081,966	$ 2,267,987
Intangible Assets	2,553,936	2,378,901
Total Assets	4,635,902	4,646,888
LIABILITIES		
Current Liabilities	127,745	119,566
Noncurrent Liabilities	4,710,193	4,670,824
Total Liabilities	4,837,938	4,790,390
NET POSITION		
Restricted for Debt Service	22,984	33,789
Restricted for Operations and Maintenance	61,344	62,007
Unrestricted	(286,364)	(239,298)
Total Net Position	$ (202,036)	$ (143,502)

Changes in Net Position
(Amounts in Thousands)
August 31, 2019 and 2018

	2019	2018
OPERATING REVENUES		
Operating Revenues	$ 201,213	$ 175,223
Total Operating Revenues	201,213	175,223
OPERATING EXPENSES		
Operating Expenses	107,876	100,621
Total Operating Expenses	107,876	100,621
Operating Income	93,337	74,602
NON-OPERATING REVENUES (EXPENSES)		
Non-Operating Revenues (Expenses)	(151,871)	(137,967)
Total Non-Operating Revenues (Expenses)	(151,871)	(137,967)
Change in Net Position	(58,534)	(63,365)
Net Position - Beginning	(143,502)	(80,137)
Net Position - Ending	$ (202,036)	$ (143,502)

Net Position

The deficit balance of net position increased to $202.0 million due to the total expense exceeding the total revenue by $58.5 million. The large expense in fiscal 2019 included $64.2 million of amortization and $218.1 million of interest.

Interest expense of all debts were reported as expense in fiscal 2019. Amortization of intangible assets associated with the Initial Project began in fiscal 2016.

Changes in Net Position

Total operating revenues for fiscal 2019 were $201.2 million, an increase of 14.8 percent over fiscal 2018. Operating revenues are entirely comprised of toll and fee revenues.

Total operating expenses for fiscal 2019 were $107.9 million, an increase of 7.2 percent over fiscal 2018. The largest operating expense was amortization of $64.2 million, which comprised 59.5 percent of total operating expenses.

Total non-operating expenses exceeded non-operating revenues by $151.9 million, an increase of 10.1 percent over fiscal 2018. The largest non-operating item was interest expense of $218.1 million.

Intangible Assets and Debt Administration

Intangible Assets

Adhering to the service concession arrangements (SCA), GPTC records the construction related costs and acquisition costs of right-of-way as an intangible asset. There are two SCAs between GPTC and TxDOT. One is for the Initial Project, another is for the H and I Project. All five segments in the Initial Project are open to traffic. GPTC began to amortize the intangible assets associated with the Initial Project in fiscal 2016. With the 2018 series bonds and BANs issued in fiscal 2018 for financing the construction and development of the H and I project, the amended agreements between GPTC and TxDOT updated for the H and I Project meet the definition of a service concession arrangement under criteria established by the Governmental Accounting Standards Board. As of Aug. 31, 2019, GPTC had $2.6 billion, net of $254.6 million accumulated amortization, in intangible assets. See Note 2 for more information.

Intangible Assets Activities

For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

	Balance 8/31/2018	Additions	Reductions	Balance 8/31/2019
Intangible Assets - SCAs	$ 2,569,323	$ 239,202	$	$ 2,808,525
Less: Accumulated Amortization for Intangible Assets	(190,422)		(64,167)	(254,589)
Intangible Assets, Net	$ 2,378,901	$ 239,202	$ (64,167)	$ 2,553,936

Debt Administration

GPTC issued bonds and notes backed by the pledged revenues and restricted assets specified in the bond resolutions. GPTC also entered into a secured loan agreement with the United States Department of Transportation (USDOT) through the Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA). Funds were drawn per the agreement in fiscal 2017. As of Aug. 31, 2019, GPTC had $4.7 billion of debt. See Note 4 for more information.

Outstanding Debt Obligations				
(Amounts in Thousands)				
August 31, 2019 and 2018				
		2019		**2018**
Revenue Bonds Payable	$	3,150,042	$	3,133,088
Notes and Loans Payable		1,574,906		1,552,491
Total Outstanding Debt	**$**	**4,724,948**	**$**	**4,685,579**

Bond Credit Ratings

Long-Term Credit Ratings		
As of August 31, 2019		
	Fitch	Standard & Poor's
Series 2013 - A	A+	BBB
Series 2013 - B	AA	AA+
Series 2013 - E	AA	AA+
Series 2016	NR	AA+
Series 2018 -A	AA	AA+
Series 2018 -B	AA	AA+

An explanation of the significance of each rating may be obtained from the company furnishing the ratings. The ratings reflect only the respective views of such organizations and GPTC makes no representation as to the appropriateness of the ratings. There is no assurance that such ratings will continue for any given period of time or that they will not be revised downward or withdrawn entirely by any or all of such rating companies, if in the judgment of any or all companies, circumstances so warrant.

Requests for Information

This financial report is designed to provide a general overview of GPTC's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to GPTC at the following address:

Grand Parkway Transportation Corporation
125 East 11th Street
Austin, Texas 78701-2483

Section Two (Continued)

Basic Financial Statements

GRAND PARKWAY TRANSPORTATION CORPORATION
STATEMENT OF NET POSITION
August 31, 2019 (Amounts in Thousands)

ASSETS		
Current Assets:		
Cash and Cash Equivalents		
Money Market and Similar Funds	$	125,969
Short-Term Investments		133,983
Restricted:		
Cash and Cash Equivalents		684,986
Short-Term Investments		784,054
Interest and Dividends Receivable		5,196
Account Receivable, Net		18,436
Consumable Inventory		370
Total Current Assets		1,752,994
Noncurrent Assets:		
Long-Term Investments		29,921
Restricted Long-Term Investments		299,051
Intangible Assets (Note 2)		2,553,936
Total Noncurrent Assets		2,882,908
TOTAL ASSETS		4,635,902
LIABILITIES		
Current Liabilities:		
Payables:		
Accounts Payable		40,404
Interest Payable		68,313
Contracts Retainage		2,089
Due to Other Funds (Note 7)		2,184
Notes and Loans Payable (Note 4)		10,532
Revenue Bonds Payable (Note 4)		4,223
Total Current Liabilities		127,745
Noncurrent Liabilities:		
Notes and Loans Payable (Note 4)		1,564,374
Revenue Bonds Payable (Note 4)		3,145,819
Total Noncurrent Liabilities		4,710,193
TOTAL LIABILITIES		4,837,938
NET POSITION		
Restricted for Debt Service		22,984
Restricted for Operations and Maintenance		61,344
Unrestricted		(286,364)
TOTAL NET POSITION	$	(202,036)

The accompanying notes to the financial statements are an integral part of this financial statement.

GRAND PARKWAY TRANSPORTATION CORPORATION
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

OPERATING REVENUES		
Toll Revenue - Pledged	$	203,656
Discounts and Allowances		(2,448)
Fee Revenue - Pledged		5
Total Operating Revenues		201,213
OPERATING EXPENSES		
Salaries		1,778
Professional Fees and Services		2,169
Travel		7
Materials and Supplies		352
Communication and Utilities		196
Repairs and Maintenance		11,204
Rentals and Leases		2
Contracted Services		14,197
Advertising		129
Amortization Expense		64,167
Other Operating Expenses		13,675
Total Operating Expenses		107,876
Operating Income		93,337
NON-OPERATING REVENUES (EXPENSES)		
Interest and Investment Income		48,881
Net Increase in Fair Value of Investments		3,758
Amortization of Long Term Debt		14,755
Interest Expense		(218,077)
Bond Issuance Expenses		(1,112)
Other Financing Fees		(76)
Total Non-Operating Revenues (Expenses)		(151,871)
Change in Net Position		(58,534)
Net Position, September 1, 2018		(143,502)
Net Position, August 31, 2019	$	(202,036)

The accompanying notes to the financial statements are an integral part of this financial statement.

GRAND PARKWAY TRANSPORTATION CORPORATION
STATEMENT OF CASH FLOWS
For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

CASH FLOWS FROM OPERATING ACTIVITIES		
Proceeds from Customers	$	198,918
Payments to Suppliers for Goods and Services		(42,512)
NET CASH PROVIDED BY OPERATING ACTIVITIES		156,406
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
Payments for Debt Interest		(151,792)
Payments of Costs of Debt Issuance		(1,119)
Payments for Financing Fee		(115)
Payments for Intangible Assets		(244,474)
NET CASH USED IN NONCAPITAL FINANCING ACTIVITIES		(397,500)
CASH FLOWS FROM INVESTING ACTIVITIES		
Proceeds from Interest and Investment Income		34,380
Proceeds from Sales and Maturities of Investments		1,356,800
Payments to Acquire Investments		(1,728,233)
Payments for Accrued Interest on Purchase of Investment		(2,536)
NET CASH USED IN INVESTING ACTIVITIES		(339,589)
NET DECREASE IN CASH AND CASH EQUIVALENTS		(580,683)
CASH AND CASH EQUIVALENTS - September 1, 2018		1,391,638
CASH AND CASH EQUIVALENTS – August 31, 2019	$	810,955

Concluded on the following page

GRAND PARKWAY TRANSPORTATION CORPORATION
STATEMENT OF CASH FLOWS

For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

Reconciliation of Operating Income to Net Cash Provided by Operating Activities:

Operating Income	$	93,337
Adjustments to Reconcile Operating Income to Net Cash Provided by Operating Activities:		
Amortization of Intangible Assets		64,167
Changes in Assets and Liabilities:		
(Increase) in Accounts Receivable		(2,294)
(Increase) in Inventory		(140)
Increase in Accounts Payable		3,512
(Decrease) in Amounts Due to Other Fund		(2,176)
Net Cash Provided by Operating Activities	$	156,406

Noncash Investing, Capital and Financing Activities:

Amortization of Investment Premium/Discount	$	13,746
Net Change in Fair Market Value of Investments	$	3,758

The accompanying notes to the financial statements are an integral part of this financial statement.

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Grand Parkway Transportation Corporation
Notes to Financial Statements

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NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

The accompanying financial statements reflect the financial position of the Grand Parkway Transportation Corporation (GPTC). GPTC is a public non-profit corporation, created by the Texas Transportation Commission (Commission) in 2012. GPTC is authorized to act on behalf of the Commission for the public purpose of developing, financing, refinancing, designing, constructing, reconstructing, expanding, operating and/or maintaining the Grand Parkway System (the System). The System consists of eight segments of the Grand Parkway Project including Segments D (Harris County), E, F-1, F-2, G, H, I-1 and I-2 located in Chambers, Harris, Liberty and Montgomery counties. The Texas Department of Transportation (TxDOT) owns or will own the roadway and all access roads and appurtenant facilities comprising the System and the related right-of-way. GPTC is entitled to all revenues from, or produced as a consequence of, the operation of the System as a toll highway.

GPTC, a blended component unit of TxDOT, is part of the TxDOT's reporting entity. GPTC is governed by a three-member board of directors consisting of individuals appointed by the Commission, all of whom are employees of TxDOT. GPTC has no staff, no resources and no taxing power. The GPTC utilizes the services of TxDOT employees for administrative support, including financial, legal, technical, clerical and other services.

Basis of Presentation

The accompanying financial statements were prepared in conformance with generally accepted accounting principles (GAAP) as prescribed by the Governmental Accounting Standards Board (GASB). Financial reporting for GPTC is based on all GASB pronouncements. The data in this report is combined and consolidated by the Texas Comptroller's Office with similar data from other state agencies and universities in the preparation of the state of Texas Comprehensive Annual Financial Report (CAFR).

GASB Statements Effective for Fiscal 2019

In fiscal 2019 GPTC adopted the following new GASB pronouncements:

- *GASB Statement No. 83, Certain Asset Retirement Obligations.* This statement addresses accounting and financial reporting for certain asset retirement obligations (AROs). The statement establishes criteria for determining the timing and pattern of recognition of a liability and a corresponding deferred outflow of resources for AROs. An ARO is a legally enforceable liability associated with the retirement of a tangible capital asset. The legal obligations to perform future asset retirement activities is recorded when the liability is both incurred and reasonably estimable. The determination of when the liability is incurred is based on the occurrence of external laws, regulations, contracts, or court judgments, together with the occurrence of an internal event that obligates a government to perform asset retirement activities.

- *GASB Statement No. 88, Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements.* This statement is to improve the information that is disclosed in notes to government financial statement related to debt, including direct borrowings and direct placements. It defines debt for note disclosure purposes as a liability that arises from a contractual obligation to pay cash to settle an amount that is fixed at the date the contractual obligation is established. The statement requires additional information related to debt, including unused lines of credit, assets pledged as collateral for the debt, and terms specified in debt agreements related to significant default events and significant termination events with finance-related consequences, and significant subjective acceleration clauses.

- *GASB Statement No. 89, Accounting for Interest Cost Incurred before the End of a Construction Period.* This statement is effective for reporting periods beginning after December 15, 2019, or fiscal 2021. TxDOT decided to early implement the statements in fiscal 2019. The statement supersedes GASB Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements,* paragraphs 5-22. For financial statements prepared using the economic resources measurement focus, the statement requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred. As a result, interest cost incurred before the end of a construction period will not be included in the historical cost of a capital asset reported in a business-type activity or enterprise fund.

Fund Structure

The activity of GPTC is reported in a proprietary fund. Proprietary funds are accounted for using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis, revenues are recognized when earned and expenses are recognized at the time liabilities are incurred.

A proprietary fund distinguishes operating from nonoperating items. Operating revenues and expenses result from providing services or producing and delivering goods in connection with the proprietary fund's principal ongoing operations.

Assets, Liabilities and Net Position

Cash and Cash Equivalents

Investments with a maturity of three months or less are considered cash equivalents. On the statement of cash flows, cash and cash equivalents are cash on hand, cash in bank, money market funds, state and local government investment pools (TexPool) and short-term, highly liquid investments with a maturity of three months or less at the time of purchase.

Investments

Long-term investments are investments with a maturity date of one year or greater from the date of purchase. These investments are recorded at fair value based upon quoted market prices as of fiscal year end. Short-term investments are investment with a maturity greater than 90 days but less than one year at the time of purchase. Short-term investments are recorded on an amortized cost basis. All investment income, including changes in the fair value of investments, net interest income, is recognized as nonoperating revenue in the operating statement. See Note 3 for more information.

Interest Receivable

Interest receivable is the amount of interest that has been earned, but which has not yet been received.

Accounts Receivable

Toll revenue earned but not yet received by GPTC is reported as accounts receivable. Amounts expected to be collected the next fiscal year are classified as current and amounts expected to be collected beyond the next fiscal year are classified as noncurrent. All receivables are recorded net of allowance for uncollectible accounts as of Aug. 31, 2019.

Consumable Inventory

Consumable inventory is comprised of toll tags. The consumption method of accounting is used to account for inventory. The costs of these items are expensed when the items are consumed.

Restricted Assets

Restricted assets include monies or other resources restricted by legal or contractual requirements. These assets include proceeds of enterprise fund notes/loans, revenue bonds and revenues set aside for statutory or contractual requirements. GPTC may receive funding whose related expenditure is restricted to certain activities. In situations where both restricted and unrestricted resources are available to cover expenses, GPTC will first expend the restricted resources and cover additional costs with unrestricted resources. GPTC reserves the right to selectively defer the use of restricted assets.

Intangible Asset

GPTC is operating under two service concession arrangements (SCA) with TxDOT. As a governmental operator, GPTC records an intangible asset for its cost of design, construction and acquisition of right-of-way of the System. Amortization of the intangible asset associated with the initial project began in fiscal 2016. See Note 2 for more information about GPTC's SCAs with TxDOT.

Accounts Payable

Accounts payable represents the liability for the value of assets or services received during the reporting period for which payment is pending. It includes the payable to the design-build developer, bond issuance costs and other vendor payments.

Due to Other Funds

Due to other funds represents the reimbursement to the state highway fund for reimbursable construction, right-of-way acquisition costs, bond issuance costs, maintenance expenses and toll operating expenses incurred in fiscal 2019, but not paid as of Aug. 31, 2019.

Long-Term Liabilities

Long-term liabilities include revenue bonds payable and bond anticipation notes. Revenue bonds and notes payable are reported net of the applicable premium or discount.

Net Position

Proprietary funds report net position as the residual amount in a statement of net position. The categories of net position reported in this report include:

Restricted

Restricted net position results when constraints placed on net position use are either externally imposed by creditors, grantors, contributors and the like, or imposed by law through constitutional provisions or enabling legislation. The restricted component of net position represents restricted assets reduced by liabilities related to those assets.

Unrestricted

Unrestricted net position consists of the assets and liabilities that are not included in the restricted components of net position.

Revenues and Expense

Operating Revenue

Operating revenues consist of toll revenue for open Segments D, E, F-1, F-2 and G, net of allowance for doubtful accounts, and fee revenue earned by GPTC.

Operating Expense

Operating expenses include expenses incurred in operating the toll roads, the customer service center, maintenance expense and amortization on the intangible asset.

Nonoperating Revenues/Expenses

Nonoperating revenues are mainly comprised of interest and investment revenue, net of the change in fair market value of investments. Nonoperating expenses are any expenses not classified as operating, including bond issuance costs and interest expense.

NOTE 2 – INTANGIBLE ASSETS

The Grand Parkway Transportation Corporation (GPTC) is authorized to act on behalf of the Commission for the public purpose of developing, financing, refinancing, designing, acquiring, constructing, reconstructing, expanding, operating and maintaining some or all of the segments of State Highway 99 (the " Grand parkway Project"). The commission has designated certain segments of Grand Parkway Project as the responsibility of GPTC, and GPTC has designated certain segments thereof as part of the Grand Parkway System. The System includes the Initial Project and the H and I Project. The Initial Project includes Segments D (Harris County), E, F-1, F-2 and G of Grand Parkway toll road. The H and I Project is designated with Segments H, I-1 and I-2.

The Initial Project was financed and refinanced through the issuance of Obligations by GPTC in 2013, 2014 and 2016 and other sources of funding.

GPTC issued Subordinate Tier Toll Revenue Bonds and BANs on May 30, 2018. The proceeds of the 2018 Bonds, the 2018 BANs, together with other sources of funding will be used to finance the costs of design, development, acquisition and construction of the H and I Project.

Since the Initial Project and the H and I project are financed by different funding sources, GPTC is operating under two service concession arrangements (SCA) with the Texas Department of Transportation (TxDOT).

An SCA is an arrangement between a transferor (TxDOT) and an operator (GPTC) in which (1) the transferor conveys to an operator the right and related obligation to provide services through the use of infrastructure in exchange for significant consideration and (2) the operator collects and is compensated by fees from third parties.

As the governmental operator, GPTC records intangible assets for the project costs of design, development, acquisition and construction of the Initial Project and the H and I project separately.

All segments of the Initial Project achieved substantial completion and opened to traffic by the end of March, 2016. As required, GPTC is amortizing the intangible asset associated with the Initial Project using a straight line method for a term of 38 years, beginning in fiscal 2016. Capital costs paid for the Initial Project in fiscal 2019 were added to the unamortized intangible asset balance. Annual amortization of the intangible asset adjusted accordingly.

The Design Build contract for Segments H and I were executed on June 30th, 2017. The H and I project is under construction and is scheduled to open to traffic in 2022.

The table below presents the composition of GPTC's intangible assets as of Aug. 31, 2019.

Intangible Assets Activities

For the Fiscal Year Ended August 31, 2019 (Amounts in Thousands)

	Balance 9/1/2018	Additions	Reductions	Balance 8/31/2019
Intangible Assets - SCA- Initial Project	$ 2,434,810	$ 1,447	$	$ 2,436,257
Less: Accumulated Amortization for Intangible Assets	(190,422)		(64,167)	(254,589)
Intangible Assets - Initial Project, Net	2,244,388	1,447	(64,167)	2,181,668
Intangible Assets - SCA- H and I Project	134,513	237,755		372,268
Intangible Assets - H and I Project, Net	134,513	237,755		372,268
Intangible Assets - Total, Net	**$ 2,378,901**	**$ 239,202**	**$ (64,167)**	**$ 2,553,936**

NOTE 3 - DEPOSITS, INVESTMENTS AND REPURCHASE AGREEMENTS

GPTC is authorized by statue to make investments following the "prudent person rule". GPTC has complied, in all material respects, with statutory authorization, bond documents, constraints and board policies during the period.

Investments

Measurement

GPTC categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. The three-tiered fair value hierarchies are as follows.

- Level 1 – Quoted prices in active markets for identical investments
- Level 2 – Significant other observable inputs other than quoted market prices
- Level 3 – Significant unobservable inputs

As of Aug. 31, 2019, the measurements of GPTC's investments are summarized below:

Investment Fair Value and Maturities
August 31, 2019 (Amounts in Thousands)

Investment Type		Fair Value Hierarchy Level 1		Measurement Amortized Cost		Total
Money Market Mutual Funds	$		$	324	$	324
U.S. Treasury Securities		328,972		630,054		959,026
U.S. Government Agency Obligations				382,640		382,640
Government Investment Pools				715,974		715,974
Total Investments	**$**	**328,972**	**$**	**1,728,992**	**$**	**2,057,964**

Below is more detail regarding the measurement of GPTC's investments as of Aug. 31, 2019.

- GPTC had U.S. treasury securities investments of $329.0 million with original maturities of one year or more valued at quoted market prices (Level 1 input, 1 year or more).
- GPTC had investments in money market mutual funds, U.S. treasury securities, U.S. government agency obligations and government investment pools of $1.7 billion with maturities less than one year valued at amortized cost.

Custodial Credit Risk – Investments

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty, GPTC will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. GPTC's investment policies state that all securities purchased by the Board shall be designated as assets of the Board, and shall be protected through the use of a third-party custodian/safekeeping agent, which may be a Trustee. Additionally, GPTC conducts securities on a delivery-versus-payment (DVP) basis.

Credit Risk

Direct credit risk for investments is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The investment policy prohibits GPTC from entering into long-term investment agreements or other non-DVP investment transactions with a final maturity or termination date of longer than six months with any financial institution or broker/dealer that initially has a long-term rating category of less than "A" and that does not have at least one long-term rating of at least "AA" by a nationally recognized investment rating firm. All investments made by GPTC have been through the list of qualified business organization authorized to engage in investment transactions approved by GPTC.

As of Aug. 31, 2019, GPTC holdings had the following ratings:

Investment Credit Ratings
August 31, 2019 (Amounts in Thousands)

Investment Type		Balance	S&P	Credit Rating Moody's	Fitch
Money Market Mutual Funds					
Fidelity Investments Money Market Government	$	7	**AAAm**	**AAA-mf**	**NR**
Goldman Sachs Financial Square Government		10	**AAAm**	**Aaa-mf**	**NR**
Morgan Stanley Institutional Liquidity Funds		307	**AAAm**	**Aaa-mf**	**AAAmmf**
Government Sponsored Entities					
Federal Farm Credit Bank		60,485	**A-1+**	**P-1**	**F1+**
Federal Home Loan Bank Discount Note		252,737	**A-1+**	**P-1**	**NR**
Federal Home Loan Bank		15,000	**AA+**	**Aaa**	**NR**
Federal Home Loan Mortgage Corporation		54,418	**A-1+**	**P-1**	**F1+**
Government Securities					
U.S. Treasury Notes		740,867	**AA+**	**Aaa**	**AAA**
U.S. Treasury Bills		218,159	**A-1+**	**NR**	**F1+**
Governmental Investment Pools					
TexPool		715,974	**AAAm**	**NR**	**NR**
Total:	$	**2,057,964**			

Concentration of Credit Risk

It is the policy of GPTC to diversify its investment portfolios. Assets held in the particular funds shall be diversified to minimize the risk of loss resulting from over concentration of assets in a specific maturity, a specific issuer or a specific class of securities. As of Aug. 31, 2019, the following investment exceeded 5 percent of the total GPTC portfolio: TexPool, Federal Home Loan Bank Discount Notes, U.S. Treasury Notes and U.S. Treasury Bills.

The Commission and GPTC both address diversification in the Commission's investment policy. Assets held in particular funds shall be diversified to eliminate the risk of loss resulting from over concentration of assets in a specific maturity, a specific issuer or a specific class of securities. Diversification strategies shall be determined and revised periodically by the investment officer for all funds.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates, will adversely affect the fair value of an investment. GPTC does not have a formal policy on interest rate risk. Investment portfolios are designed with the objective of attaining the best possible rate of return commensurate with GPTC's investment risk constraints and the cash flow characteristics of the portfolio. Return on investment, although important, is subordinate to the safety and liquidity objectives. Investment maturities are noted in the investment table. Approximately 84 percent of the investments mature within one year. Market value fluctuation of the overall portfolio is minimized by keeping the weighted average maturity low.

NOTE 4 – SUMMARY OF LONG-TERM LIABILITIES

As of Aug. 31, 2019, GPTC had six revenue bonds outstanding, one bond anticipation note and one loan agreement outstanding. As detailed below, the following changes occurred in long-term liabilities during the year ended Aug. 31, 2019.

Long-Term Liabilities Activity (Amounts in Thousands)
For the Fiscal Year ended August 31, 2019

	Beginning Balance 08/31/2018	Adjustments*	Additions**	Reductions	Ending Balance 08/31/2019	Due Within One Year
Revenue Bonds Payable	$ 3,133,088	$ (87,998)	$ 21,177	$	$ 3,066,267	$ 4,223
Revenue Bonds Payable - Direct Placements		83,775			83,775	
Notes and Loans Payable	1,552,491	(905,034)			647,457	10,532
Notes and Loans Payable - Direct Borrowings		894,502	32,947		927,449	
Total	$ 4,685,579	$ (14,755)	$ 54,124	$ 0	$ 4,724,948	$ 14,755

*Includes reclassification related to implementation of GASB 88 and current year amortization of premiums and discounts.

**Includes current year amortization of accretion.

Notes and Loans Payable

GPTC entered into a secured loan agreement with the United States Department of Transportation (USDOT) through the Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA). USDOT has agreed to lend the GPTC up to $840.6 million to pay a portion of the eligible project costs. As of Aug. 31, 2019, the GPTC has drawn down $840.6 million under the secured loan agreement for the purpose of providing funds to refund the GPTC Series 2014-A bond anticipation notes and the GPTC Series 2014-C toll revenue bonds. In accordance with the TIFIA loan agreement, the payments of principal and interest can be postponed under certain circumstances and such postponed payments increase the principal amount of the loan.

The outstanding note and loan payable from direct borrowings of $927.4 million contains the following default provisions. Of note, in the case of (i) a payment default, interest is charged on the overdue balance of the note at the default rate (an additional 2%) until the overdue balance is repaid, (ii) a development default (which occurs upon failure of the borrower to prosecute the work related to the applicable project or to complete the applicable project in accordance with the financial plan), interest is charged at the default rate until such development default is cured, and (iii) a default due to project abandonment, the default rate is charged until the note is paid in full. Additionally, in the case of certain bankruptcy related event defaults, the note becomes secured by a first priority security interest in the trust estate.

GPTC closed a $605.3 million TIFIA loan for Grand Parkway Segments H&I on Feb. 1, 2019. The H&I TIFIA loan is anticipated to be drawn in 2022 to refund GPTC's 2018 Bond Anticipation Notes (BANs), therefore, the closing of the loan does not increase the outstanding loan amount of GPTC.

As of Aug. 31, 2019, the notes and loans from direct borrowing debt service requirements are as follows.

TIFIA Direct Borrowing Loan Debt Service Requirements				
Year		**Principal**	**Interest***	**Total**
2020		$	$	$
2021			34,528	34,528
2022			34,575	34,575
2023			34,575	34,575
2024			34,622	34,622
2025-2029		4,845	172,621	177,466
2030-2034		18,728	170,685	189,413
2035-2039		41,811	165,815	207,626
2040-2044		166,195	150,537	316,732
2045-2049		480,630	97,439	578,069
2050-2051		235,050	8,751	243,801
	Total	947,259	904,148	1,851,407
Unamortized Accretion		(19,810)		(19,810)
Total Requirements		$ 927,449	$ 904,148	$ 1,831,597

*Fixed interest rate at 3.65 percent.

Bond Anticipation Notes

GPTC issued a bond anticipation note for the purpose of providing funds to pay the costs of extending, expanding and improving segments H&I of the Grand Parkway System. As of Aug. 31, 2019, the note's debt service requirements are as follows:

BANs – Debt Service Requirements

Business-Type Activities **Year**	**Principal**	**Interest***	**Total**
2020	$	$ 30,267	$ 30,267
2021		30,267	30,267
2022		30,267	30,267
2023	605,330	25,222	630,552
Total	605,330	116,023	721,353
Unamortized Premium	42,127		42,127
Total Requirements	$ 647,457	$ 116,023	$ 763,480

* Fixed interest rate at 5.00 percent.

Pledged Future Revenues

Pledged revenues are those specific revenues that are formally committed to directly secure the payment of debt service. The following table provides information on pledged revenue and pledged future revenue of the GPTC bond anticipation notes, revenue bonds and TIFIA loan.

Pledged Future Revenue (Amounts in Thousands)		
Pledged Revenue Required for Future Principal and Interest On Existing Bonds and Notes	$	9,912,886
Term of Commitment, Year Ending Aug. 31:		2053
Percentage of Revenue Pledged		91.49%
Current Year Pledged Revenue	$	228,822
Current Year Principal and Interest Paid	$	151,792

NOTE 5 – BONDED INDEBTEDNESS

Revenue Bonds

Transportation Code, Section 222.103 authorizes the Commission to participate, by spending money from any available source in the acquisition, construction, maintenance, or operation of a toll facility of a public or private entity on terms and conditions established by the Commission. In March 2012, the Commission adopted a resolution creating the Grand Parkway Transportation Corporation (GPTC). GPTC is authorized to assist and act on behalf of the Commission in the development, financing, design, construction, reconstruction, expansion, operation and/or maintenance of the Grand Parkway toll project.

Miscellaneous Bond Information
(Amounts in Thousands)

Description of Issue		**Bonds Issued to Date**	**Date Issued**	**Range of Interest Rates**		**Maturities First Year**	**Maturities Last Year**	**First Call Date**
First Tier Toll Revenue Bonds, Series 2013-A	$	200,000	8/1/2013	5.13%	5.50%	2031	2053	10/1/2023
Subordinate Tier Toll Revenue Bonds, Series 2013-B								
Convertible Capital Appreciation Bonds**		389,276	8/1/2013	4.95%	5.85%	2029	2048	10/1/2028
Current Interest Bonds		1,137,935	8/1/2013	5.00%	5.25%	2048	2053	10/1/2023
Subordinate Tier Toll Revenue Bonds, Series 2013-E		361,810	8/1/2013	5.18%	5.18%	2036	2042	*
Subordinate Tier Toll Revenue Bonds, Series 2016		83,775	12/7/2016	2.20%	2.20%	2023	2023	n/a
Subordinate Tier Toll Revenue Bonds, Series 2018-A		712,100	5/30/2018	5.00%	5.00%	2030	2048	4/1/2028
Subordinate Tier Toll Revenue Bonds, Series 2018-B		166,525	5/30/2018	5.00%	5.00%	2049	2052	10/1/2023
Total	$	3,051,421						

* Bonds are subject to redemption prior to their respective maturities at the option of the Corporation.
** Bonds issued to date include interest accreted to principal.

The bond obligations are payable from tolls and other revenues of the GPTC held by the trustee. Neither the state; the Commission; nor any other agency or political subdivision of the state, is obligated to pay the debt service on the GPTC bonds. The Grand Parkway System is owned by the Commission and the Commission has not mortgaged, assigned, or pledged any interest in any real or personal property or improvements, including any interest in the Grand Parkway System, as security for payment of the bonds other than the pledge of the Trust Estate under the Trust Agreement.

In an event of default, the Trustee may proceed to, and upon the written request of the owners of not less than 20 percent in principal amount of outstanding obligations, shall proceed to:

(i) Protect its rights and the rights of the owners under Chapter 431, Transportation Code and under the Trust Agreement, the Toll Rate Agreement or certain sections of the Project Agreement by such suits, actions or special proceedings in equity or at law, or by proceedings in the office of any board or officer having jurisdiction, either for mandamus or the specific performance of any covenant or agreement contained in the Trust Agreement or in aid or execution of any power granted in the Trust Agreement for the enforcement of any proper legal or equitable remedy, as the Trustee, being advised by counsel, deems most effectual to protect and enforce such rights. Acceleration of principal of or interest on the obligations upon the occurrence of an event of default is not a remedy available under the Trust Agreement.

(ii) In the enforcement of any remedy under the Trust Agreement the Trustee shall be entitled to sue for, enforce payment of and receive any and all amounts then or during any default becoming, and at any time remaining, due from the Corporation and to enforce judgment or decree against the Corporation but solely as provided in the Trust Agreement.

Debt service requirements for the outstanding revenue bonds as of Aug. 31, 2019, are detailed in the following table. GPTC has $83.8 million in direct placement bonds.

Debt Service Requirements (Amounts in Thousands)

Revenue Bonds				Revenue Bonds - Direct Placements			
Year	Principal	Interest	Total	Year	Principal	Interest	Total
2020	$	$ 131,843	$ 131,843	2020	$	$ 1,843	$ 1,843
2021		131,843	131,843	2021		1,843	1,843
2022		131,843	131,843	2022		1,843	1,843
2023		131,843	131,843	2023		1,843	1,843
2024		145,722	145,722	2024	83,775	927	84,702
2025-2029		798,001	798,001				
2030-2034	121,385	787,802	909,187				
2035-2039	411,860	718,910	1,130,770				
2040-2044	507,590	589,737	1,097,327				
2045-2049	670,435	439,994	1,110,429				
2050-2053	1,356,260	172,986	1,529,246				
	3,067,530	4,180,524	7,248,054		83,775	8,299	92,074
Unamortized Accretion	(99,884)		(99,884)				
Unamortized Premium/(Discount)	98,621		98,621				
Total	$ 3,066,267	$ 4,180,524	$ 7,246,791	Total	$ 83,775	$ 8,299	$ 92,074

NOTE 6 - RETIREMENT PLAN AND POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS

GPTC, a blended component unit of the Texas Department of Transportation (TxDOT), is part of TxDOT's reporting entity. GPTC does not have any employees and does not make contributions to any retirement plans or other postemployment benefits (OPEB) plans. TxDOT employees provide all accounting and administrative services for GPTC. Those employees are members of the Employee Retirement System of Texas defined benefit pension plan (ERS Plan) and the State Retiree Health Plan (SRHP). GPTC is not obligated in any form for the funding of the pension benefits provided by the ERS Plan or the postemployment benefits provided through the SRHP. Allocation of the pension and OPEB liabilities and expenses for GPTC is deemed unnecessary and not required.

The details are disclosed in the TxDOT's Comprehensive Annual Financial Report for the pension plan in Note 8 and the OPEB plan in Note 10.

NOTE 7 – INTERFUND ACTIVITY

GPTC became responsible for the maintenance and operation of the System when the GPTC Series 2013 bonds were closed in August 2013. All expenses related to maintenance and operation of the initial project paid by the state highway fund is subject to reimbursement by GPTC as a junior operating expense.

During the fiscal 2019, the state highway fund paid certain construction related costs for GPTC.

As of Aug. 31, 2019, the due to state highway fund balance totaled $2.2 million, as detailed in the following table:

Due To

August 31, 2019 (Amounts in Thousands)

Category	GPTC Due to SHF	
Construction	$	36
Operating & Maintenance		2,148
Total	$	2,184

NOTE 8 – COMMITMENTS AND CONTINGENCIES

Contingencies

Unpaid Claims and Lawsuits

The type and volume of activity for which GPTC is responsible exposes it to a large number of claims and lawsuits.

The Attorney General's office indicates that the lawsuits listed below were pending as of Aug. 31, 2019. GPTC management's opinion is that the probable outcome of these cases will not materially affect the financial position of GPTC or TxDOT.

Type of Suit	Amounts in Controversy
Eminent Domain	Total claims with amounts indicated, range from $113.2 thousand to $19.6 million, for a total of $100.3 million.

Arbitrage

Rebatable arbitrages defined by Internal Revenue Code (IRC), Section 148, are earnings on tax exempt bond proceeds in excess of the yield on the bond. The rebatable arbitrage must be repaid to the federal government. Pursuant to the Trust Agreement, a Rebate Fund will be established to which deposits will be made upon the determination by GPTC that funding of the Rebate Fund is necessary or appropriate. The amount of rebate due to the federal government is determined and payable during each five-year period and upon final payment of the tax-exempt bonds. IRC Section 148 also provides for certain rebate exceptions, including an exception if certain spend-out requirements of the bond proceeds are met. GPTC has no rebatable arbitrage liability in fiscal 2019.

Significant Commitments

Construction Contracts

GPTC and TxDOT have entered into a Project Agreement dated July 17, 2013, under which GPTC will finance the costs of the Initial System and certain pre-development work for Segments H&I using the proceeds of one or more series of Obligations issued pursuant to the Trust Agreement. TxDOT assigned all right, title and interest in the Design-Build and the Capital Maintenance Agreement on March 22, 2013. In addition, five Design-Bid-Build agreements, project segment supplements to the statewide toll system integration agreement, any expansion of the System during the term of the Project Agreement and costs of the System right-of-way acquisition are the responsibility of GPTC.

TxDOT entered a design-build agreement with Grand Parkway Infrastructure, LLC to develop, design and construct improvements along SH99 Grand Parkway Segments H, I-1 and I-2 in Harris, Montgomery, Chambers and Liberty Counties, effective as of June 30, 2017. TxDOT assigned the agreement to GPTC shortly after the effective date. On Oct. 27, 2017, TxDOT issued the notice to proceeds for the H-West Option. GPTC approved three change orders in fiscal 2019 which increased the design-build contract amount by $5.7 million.

Disclosure of the construction related commitment as of Aug. 31, 2019 is displayed below:

GPTC Construction Related Contract Commitments August 31, 2019 (Amounts in Thousands)				
Contractor	Segment	Contract Commitment	Paid Amount	Remaining Commitment
Zachry Odebrecht Parkway Builders	Segment F1,F2&G	$1,103,493	$1,100,475	$3,018
Grand Parkway Infrastructure, LLC	Segment H,I-1&I-2	$900,424	$219,900	$680,524

NOTE 9 - RISK FINANCING & RELATED INSURANCE

Grand Parkway Transportation Corporation (GPTC) is a non-profit corporation created by the Texas Transportation Commission to act on behalf of the Commission in assisting with the development, construction, financing, operating and maintaining of the SH 99 (Grand Parkway) System. GPTC does not own any part of the Grand Parkway System and does not have any employees. TxDOT provides all accounting, debt financing and administrative services.

GPTC is exposed to a wide range of risks due to the size, scope and nature of its activities. Some of these risks include, but are not limited to, property and casualty losses, theft, damage of assets and business interruption. GPTC self-insures through funds on deposit within its Rate Stabilization Fund. The amount on deposit in the Rate Stabilization Fund for self-insurance has been certified as actuarially sound by the AMI Risk Consultants, Inc. To date, GPTC has not had to draw upon the Rate Stabilization Fund to settle any claims and therefore settlements have not exceeded self-insurance coverage. GPTC has also acquired Directors and Officers Liability insurance and certain public official’s liability coverage.

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Produced by **Texas Department of Transportation's Financial Management Division.**

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APPENDIX D

DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE MASTER TRUST AGREEMENT AND THE EIGHTH SUPPLEMENTAL AGREEMENT

The following statements summarize certain provisions of the Master Trust Agreement and the Eighth Supplemental Agreement. These statements do not purport to be comprehensive or definitive and are qualified in their entirety by reference to the Master Trust Agreement and the Eighth Supplemental Agreement, respectively. Copies of the Master Trust Agreement and the Eighth Supplemental Agreement are available for examination at the offices of the Corporation.

Definitions.

"2014 TIFIA Note" – the Second Tier Toll Revenue Promissory Note issued pursuant to that certain TIFIA Loan Agreement dated February 6, 2015, between the Corporation and the United States Department of Transportation.

"2014 TIFIA Loan Agreement" – the TIFIA Loan Agreement dated as of Febrauary 6, 2014, entered into by the Corporation and the United States Departement of Transportation, acting by and through the Administrator of the Federal Highway Administration, as amended..

"2018 Bonds" – the Corporation's Grand Parkway System Subordinate Tier Toll Revenue Bonds, Series 2018A (TELA Supported) and Grand Parkway System Subordinate Tier Toll Revenue Put Bonds, Series 2018B (TELA Supported).

"2019 TIFIA Loan Agreement" – the TIFIA Loan Agreement dated as of February 21, 2019, entered into by the Corporation and the United States Departement of Transportation, acting by and through the Administrator of the Federal Highway Administration.

"2019 TIFIA Note" – the First Tier Toll Revenue Promissory Note issued pursuant to that ceratin TIFIA Loan Agreement dated February 21, 2019, between the Corporation and the United States Department of Transportation.

"2020 Bonds" – collectively, the 2020A Bonds, the 2020B Bonds and the 2020C Bonds.

"2020A Bonds" – the Grand Parkway Transportation Corporation Grand Parkway System First Tier Toll Revenue Refunding Bonds, Taxable Series 2020A.

"2020B Bonds" – the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Refunding Bonds, Taxable Series 2020B (TELA Supported).

"2020C Bonds" – the Grand Parkway Transportation Corporation Grand Parkway System First Tier Toll Revenue Refunding Bonds, Series 2020C.

"2020 First Tier Obligations" – any First Tier Obligations issued pursuant to the Eighth Supplemental Agreement.

"2020 First Tier Reserve Account" – a subaccount within the First Tier Reserve Account of the First Tier Debt Service Reserve Fund created by the Eighth Supplemental Agreement as provided in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – 2020 First Tier Reserve Account."

"2020 First Tier Reserve Requirement" – the lesser of (i) the maximum annual Debt Service Requirements of the 2020 First Tier Obligations, (ii) 1.25 times the average annual Debt Service Requirements of all 2020 First Tier Obligations or (iii) ten (10) percent of the aggregate principal amount of the Outstanding 2020 First Tier Obligations.

"Accounting Principles" – the "Generally Accepted Accounting Principles" for governmental entities in the United States, which are promulgated by the Governmental Accounting Standards Board, the Financial Accounting Standards Board and, when applicable, such other accounting principles as the Corporation or the State, as applicable, may be required to employ from time to time, in order to comply with the terms of the Trust Agreement, or pursuant to State law or regulation or as the Corporation may otherwise elect, provided such election does not cause a violation of the Rule.

"Acts" – Subchapters A-C of Chapter 431 of the Texas Transportation Code, as amended, Chapter 1371, Texas Government Code, as amended, Section 228.053, Texas Transportation Code, as amended, and the Nonprofit Corporations Act, Business Organization Code, Chapter 22, as amended.

"Additional Obligation Security" – any credit enhancement for specified Obligations and any funds received or obligations payable to the Corporation, other than Senior Net Revenues or Junior Net Revenues, which the Corporation chooses to include as security for specified First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and/or TELA/Other Tier Obligations pursuant to a Supplemental Agreement as provided in the Master Trust Agreement. Additional Obligation Security does not include a Toll Equity Loan Agreement.

"Additional Obligations" – any First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations issued after the issuance and initial delivery of the 2020 Bonds.

"Annual Budget" – the budget adopted or in effect for each Fiscal Year as provided in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Budget," as may be amended.

"Amended and Restated Toll Equity Loan Agreement" – the original Toll Equity Loan Agreement executed between the Corporation and TxDOT originally entered into in July of 2013 in connection with the financing of the Initial Project as further amended by the first amendment, second amendment and concurrently with the third amendment, the Corporation and TxDOT entered into the Amended and Restated Toll Equity Loan Agreement which amended and restated (and superseded) the original Toll Equity Loan Agreement and the first, second and third amendments thereto.

"Assumed Variable Rate" – in the case of:

(a) Obligations bearing interest at a Variable Rate, the greater of

(1) the average interest rate on such Obligations for the most recently completed sixty (60) month period or the period such Obligations have been Outstanding if it is less than sixty (60) months, or

(2) the rate to be determined pursuant to clause (b) below assuming the Outstanding Obligations bearing interest at a Variable Rate were being issued on the date of calculation; and

(b) proposed Additional Obligations to be issued at a Variable Rate

(1) on the basis that, in the opinion of Bond Counsel to be delivered at the time of the issuance thereof, such Additional Obligations will be Tax-Exempt Obligations, the greater of (i) the average of the Security Industry and Financial Markets Association Municipal Swap Index ("SIFMA Index") for the twelve (12) month period ending seven (7) days preceding the date of calculation plus 100 basis points, or (ii) the average of the SIFMA Index for the sixty (60) month period ending seven (7) days preceding the date of calculation plus 100 basis points; or

(2) on a basis other than as described in clause (1), the greater of (i) the average of the London Interbank Offered Rate ("LIBOR") for the time period most closely resembling the reset period for the Additional Obligations for the twelve (12) month period ending seven (7) days preceding the date of calculation plus 100 basis points, or (ii) the average of LIBOR for the time period most closely resembling the reset period for the Additional Obligations for the sixty(60) month period ending seven (7) days preceding the date of calculation plus 100 basis points; and

provided that if the SIFMA Index or LIBOR shall cease to be published, the index to be used in its place shall be that index which the Corporation, in consultation with the Financial Consultant, determines most closely replicates such index, as set forth in a certificate of a Corporation Representative filed with the Trustee. Notwithstanding the foregoing, in no event shall the Assumed Variable Rate be in excess of the maximum interest rate allowed by law on obligations of the Corporation.

"Balloon Indebtedness" – a series of Obligations of which 25% or more of the original principal matures or is otherwise due in the same annual period and is not required by the documents pursuant to which such Obligations were issued to be amortized by payment or redemption prior to that annual period (excluding any contingent mandatory redemptions), provided that such Obligations will not constitute Balloon Indebtedness and will be assumed to amortize in accordance with its stated terms if the Trustee is provided a certificate of a Corporation Representative certifying that such Obligations are not to be treated as Balloon Indebtedness.

"Bankruptcy Related Event" – (a) an involuntary proceeding shall be commenced or an involuntary petition shall be filed seeking (i) if applicable, liquidation, receivership, reorganization or other relief in respect of the Corporation or any of its debts, or of a substantial part of the assets of the Corporation, under any Insolvency Law, or (ii) the appointment of a receiver, trustee, liquidator, custodian, sequestrator, conservator or similar official for the Corporation or for a substantial part of the assets of the Corporation, and, in any case referred to in the foregoing subclauses (i) and (ii), such proceeding or petition shall continue undismissed for 60 days or an order or decree approving or ordering any of the foregoing shall be entered; or (b) the Corporation shall (i) apply for or consent to the appointment of a receiver, trustee, liquidator, custodian, sequestrator, conservator, or similar official for the Corporation or for a substantial part of the assets of the System or the Corporation, or (ii) become unable to pay its debts generally as they become due, or (iii) make a general assignment for the benefit of creditors, or (iv) be adjudicated a bankrupt or insolvent, or (v) commence a voluntary case under any Insolvency Law or file a voluntary petition seeking liquidation, reorganization, an arrangement with creditors or an order for relief or otherwise seeking to take advantage of any Insolvency Law or admit the material allegations of a petition filed against the Corporation in any proceeding referred to in the foregoing clauses of this definition, or (vi) take any action for the purpose of effecting any of the foregoing.

"Bond Counsel" – A firm of attorneys of nationally recognized standing in the field of law relating to municipal bond law and the exemption from federal income taxation of interest on state or local bonds, selected by the Corporation.

"Bond Insurer" – The municipal bond insurance company or companies, if any, which have issued a municipal bond insurance policy or policies insuring the scheduled payment of principal and interest of a Series of Obligations.

"Bond Insurance Policy" – an insurance policy issued upon the initial issuance of the Obligations with the consent of the Corporation by a Bond Insurer insuring or guaranteeing the payment of principal of and interest on any Obligations.

"Book-Entry Obligations" – all of the Obligations or those Obligations of a particular lien subject to the Book-Entry-Only System.

"Book-Entry-Only System" – a system similar to the system described herein pursuant to which Obligations are registered in book-entry form.

"Business Day" – Any day other than a Saturday or a Sunday or a day on which banking institutions are required or authorized by law or executive order to remain closed in the State or the City of New York or in the city in which the designated office of the Trustee or the Securities Depository is located or the New York Stock Exchange is closed.

"Capitalized Interest Account" – any capitalized interest account established (i) in connection with the issuance of the Obligations issued for the Initial Project or (ii) under subparagraph (g) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," "– Issuance of Second Tier Obligations," and "– Issuance of Subordinate Tier Obligations" within an Interest Account or the Construction Fund, as the case may be, funded in whole or in part with proceeds from the sale of the Obligations issued for the Initial Project or Additional Obligations for the purpose, to the extent permitted by law, of paying all or a portion of the debt service on the Obligations issued for the Initial Project or such Additional Obligations, as the case may be, during the applicable Construction and Ramp-Up Period.

"Code" – The Internal Revenue Code of 1986, as amended.

"Commission" – the Texas Transportation Commission and its successors and assigns.

"Commission Rate Covenant" – the toll rate covenants of the Commission as set forth in the Toll Rate Agreement.

"Completion Obligations" – the First Tier Obligations and/or the Subordinate Tier Obligations issued pursuant to subparagraph (j) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations" and/or "–Issuance of Subordinate Tier Obligations."

"Construction Fund" – the Construction Fund created and established by the Trust Agreement.

"Construction and Ramp-Up Period" – the period (i) commencing with the delivery of Obligations issued for the Initial Project and ending thirty-six (36) months after Substantial Completion of the Initial Project or (ii) commencing with the delivery of any Additional Obligations to finance the Costs of any additional System Segment and ending thirty-six (36) months after Substantial Completion of such System Segment.

"Corporation" – The Grand Parkway Transportation Corporation and its successors and assigns.

"Corporation-Held Obligations" – Obligations owned by or held in the name of the Corporation or its designee or held by the Trustee for the account of the Corporation or its designee.

"Corporation Representative" – the President or the Secretary/Treasurer of the Board of Directors of the Corporation, the Deputy Director of the Innovative Financing/Debt Management Office of the Department or such other individuals designated by the Corporation to perform the duties of a Corporation Representative under the Master Trust Agreement, each as evidenced by a written signature identification and incumbency certificate, furnished to the Trustee, signed on behalf of the Corporation by the President, any Vice President, the Secretary/Treasurer or any Assistant Secretary of the Corporation.

"Cost(s)" – all obligations and expenses and all items of cost with respect to any project or facility and include all costs related to such project or facility set forth below or as otherwise authorized to be incurred or paid under the Acts or State law. For the purpose of the Trust Agreement, the term "cost" when used with respect to any project or facility shall mean and include all costs related to such project or facility, and, without intending thereby to limit or restrict any such definition, shall include the following:

(a) obligations incurred for labor and to contractors, builders and materialmen in connection with the construction of a facility or any part thereof, and obligations incurred for machinery and equipment;

(b) payments to owners and others, for real property, or interests therein, or for options or other property or contractual rights;

(c) all expenses of every kind or character incurred in the acquisition of real property, including all costs and expenses of whatever kind in connection with the exercise of the power of condemnation, and including the cost of title searches and reports, abstracts of title, title certificates and opinions, title guarantees, title insurance policies, appraisals, negotiations and surveys;

(d) the amount of any damages or claimed damages incident to or consequent upon the construction of a facility; also the cost of any litigation and amounts paid by court order or upon settlement of any litigation or of any claim (although not litigated) of any kind during construction or of any claim arising during or out of or related to construction of a facility;

(e) as to toll collection equipment, it is recognized that some manufacturers of such equipment will not sell such equipment outright, and that some manufacturers will sell it; but that it will not be known, until bids are received by the Corporation for the acquisition of such equipment, which manufacturer will offer the most advantageous terms to the Corporation. The acquisition of toll collection equipment is hereby determined and declared to be a capital expenditure, and a proper "cost". It is specially provided, however, that if, in the discretion of the Corporation, it will be to the advantage of the Corporation to do so, and upon the written recommendation of the General Engineering Consultant, the Corporation may enter into lease-purchase or lease-rental agreements for the acquisition of such equipment with a term not to exceed three years from the date of acceptance of such equipment by the Corporation. In such event the Corporation shall so advise the Trustee, and the Trustee shall set aside and retain the amounts required for the payments under such agreements in the Construction Fund, and shall make such payments as so required, upon requisitions as provided for in the Master Trust Agreement. Any such payments shall constitute proper items of "cost" for all purposes;

(f) the cost of any necessary indemnity and surety bonds, the cost of all fidelity bonds, the fees and expenses of the Trustee and the Paying Agent, and premiums on all insurance deemed necessary and advisable by the Corporation, until one year after the completion of construction thereof;

(g) the cost of borings and other preliminary investigations to determine foundation or other conditions, all fees, costs, and expenses necessary or incident to determining the feasibility and practicability of constructing a facility, and all fees, costs, and expenses of engineers and others for making traffic studies, surveys, and estimates, and all fees, costs, and expenses of engineering services, plans, specifications, surveys, and estimates of cost and revenues, and all costs of supervising construction, as well as for the performance of all other duties of engineers in relation to the construction of a facility or the issuance of bonds therefor;

(h) the cost of preparing and issuing Obligations, including refunding Obligations, and all legal, accounting and other professional expenses and fees and financing charges in connection with any Obligations and/or any facility, and expenses of administration properly chargeable to the construction of a facility, including salaries and all payments and deductions as provided by law pertaining to retirement system;

(i) the cost of restoring, repairing and placing in its original condition, as nearly as practicable, all public or private property damaged or destroyed in the construction of a facility, or the amount paid by the Corporation as compensation for such damage or destruction, and all costs lawfully incurred or damages lawfully payable, with respect to the restoration, relocation, removal, reconstruction or duplication of property or facilities in connection with or made necessary or caused by the construction of a facility, and the cost of building facilities to connect land severed by a facility or severance damages paid in lieu of such facilities;

(j) any obligation or expense heretofore or hereafter incurred by the Corporation in connection with any of the foregoing items of cost, and the reimbursement of any obligations or expenses incurred in connection with any of the foregoing items of cost;

(k) utility relocations, buildings and other structures, fencing, landscaping, illumination, communication systems, and safety devices; and

(1) all other items of cost and expense not elsewhere in this definition specified, incident to the construction and equipment of a facility, the financing thereof and the costs of placing a facility in operation, including all costs as defined under the term "Cost" in the Acts and State law.

"Counsel to the Corporation" – an attorney or law firm acting as counsel to the Corporation (who may be general counsel to TxDOT).

"Covered Operating Expense Toll Equity Loan Supported Obligations" – all Toll Equity Loan Supported Obligations for which, at the time of issuance, Junior Operating Expenses for each Fiscal Year such obligations are to be Outstanding are TELA Supported Operating Expenses. Non-Covered Operating Expense Additional Obligations are not Covered Operating Expense Toll Equity Loan Supported Obligations.

"Credit Agreement" – a First Tier Credit Agreement, a Second Tier Credit Agreement or a Subordinate Tier Credit Agreement, as applicable.

"Credit Provider" – any Bank, financial institution, insurance company, surety bond provider, or other public or private entity which provides, executes, issues, or otherwise is a party to or provider of a Credit Agreement and shall include TxDOT as the provider of the Toll Equity Loan Agreement.

"Debt Service Funds" – the First Tier Debt Service Fund, the Second Tier Debt Service Fund, the Subordinate Tier Debt Service Fund and, when appropriate, the TELA/Other Tier Payment Fund.

"Debt Service Requirements" – for any annual period (any Fiscal Year, or any other consecutive twelve calendar month period), the aggregate amount of interest on and Principal of Outstanding Obligations specified for the purposes for which Debt Service Requirements is to be calculated, other than any Credit Agreement, and, with respect to any Credit Agreement, the Payment Obligations relating thereto due in such period, as limited and calculated in the following manner; provided, however, that this definition shall never be applied in a manner which results in Debt Service Requirements for any Fiscal Year being an amount that is less than the aggregate amount actually required to be paid in such Fiscal Year with respect to Outstanding Obligations:

(a) Except as modified below, (i) for any Fiscal Year while the Corporation's Fiscal Year is the same as TxDOT's fiscal year, the aggregate amount of interest on and Principal of the Obligations, including Payment Obligations, which was paid or redeemed or is scheduled to accrue and be paid or redeemed on September 1 of such Fiscal Year shall be excluded from the calculation of debt service for such Fiscal Year, and the aggregate amount of interest on and Principal of the Obligations, including Payment Obligations, which was paid or redeemed or is scheduled to accrue and be paid or redeemed on September 1 immediately following such Fiscal Year shall be included in the calculation of debt service for such Fiscal Year; and (ii) for any consecutive twelve calendar month period other than the TxDOT's fiscal year, whether or not such period constitutes any future Corporation Fiscal Year, the aggregate amount of interest on and Principal of the Obligations, including Payment Obligations, which was paid or redeemed or is scheduled to accrue and be paid or redeemed during such consecutive twelve month period;

(b) As to any annual period prior to the date of any calculation, such requirements shall be calculated solely on the basis of Obligations which were Outstanding as of the first day of such period; and as to any future year such requirements shall be calculated solely on the basis of Obligations Outstanding as of the date of calculation plus any Obligations then proposed to be issued as Additional Obligations;

(c) Notwithstanding the foregoing, all amounts which are deposited to the credit of the Interest Accounts, including any Capitalized Interest Accounts created therein or any Capitalized Interest Accounts created in the Construction Fund from original proceeds from the sale of any First Tier Obligations, Second Tier Obligations or Subordinate Tier Obligations, as applicable, any investment income from the Interest Accounts, the Redemption Accounts, the Reserve Accounts, any Capitalized Interest Accounts and the Construction Fund which is deposited to the credit of the Interest Accounts or from any other lawfully available source (other than from the Revenue Fund and advances under any Toll Equity Loan Agreement), and which are used or scheduled to be used to pay interest on such Obligations during any annual period, shall be deemed to reduce the Debt Service Requirements for any such annual period to the extent of such deposits; and the amount of such deposits shall be excluded from and shall not constitute Debt Service Requirements for any such annual period;

(d) If any of the Obligations or proposed Additional Obligations bear interest at a Variable Rate, the interest rate on such Obligations or Additional Obligations for all periods for which the interest rate is not known, shall be assumed and deemed to be the Assumed Variable Rate;

(e) If any of the Obligations or proposed Additional Obligations constitute Balloon Indebtedness or Short-Term Indebtedness, then such amounts thereof as constitute Balloon Indebtedness or Short-Term Indebtedness shall be treated as if such Obligations are to be amortized in substantially equal annual installments of Principal and interest over the useful life of the improvements financed with the proceeds of such Balloon Indebtedness or Short-Term Indebtedness as calculated by, and set forth in, a certificate of a Corporation Representative. Anything to the contrary herein notwithstanding, during the annual period preceding any annual period in which 25% or more of the original Principal of such Balloon Indebtedness is payable or, in the case of Short-Term Indebtedness, in each annual period, all of the Principal thereof shall be considered to be due on the Stated Maturity or due date of such Balloon Indebtedness or Short-Term Indebtedness unless the Corporation provides to the Trustee, prior to the beginning of such annual period, a certificate of a Financial Consultant certifying that, in its judgment, the Corporation will be able to refund such Balloon Indebtedness or Short-Term Indebtedness through the issuance of Additional Obligations, in which event the Balloon Indebtedness or Short-Term Indebtedness shall be amortized over the term of such proposed refunding Additional Obligations and shall be deemed to bear the interest rate specified in the certificate of the Financial Consultant;

(f) Notwithstanding anything to the contrary in clause (e) above, with respect to Short-Term Indebtedness that is part of a commercial paper or similar program of the Corporation, the amount of debt service of such Short-Term Indebtedness taken into account during any annual period shall be equal to the Principal component of debt service calculated using the outstanding Principal amount of such Short-Term Indebtedness on the date of calculation amortized over the period ending on the date of the maximum maturity date under such program on a level debt service basis at an interest rate deemed to be the Assumed Variable Rate determined as if such Short-Term Indebtedness were Obligations bearing interest at a Variable Rate; and

(g) Notwithstanding anything to the contrary contained in clauses (a) through (e) above, the Debt Service Requirements for each annual period for a series of Additional Obligations issued (i) in conjunction with one or more Qualified Credit Agreements shall be deemed to be the total net payments which a Corporation Representative certifies the Corporation expects to pay in such annual period with respect to such series of Additional Obligations after taking into account the Principal and interest payments and the Payment Obligations under such Qualified Credit Agreements made or to be made in such annual period and the amounts received or to be received from the Qualified Credit Provider under such Qualified Credit Agreement in such annual period or (ii) as a series of variable rate obligations, or one or more maturities within a series, of equal par amounts, issued simultaneously with inverse floating interest rates providing a composite fixed interest rate for such Obligations taken as a whole, such composite fixed rate shall be used in determining the Debt Service Requirement with respect to such Obligations;

(h) Debt Service Requirements shall exclude any termination or similar payments owed or paid by the Corporation under any Credit Agreement.

"Defeased Debt" – as defined in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Release of Trust Agreement" and any applicable Supplemental Agreement.

"Department" or "TxDOT" – the Texas Department of Transportation and its successors and assigns.

"Depositary" – any Bank selected by the Corporation as a depositary of moneys under the provisions of the Master Trust Agreement, which may include the Trustee and, with respect to the Senior Operation and Maintenance

Fund or the Junior Operation and Maintenance Fund, the Texas Comptroller of Public Accounts to the extent permitted by law.

"Design-Build Contract" – the Development Agreement Grand Parkway Project bearing contract No. 86-XXDB002, with respect to Segments F-1, F-2 and G, dated as of March 22, 2013, as amended from time to time, between TxDOT and the Zachry-Odebrecht Parkway Builders and assigned by TxDOT to the Corporation.

"Draw Request" – as defined in the Master Trust Agreement.

"Eighth Supplemental Agreement" – the Eighth Supplemental Agreement, dated as of February 1, 2020, between the Corporation and the Trustee.

"Estimated Date of Completion" – for any System Segment, the estimated date on which the System Segment will be placed in operation.

"Event of Default" – as defined in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Events of Default."

"Favorable Opinion" – an opinion of Bond Counsel addressed to the Corporation for the related Series of Obligations, and the Trustee to the effect that the action proposed to be taken is authorized or permitted by the Acts and the Trust Agreement and will not adversely affect the excludability from gross income for federal income tax purposes of interest on a Series of Obligations.

"Fifth Supplemental Agreement" – the Fifth Supplemental Agreement, dated as of December 7, 2016, between the Corporation and the Trustee.

"Financial Consultant" – a nationally recognized firm of independent professional financial consultants knowledgeable in the financial operation of toll roads and having a favorable reputation for skill and experience in the field of financial consultation relating to toll roads.

"Financial Obligation" – (a) debt obligation; (b) derivative instrument entered into in connection with, or pledged as security or a source of payment for, an existing or planned debt obligation; or (c) guarantee of a debt obligation or any such derivative instrument; provided that "financial obligation" shall not include municipal securities (as defined in the Securities Exchange Act of 1934, as amended) as to which a final official statement (as defined in the Rule) has been provided to the Municipal Securities Rulemaking Board consistent with the Rule.

"Financing Documents" – the Master Trust Agreement, the Amended and Restated Toll Equity Loan Agreement, the Master Custodial Agreement (and related joinder agreements), the Amended and Restated Project Agreement, the Toll Rate Agreement, the Obligations issued for the Initial Project, the Sixth Supplemental Agreement, the First Supplemental Agreement and the Second Supplemental Agreement.

"First Supplemental Agreement" – the First Supplemental Agreement, dated as of August 1, 2013, between the Corporation and the Trustee.

"First Tier Credit Agreement" – collectively, an obligation entered into on a parity with Outstanding First Tier Obligations in the form of a loan agreement, revolving credit agreement, agreement establishing a line of credit, letter of credit, reimbursement agreement, insurance contract, commitments to purchase obligations, purchase or sale agreement, interest rate swap, cap and floor agreement, or commitment or other contract or agreement authorized, recognized and approved by the Corporation as a First Tier Credit Agreement, whether authorized or approved in anticipation of, simultaneously with, or subsequent to, the authorization of the First Tier Obligations in connection with which it is executed.

"First Tier Debt Service Fund" – the First Tier Debt Service Fund created by the Master Trust Agreement.

"First Tier Debt Service Reserve Fund" – the First Tier Debt Service Reserve Fund created by the Master Trust Agreement and the Eighth Supplement.

"First Tier Interest Account" – an account in the First Tier Debt Service Fund created by the Master Trust Agreement.

"First Tier Non-TELA Obligations" – any Series of First Tier Obligations and any First Tier Credit Agreement that are not supported by a Toll Equity Loan Agreement.

"First Tier Obligations" – the Series 2013A Bonds, the 2020A Bonds, the Series 2020C Bonds and, unless otherwise specifically stated, any bond, bonds, note, notes, other obligation or obligations, including any First Tier Credit Agreement, issued, incurred or entered into pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations" as First Tier Obligations, or all of the foregoing, as the case may be, authorized by law and issued under and secured by the provisions of the Master Trust Agreement and any Supplemental Agreement.

"First Tier Payment Obligations" – unless otherwise specifically stated in a Supplemental Agreement, all amounts payable by the Corporation under a First Tier Credit Agreement less any amounts of Principal or interest payable with respect to any First Tier Obligations pledged under a First Tier Credit Agreement as collateral for the amounts due thereunder and any payment obligations evidenced by a First Tier Obligation; and all such First Tier Payment Obligation payments shall be deemed to constitute Principal payments of First Tier Obligations, and shall be paid from the First Tier Redemption Account as provided in the Master Trust Agreement; provided, however, that, if so provided in a First Tier Credit Agreement or in the proceedings approved by the Corporation in connection therewith, some or all of the amounts payable under a First Tier Credit Agreement may be designated to be Second Tier Payment Obligations or Subordinate Tier Payment Obligations.

"First Tier Redemption Account" – an account in the First Tier Debt Service Fund created by the Master Trust Agreement.

"First Tier Reserve Account" – an account in the First Tier Debt Service Fund created by the Trust Agreement.

"First Tier Reserve Requirement" – the lesser of (i) the maximum annual Debt Service Requirements of all the First Tier Obligations, (ii) 1.25 times the average annual Debt Service Requirements of all First Tier Obligations or (iii) ten (10) percent of the aggregate principal amount of the Outstanding First Tier Obligations, as determined on the date each Series of First Tier Obligations is issued.

"First Tier TELA Obligations" – any Series of First Tier Obligations and any First Tier Credit Agreement that are supported by a Toll Equity Loan Agreement.

"Fiscal Year" – presently, September 1 through August 31 of the following year; or any other period hereafter designated by the Corporation as its Fiscal Year in accordance with law.

"Fitch" – Fitch Ratings, or, if such corporation is dissolved or liquidated or otherwise ceases to perform securities rating services, such other nationally recognized securities rating agency as may be designated in writing by a Corporation Representative.

"General Counsel" – general counsel to the Corporation acting through the Office of General Counsel to the Department.

"General Engineering Consultant" or "GEC" – an engineer or engineering firm or corporation at the time employed by the Corporation pursuant to the provisions of subparagraph (a) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Employment of General Engineering Consultant and Traffic Consultant" to carry out the duties imposed by the Master Trust Agreement on the General Engineering Consultant.

"Governmental Lender" – a federal agency or instrumentality, federal government-sponsored enterprise or federal government corporation.

"Government Obligations" – as defined in subparagraph (e) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Release of Trust Agreement."

"Grand Parkway Enhancement Fund" – the Grand Parkway Enhancement Fund created by the Trust Agreement.

"Grand Parkway Project" – the State Highway 99 (Grand Parkway) is the proposed approximately 184 mile circumferential highway traversing seven counties and encircling the Greater Houston MSA region as set forth in Exhibit A to the Market Valuation Waiver Agreement, as may be amended from time to time.

"Initial Project" – the initial project of the Grand Parkway System, financed through the issuance of the Obligations issued for the Initial Project under the Trust Agreement and the Second Supplemental Agreement that includes Segments D (from 0.72 miles north of Kingsland Boulevard to 0.30 miles north of Colonial Parkway), E, F-1, F-2 and G and a portion of the Costs related to the development, acquisition and construction of possible extensions and expansions of the Grand Parkway System or the Grand Parkway Project, all as described in the General Engineering Consulting report or the design-build contract relating thereto.

"Initial Toll Equity Note" – the note entitled "Grand Parkway Transportation Corporation Grand Parkway System TELA/Other Tier Toll Revenue Note, Series 2013 (Toll Equity Loan Agreement)" authorized by the Second Supplemental Agreement and issued as a TELA/Other Tier Debt Obligation to evidence a Toll Equity Loan, as may be amended or supplemented pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – TELA/Other Tier Obligations."

"Interest Accounts" – the First Tier Interest Account, the Second Tier Interest Account and the Subordinate Tier Interest Account.

"Junior Net Revenues" – with respect to any consecutive 12-month period or any Fiscal Year, the Senior Net Revenues for such period or year, less the Debt Service Requirements for such period or year for all then Outstanding First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations and less the Junior Operating Expenses for any such period or year.

"Junior Operating Expenses" – consisting of TELA Supported Junior Operating Expenses and Non-TELA Supported Junior Operating Expenses, the Corporation's reasonable and necessary accrued operating expenses of maintaining, repairing and operating (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Corporation, which includes, without limiting the generality of the foregoing, any repair or replacement of any part of such portions of the System relating to any insurance or condemnation proceeds, expenses (including reasonably allocated portions thereof) for toll collection, all premiums for insurance and payments into any self-insurance reserve fund, all administration and engineering expenses relating to operation of (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Corporation, fees and expenses of the Traffic Consultant, the General Engineering Consultant, the Trustee and of the Paying Agents; Policy Costs, legal expenses, expenses for Public Safety Officers and any other expenses required to be paid by the Corporation as shown in the Annual Budget for (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Corporation. Any allocation of expenses between TELA Supported Junior Operating Expenses and Non-TELA Supported Junior Operating Expenses shall be on a consistent and rational basis.

"Junior Operation and Maintenance Fund" – the Junior Operation and Maintenance Fund created by the Master Trust Agreement.

"Major Maintenance Expenses" – the reasonable and necessary expenses (but excluding non-cash expenses such as depreciation, depletion and amortization) of repair and maintenance of the System, including the Initial Project, that do not occur at annual or shorter periods, as determined by the Corporation, including, without limiting the generality of the foregoing, periodic roadway resurfacing and repair, replacement of toll collection, vehicle identification, toll integration and video enforcement equipment, and all administrative and engineering expenses relating to such expenses and any other maintenance expenses required to be paid by the Corporation; provided, however, that Major Maintenance Expenses shall exclude Operating Expenses.

"Major Maintenance Fund" – the Major Maintenance Fund created by the Master Trust Agreement.

"Major Maintenance Requirement" – an amount each Fiscal Year as recommended by the General Engineering Consultant.

"Market Valuation Waiver Agreement" – the Market Valuation Waiver Agreement for SH 99 (Grand Parkway) among TxDOT and each of Brazoria County, Texas, Chambers County, Texas, Fort Bend County, Texas, Galveston County, Texas, Harris County, Texas, Liberty County, Texas, and Montgomery County, Texas, effective as of March 25, 2009, as amended, supplemented or superseded by any similar agreement among such parties.

"Master Custodial Agreement" – the Master Lockbox and Custodial Account Agreement dated as of November 9, 2007 between TxDOT and The Bank of New York Mellon Trust Company, N.A., as successor to the Bank of New York Trust Company, N.A., as custodian, amended by the Amendment No. 1 to such agreement, dated as of September 22, 2009 and Amendment No. 2 to such agreement, dated as of September 2, 2012 and as extended by a letter agreement dated November 2, 2012, and the various joinder agreements thereto, all as may be further amended from time to time.

"Master Trust Agreement" – The Trust Agreement dated as of August 1, 2013 between the Corporation and U.S. Bank National Association, as trustee, as supplemented and amended from time to time.

"Maximum Available Aggregate Amount" – has the meaning assigned to such term in the applicable Toll Equity Loan Agreement.

"Maximum Available Annual Amount" – has the meaning assigned to such term in the applicable Toll Equity Loan Agreement.

"Moody's" – Moody's Investors Service, Inc. or any successor thereto maintaining a rating on the Obligations.

"Non-Appropriation Event" – the failure of TxDOT to honor a Draw Request by the Trustee for an advance under a Toll Equity Loan Agreement due solely to the fact that funds had not been appropriated to TxDOT by the Texas State Legislature in a manner that would allow its use for such purpose.

"Non-Covered Operating Expense Additional Obligations" – any Additional Obligations that are Toll Equity Loan Supported Obligations that (i) provides that the applicable Maximum Available Annual Amount of the related Toll Equity Note and Toll Equity Loan Agreement is not sufficient, during any Fiscal Year or Years, to pay all TELA Supported Junior Operating Expenses after provision for annual Debt Service Requirements of all Toll Equity Loan Supported Obligations or (ii) provides that Junior Operating Expenses are Non-TELA Supported Junior Operating Expenses.

"Non-TELA Supported Junior Operating Expenses" – the Junior Operating Expenses of or allocable to any additional System Segments (or portions thereof) as determined by the Corporation and which are not supported by a Toll Equity Loan Agreement.

"Non-Toll Equity Loan Supported Obligations" – any Series of First Tier Obligations, Second Tier Obligations or Subordinate Tier Obligations, respectively, which are not Toll Equity Loan Supported.

"Obligation" and "Obligations" – the 2020 Bonds, the 2018 Bonds, the Obligations issued for the Initial Project, the 2014 TIFIA Note, the Series 2016 Bonds and any Additional Obligations.

"Obligations issued for the Initial Project" – the Series 2013A Bonds, issued as First Tier Non-TELA Obligations, the Series 2013B Bonds, the Series 2013C Bonds, the Series 2013D Bonds and the Series 2013E Bonds, each issued as Subordinate Tier TELA Obligations and the Initial Toll Equity Note.

"Operating Expenses" – the Senior Operating Expenses and the Junior Operating Expenses.

"Operation and Maintenance Reserve Fund" – the Operation and Maintenance Reserve Fund created by the Master Trust Agreement.

"Operation and Maintenance Reserve Requirement" – the amount equal to one quarter (1/4) of the then current Annual Budget's Operating Expenses.

"Outstanding" – when used with reference to Obligations, at any date of which the amount of the Outstanding Obligations is to be determined, the aggregate of all Obligations secured by the Trust Agreement, except:

(a) Obligations paid, cancelled or delivered to the Paying Agent for cancellation at or prior to such date;

(b) Obligations for the full payment of the Principal of, premium, if any, and interest on which cash shall have been theretofore deposited with the Paying Agent and which (i) shall have matured by their terms, or otherwise shall have become payable, but shall not have been surrendered for payment or (ii) shall have been purchased by the Trustee but shall not have been presented for payment;

(c) Obligations which are deemed paid pursuant to subparagraph (b) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Release of Trust Agreement;" and

(d) Obligations in exchange or in lieu of which other Obligations have been delivered under the Trust Agreement.

"Owner" – (i) the registered owner of any bond, note of other obligation as shown on the Trustee's Obligation registration records and books provided for in the applicable Supplemental Agreement and (ii) the Credit Provider of any Credit Agreement.

"Paying Agent" – the Trustee.

"Payment Obligations" – First Tier Payment Obligations, Second Tier Payment Obligations, Subordinate Tier Payment Obligations and TELA/Other Tier Payment Obligations.

"Permitted Investments" – any security or obligation or combination thereof permitted under the Public Funds Investment Act, Chapter 2256, Texas Government Code, as may be amended from time to time, and the Corporation's duly approved investment policy, including forward purchase agreements and guaranteed investment contracts to the extent permitted by such investment policy.

"Person" – an individual, partnership, corporation (including a business trust), limited or unlimited liability company, joint stock company, trust, unincorporated association, joint venture, governmental authority or other entity.

"Policy Costs" – a periodic fee or charge required to be paid to maintain a Reserve Surety Agreement.

"Principal" – (i) the principal amount of an Obligation or (ii) when used in connection with determining whether owners of a percentage of the principal amount of Outstanding Obligations has given any consent, order, request, direction or other act (1) with respect to any Obligation that evidences one or more financial hedge obligations, the amount, if any, that would be payable by the Corporation if the transaction in respect of which such financial hedge obligations are payable were terminated as of a recent date (within 30 days of the date of determination) specified by the Corporation, and (2) with respect to any other Obligation, means the Outstanding unpaid principal sum or amount of such Obligation.

"Principal Office" – when used with respect to the Trustee, the business office of the Trustee specified in writing by the Trustee to the Corporation as the principal office of the Trustee for the administration of the Master Trust Agreement and, initially, shall be 5555 San Felipe, Suite 1150, Houston, Texas 77056, telephone (713) 235-9208.

"Prior Obligations" – collectively, the Series 2013A Bonds, the Series 2013B Bonds, Series 2013E Bonds, 2014 TIFIA Note, the 2014 TIFIA Loan Agreement, the Initial Toll Equity Note, the Series 2016 Bonds, the 2018 Bonds, the 2019 TIFIA Note and the 2019 TIFIA Loan Agreement.

"Project Agreement" – the Amended and Restated Project Agreement, dated as of May 1, 2018, as supplemented and amended from time to time, between the Corporation and TxDOT relating to the System.

"Project Budget" – the Project Budget as defined and set forth in the applicable Toll Equity Loan Agreement.

"Public Safety Officers" – licensed public safety officers, if any, in the employment of or under contract to TxDOT for the purpose of performing public safety duties in connection with the System.

"Put Obligations" – any Obligations, such as the Series 2018B Bonds, subject to mandatory tender and issued with a fixed interest rate for any Term Fixed Rate Period as designated in each Award Certificate.

"Qualified Credit Agreement" – a First Tier Credit Agreement, a Second Tier Credit Agreement or a Subordinate Tier Credit Agreement, as applicable, entered into with a Qualified Credit Provider.

"Qualified Credit Provider" – a Credit Provider (or its corporate parent as guarantor of its obligations under a Credit Agreement) whose long term debt is rated or whose credit rating is, at the time the Qualified Credit Agreement is entered into, in one of the three highest rating categories by Moody's or S&P or Fitch, without regard to rating sub-categories.

"Rate Stabilization Fund" – the Rate Stabilization Fund created by the Master Trust Agreement as further set forth in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Rate Stabilization Fund."

"Rate Stabilization Fund Obligation" – an agreement providing for the timely payment of moneys to the Corporation.

"Rate Stabilization Fund Requirement" – the amount of $100,000,000 and as provided in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Rate Stabilization Fund.

"Rating Agencies" – any or all of S&P, Moody's and Fitch then providing a rating for the Obligations; and provided that if none of such rating agencies then rates the Obligations, the term "Rating Agencies" shall refer to any national rating agency (if any) which provides such rating.

"Redemption Accounts" – the First Tier Redemption Account, the Second Tier Redemption Account and the Subordinate Tier Redemption Account.

"Reserve Accounts" – the First Tier Debt Service Reserve Fund, the Second Tier Debt Service Reserve Fund, the Third Tier Reserve Fund and the Subordinate Tier Debt Service Reserve Fund as may be applicable in connection with the issuance of Additional Obligations.

"Reserve Surety Agreement" – any substitute for cash and Permitted Investments in any respective Reserve Account as may be provided in a Supplemental Agreement.

"Revenue Fund" – the Revenue Fund created by the Master Trust Agreement.

"Revenues of the System" – (a) the aggregate revenues and all other receipts and income collected, received or derived by the Corporation from the operation of the System in any period, or estimated aggregate revenues and other receipts and income estimated to be collected, received or derived by the Corporation from the operation of the System in any period, including all such revenues, receipts and income assigned to the Corporation by the Commission and the Department pursuant to the Toll Rate Agreement and the Project Agreement, and all investment income from the Revenue Fund, the Senior Operation and Maintenance Fund, the Junior Operation and Maintenance Fund, the Operation and Maintenance Reserve Fund, the Construction Fund (excluding investment income from any Capitalized Interest Account within the Construction Fund and any other investment income from the Construction Fund that is deposited or estimated to be deposited to the credit of the Interest Accounts), the Rate Stabilization Fund, the Major Maintenance Fund and the Grand Parkway Enhancement Fund and (b) any other sources of revenues or funds of the Corporation that the Corporation chooses to designate as "Revenues of the System" pursuant to a Supplemental Agreement or as designated, from time to time, by the Corporation Representative in a written certificate provided to the Trustee. Revenues of the System do not include (i) payments or revenues received by the Corporation or the Trustee from TxDOT pursuant to a Toll Equity Loan Agreement for such Fiscal Year, (ii) the investment income from the Interest Accounts, including any Capitalized Interest Accounts within the Interest Accounts, the Redemption Accounts, the Reserve Accounts, the TELA/Other Tier Payment Fund and any Capitalized Interest Account within the Construction Fund, (iii) any investment income from the Construction Fund which is deposited or estimated to be deposited to the credit of the Interest Accounts and (iv) any of the amounts described above collected or received by the Corporation and required to be paid to TxDOT or other Persons as revenue sharing payments pursuant to the Project Agreement or other agreement.

"Rule" – United States Securities Exchange Commission Rule 15c2-12, as amended from time to time.

"Second Supplemental Agreement" – the Second Supplemental Agreement, dated as of August 1, 2013, between the Corporation and the Trustee.

"Second Tier Credit Agreement" – collectively, an obligation entered into on a parity with Outstanding Second Tier Obligations in the form of a loan agreement, revolving credit agreement, agreement establishing a line of credit, letter of credit, reimbursement agreement, insurance contract, commitments to purchase obligations, purchase or sale agreement, interest rate swap, cap and floor agreement, or commitment or other contract or agreement authorized, recognized and approved by the Corporation as a Second Tier Credit Agreement, whether authorized or approved in anticipation of, simultaneously with, or subsequent to, the authorization of the Second Tier Obligations in connection with which it is executed.

"Second Tier Debt Service Fund" – the Second Tier System Debt Service Fund created by the Master Trust Agreement.

"Second Tier Interest Account" – an account in the Second Tier Debt Service Fund created by the Master Trust Agreement.

"Second Tier Non-TELA Obligations" – any Series of Second Tier Obligations and any Second Tier Credit Agreement that are not supported by a Toll Equity Loan Agreement.

"Second Tier Obligations" – unless otherwise specifically stated, any bond, bonds, note, notes, other obligation or obligations, including any Second Tier Credit Agreement, issued, incurred or entered into pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS - Issuance of Second Tier Obligations" as Second Tier Obligations, or all of the foregoing, as the case may be, authorized by law and issued under and secured by the provisions of the Master Trust Agreement and any Supplemental Agreement.

"Second Tier Payment Obligations" – unless otherwise specifically stated in a Supplemental Agreement, all amounts payable by the Corporation under a Second Tier Credit Agreement less any amounts of Principal or interest payable with respect to any Second Tier Obligations pledged under a Second Tier Credit Agreement as collateral for the amounts due thereunder and any payment obligations evidenced by a Second Tier Obligation; and all such Second Tier Payment Obligation payments shall be deemed to constitute Principal payments of Second Tier Obligations, and shall be paid from the Second Tier Redemption Account as provided in the Master Trust Agreement provided, however, that, if so provided in a Second Tier Credit Agreement or in the proceedings approved by the Corporation in connection therewith, some or all of the amounts payable under a Second Tier Credit Agreement may be designated to be Subordinate Tier Payment Obligations and all payment obligations under a First Tier Credit Agreement which are designated to be Second Tier Payment Obligations shall be treated as and constitute Second Tier Payment Obligations for all purposes under the Master Trust Agreement.

"Second Tier Redemption Account" – an account in the Second Tier Debt Service Fund created by the Master Trust Agreement.

"Second Tier Debt Service Reserve Fund" – the Second Tier Debt Service Reserve Fund created by the Master Trust Agreement and the Eighth Supplement.

"Second Tier Reserve Account" – an account in the Second Tier Debt Service Fund created by the Trust Agreement.

"Second Tier TELA Obligations" – any Series of Second Tier Obligations and any Second Tier Credit Agreement that are supported by a Toll Equity Loan Agreement.

"Securities Depository" – a Person that is registered as a clearing agency under Section 17A of the Securities Exchange Act of 1934 or whose business is confined to the performance of the functions of a clearing agency with respect to exempted securities, as defined in Section 3(a)(12) of such act for the purposes of Section 17A thereof.

"Segments H and I" – means, collectively, Segment H, Segment I-1 and Segment I-2 of the Grand Parkway Project as defined in the Market Valuation Waiver Agreement.

"Senior Net Revenues" – with respect to any consecutive 12-month period or any Fiscal Year, the Revenues of the System in any such period or year, less the Senior Operating Expenses for any such period or year.

"Senior Operating Expenses" – the Corporation's reasonable and necessary accrued operating expenses of maintaining, repairing and operating the System, including Segments H and I pursuant to the Sixth Supplemental Agreement, but excluding (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Corporation, which includes, without limiting the generality of the foregoing, any repair or replacement of any part of such portions of the System relating to any insurance or condemnation proceeds, expenses (including reasonably allocated portions thereof) for toll collection, all premiums for insurance and payments into any self-insurance reserve fund, all administration and engineering expenses relating to operation of the System, excluding (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Corporation, fees and expenses of the Traffic Consultant, the General Engineering Consultant, the Trustee and of the Paying Agents; Policy Costs, legal expenses, expenses for Public Safety Officers and any other expenses required to be paid by the Corporation as shown in the Annual Budget for the System, including Segments H and I pursuant to the Sixth Supplemental Agreement, excluding (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Corporation.

"Senior Operation and Maintenance Fund" – the Senior Operation and Maintenance Fund created by the Master Trust Agreement.

"Series" – one or more Obligations issued at the same time and having the same parity insofar as the lien of the Trust Estate is concerned and any Obligations thereafter authenticated and delivered in lieu of or in substitution for such Obligations, or sharing some other common term or characteristic, and designated as a separate Series of Obligations.

"Series 2013A Bonds" – the Grand Parkway Transportation Corporation Grand Parkway System First Tier Toll Revenue Bonds, Series 2013A issued in the original aggregate principal amount of $200,000,000.

"Series 2013B Bonds" – the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Bonds, Series 2013B (TELA Supported) issued in the original aggregate principal amount of $1,414,934,856.15.

"Series 2013C Bonds" – the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Tender Bonds, Series 2013C (TELA Supported – Interim Construction Financing) issued in the original aggregate principal amount of $ 836,440,000.

"Series 2013D Bonds" – the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Tender Bonds, Taxable Series 2013D (TELA Supported) issued in the original aggregate principal amount of $106,890,000.

"Series 2013E Bonds" – the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Bonds, Taxable Series 2013E (TELA Supported) issued in the original aggregate principal amount of $361,810,000.

"Series 2016 Bonds" – the Grand Parkway Transportation Corporation Grand Parkway System Subordinate Tier Toll Revenue Refunding Bonds, Series 2016 (TELA Supported) in the original aggregate principal amount of $83,775,000.

"Short-Term Indebtedness" – all Obligations that mature in less than 365 days and are issued as Short-Term Indebtedness. In the event a Credit Provider has extended a line of credit or the Corporation has undertaken a commercial paper or similar program, only amounts actually borrowed under such line of credit or program and repayable in less than 365 days shall be considered Short-Term Indebtedness and the full amount of such commitment or program shall not be treated as Short-Term Indebtedness to the extent that such facility remains available but undrawn.

"Sixth Supplemental Agreement" – the Sixth Supplemental Agreement, which was executed pursuant to authority reserved by the Corporation under the Master Trust Agreement and approved by a resolution of the Corporation, as may be amended or supplemented from time to time.

"Standard & Poor's" or "S&P" – Standard & Poor's Ratings Services, a Standard & Poor's Financial Services LLC business, or, if such corporation is dissolved or liquidated or otherwise ceases to perform securities rating services, such other nationally recognized securities rating agency as may be designated in writing by a Corporation Representative.

"State" – The State of Texas.

"Stated Maturity" – for any Obligation, the scheduled maturity date or final mandatory sinking fund redemption date of such Obligation.

"Subordinate Tier Credit Agreement" – collectively, an obligation entered into on a parity with the Outstanding Subordinate Tier Obligations in the form of a loan agreement, revolving credit agreement, agreement establishing a line of credit, letter of credit, reimbursement agreement, insurance contract, commitments to purchase obligations, purchase or sale agreement, interest rate swap, cap and floor agreement, or commitment or other contract or agreement authorized, recognized and approved by the Corporation as a Subordinate Tier Credit Agreement, whether authorized or approved in anticipation of, simultaneously with, or subsequent to, the authorization of the Subordinate Tier Obligations in connection with which it is executed.

"Subordinate Tier Debt Service Fund" – the Subordinate Tier Debt Service Fund created by the Master Trust Agreement.

"Subordinate Tier Debt Service Reserve Fund" – the Subordinate Tier Debt Service Reserve Fund created by the Master Trust Agreement and the Eighth Supplement.

"Subordinate Tier Interest Account" – an account in the Subordinate Tier Debt Service Fund created by the Trust Agreement.

"Subordinate Tier Non-TELA Obligations" – any Series of Subordinate Tier Obligations and any Subordinate Tier Credit Agreement that are not supported by a Toll Equity Loan Agreement.

"Subordinate Tier Obligations" – the Series 2013B Bonds, the Series 2013E Bonds, the Series 2014B Bonds, the Series 2014C Bonds and, unless otherwise specifically stated, any bond, bonds, note, notes, other obligation or obligations, including any Subordinate Tier Credit Agreement, issued, incurred or entered into pursuant to

"SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Subordinate Tier Obligations" as Subordinate Tier Obligations, or all of the foregoing, as the case may be, authorized by law and issued under and secured by the provisions of the Master Trust Agreement and any Supplemental Agreement.

"Subordinate Tier Payment Obligations" – unless otherwise specifically stated in a Supplemental Agreement, all amounts payable by the Corporation under a Subordinate Tier Credit Agreement less any amounts of Principal or interest payable with respect to any Subordinate Tier Obligations pledged under a Subordinate Tier Credit Agreement as collateral for the amounts due thereunder and any payment obligations evidenced by a Subordinate Tier Obligation; and all such Subordinate Tier Payment Obligation payments shall be deemed to constitute Principal payments of Subordinate Tier Obligations, and shall be paid from the Subordinate Tier Redemption Account or sub-account therein as provided in the Master Trust Agreement and specified in a Supplemental Agreement; and all payment obligations under a First Tier Credit Agreement or Second Tier Credit Agreement which are designated to be Subordinate Tier Payment Obligations shall be treated as and constitute Subordinate Tier Payment Obligations for all purposes under the Master Trust Agreement.

"Subordinate Tier Redemption Account" – an account in the Subordinate Tier Debt Service Fund created by the Trust Agreement.

"Subordinate Tier Reserve Account" – an account in the Subordinate Tier Debt Service Fund created by the Trust Agreement.

"Subordinate Tier TELA Obligations" – any Series of Subordinate Tier Obligations and any Subordinate Tier Credit Agreement that are supported by a Toll Equity Loan Agreement.

"Substantial Completion" – as evidenced by the certificate of a Corporation Representative, pursuant to the Master Trust Agreement, (i) with respect to the Initial Project, the date which Segments F-1, F-2 and G reach "substantial completion" under the terms of the development agreement related to the acquisition and construction of such portions of the Initial Project and (ii) with respect to any additional System Segment financed with Additional Obligations, the date which such additional System Segments reach "substantial completion" under the terms of the development or construction agreement related to the acquisition and construction of such additional System Segments.

"Supplemental Agreement" or "Supplement" – any supplemental agreement to the Master Trust Agreement, now or hereafter duly authorized and entered into in accordance with the Master Trust Agreement, together with, to the extent applicable, the related award certificate of the Corporation.

"System" or "Grand Parkway System" – the portions of the Grand Parkway Project designated by the Corporation as the System including the Initial Project, Segments H and I and any System Segment or other toll project or facilities added to or grouped with, or otherwise constituted and declared to be part of the System by the Corporation in accordance with State law and applicable agreements and pursuant to an Order or Orders adopted by the Commission.

"System Segment" – the meaning given such term in the Master Trust Agreement.

"Tax-Exempt Obligations" – any Obligation the interest on which is excludable from gross income for federal income tax purposes.

"TELA Coverage Deficit" – the meaning given such term in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – TELA/Other Tier Obligations."

"TELA Draw Clearing Account" – the meaning given such term as provided in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Toll Equity Loan Agreement Draw Requests."

"TELA/Other Tier Credit Agreement" – the Toll Equity Loan Agreement.

"TELA/Other Tier Debt Obligations" – a Toll Equity Note and any amendment or supplement, if any, thereunder incurred or entered into pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," "–Issuance of Second Tier Obligations," and "–Issuance of Subordinate Tier Obligations" as additional TELA/Other Tier Debt Obligations.

"TELA/Other Tier Obligations" – collectively, the TELA/Other Tier Debt Obligations and the TELA/Other Tier Payment Obligations.

"TELA/Other Tier Payment Fund" – the TELA/Other Tier Payment Fund created by the Master Trust Agreement.

"TELA/Other Tier Payment Obligations" – unless otherwise specifically stated in a Supplemental Agreement, all amounts payable by the Corporation under a TELA/Other Tier Credit Agreement, other than payment obligations evidenced by a TELA/Other Tier Debt Obligation; and all such TELA/Other Tier Payment Obligations shall be deemed to constitute Principal payment of TELA/Other Tier Obligations, and shall be paid from the TELA/Other Tier Payment Fund and specified in a Supplemental Agreement.

"TELA Supported Junior Operating Expenses" – the Junior Operating Expenses of or allocable to (a) the System Segments and portions of System Segments comprising a portion of the Initial Project and the portion of Segment D within Harris County and (b) any additional System Segments (or portions thereof) as determined by the Corporation and which are supported by a Toll Equity Loan Agreement.

"Term Fixed Rate Period" – means the period during which a particular rate of interest for a Put Obligation will remain in effect as set forth in each Award Certificate.

"Third Supplemental Agreement" – the Third Supplemental Agreement, dated as of February 6, 2014, between the Corporation and the Trustee.

"Tier" – the designation of priority of an Obligation, with First Tier Obligations being the most senior, Second Tier Obligations being the second most senior, Subordinate Tier Obligations being the third most senior and, subject to subsection (f) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Supplemental Agreements by Corporation and Trustee," TELA/Other Tier Obligations being the fourth most senior.

"TIFIA Loan Agreement" – any Loan Agreement, as supplemented and amended from time to time, between the Corporation and the USDOT or other Governmental Lender, executed pursuant to the federal Transportation Infrastructure Finance and Innovation Act or other law, which may be a credit agreement under Chapter 1371, Texas Government Code, and, for purposes of the Trust Agreement, shall be a Credit Agreement.

"TIFIA Obligation" – an Obligation initially delivered to and owned by USDOT or other Governmental Lender related to a TIFIA Loan Agreement.

"Toll Equity Loan" – the loan or loans consisting of advances from time to time from TxDOT incurred by the Corporation and paid to the Trustee pursuant to a Toll Equity Loan Agreement and evidenced by a Toll Equity Note. For the avoidance of doubt, as of any date of determination, the Outstanding amount under a Toll Equity Loan shall be the aggregate outstanding amount of all advances drawn under such Toll Equity Loan commitment plus the aggregate outstanding amount of interest compounded in accordance therewith as of such date.

"Toll Equity Loan Agreement" – the (i) Amended and Restated Toll Equity Loan Agreement, dated as of May 16, 2018, and (ii) any other Toll Equity Loan Agreement each as supplemented and amended from time to time, between the Corporation and TxDOT which agreements are intended to be credit agreements under Chapter 1371, Texas Government Code, and a contract providing revenue and security to pay the Obligations issued for the Initial Project and Obligations that constitute Toll Equity Loan Supported Obligations, including the 2020B Bonds, and is, for purposes of the Master Trust Agreement, a TELA/Other Tier Credit Agreement.

"Toll Equity Loan Supported Obligations" – any Series of the First Tier TELA Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations, respectively.

"Toll Equity Note" – (i) the Initial Toll Equity Note and (ii) any note executed and delivered pursuant to a Supplemental Agreement relating to a new Toll Equity Loan Agreement and issued as a TELA/Other Tier Obligation to evidence a Toll Equity Loan, all as may be amended, supplemented or delivered pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – TELA/Other Tier Obligations."

"Toll Rate Agreement" – the Toll Rate Agreement, dated as of August 1, 2013, as supplemented and amended from time to time, between the Corporation and the Commission which, among other matters, the Commission covenants with respect to certain rates and charges relating to the System for the benefit of the Corporation, the Trustee and the Owners of any Obligations.

"Toll Rate Schedule" – the schedule of tolls, fees or charges to be collected for the use of the System established by the Commission pursuant to the Toll Rate Agreement, any changes in such tolls, rates and charges and any changes in design of the overall configuration and toll road plans of the System from that included in the Comprehensive Traffic and Revenue Study Update Final Report dated June 26, 2013, by CDM Smith Inc. and the General Engineering Consulting report in connection with the issuance of the Obligations issued for the Initial Project.

"Traffic Consultant" – the traffic engineer or engineering firm or corporation at the time employed by the Corporation pursuant to the provisions of subparagraph (b) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Employment of General Engineering Consultant and Traffic Consultant" to carry out the duties imposed by the Master Trust Agreement on the Traffic Consultant.

"Transfer Date" – the meaning given such term in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds."

"Trust Agreement" – collectively, the Master Trust Agreement as supplemented by the Eighth Supplemental Agreement.

"Trust Estate" – the meaning given such term in the granting clauses of the recitals of the Master Trust Agreement.

"Trustee" – U.S. Bank National Association, or its permitted successors and assigns under the Master Trust Agreement. "Principal Office" of the Trustee shall mean the business address specified in writing by the Trustee to the Corporation as its principal office for its duties under the Master Trust Agreement.

"TxDOT" or "Department" – the Texas Department of Transportation, or any successor thereto.

"Unanimous Voting Matters" – the meaning given such term in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Modification of Trust Agreement and Supplemental Agreements with Consent of a Majority of Owners of Obligations; Restrictions on Modifications; Notice of Supplemental Agreements."

"USDOT" – the United States Department of Transportation, or any successor thereto.

"Variable Rate" – interest on an Obligation which does not have a predetermined fixed rate or rates to maturity.

SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS

Issuance of First Tier Obligations.

(a) This section shall not be applicable to the issuance of any First Tier Obligations which constitute all or a portion of the Obligations issued for the Initial Project.

(b) To the extent and in the manner provided in this section, the Corporation reserves and shall have the right and power to issue or incur, at one time or from time to time, First Tier Obligations, including First Tier Credit Agreements, which First Tier Obligations, when issued or incurred, shall be secured by and payable from a lien on and pledge of the Senior Net Revenues. First Tier Obligations shall be in all respects of equal dignity and on parity with any then Outstanding First Tier Obligations.

(c) First Tier Obligations may be issued for any purpose then authorized by law, including the refunding of Obligations or other debt and/or the interest thereon at any time authorized. Such First Tier Obligations shall be designated as First Tier Non-TELA Obligations or First Tier TELA Obligations, dated, bear interest (either fixed, variable, or a combination thereof), mature, and shall or may be subject to mandatory or optional redemption prior to maturity with moneys from the First Tier Debt Service Fund, shall be payable from such source or sources, further secured by any reserve fund or other funds, if any, and shall be executed, sold, and delivered, all as is provided in the resolution and the Supplemental Agreement authorizing the issuance of such First Tier Obligations, provided that the provisions of such Obligations shall not be in conflict with the provisions of the Master Trust Agreement. Such First Tier Obligations shall be issued, executed, and delivered in the form and manner as prescribed in the resolution and the Supplemental Agreement authorizing same, and such First Tier Obligations shall be secured and payable as in the Master Trust Agreement and the resolution provided, and shall be on parity with any then Outstanding First Tier Non-TELA Obligations and First Tier TELA Obligations with respect to the Senior Net Revenues.

(d) First Tier Obligations shall be issued and delivered only after adoption by the Corporation of a resolution and Supplemental Agreement which shall (i) authorize the Obligations as either First Tier Non-TELA Obligations or First Tier TELA Obligations and direct their delivery, (ii) describe in brief and general terms the purpose or purposes for which such Obligations are to be issued, (iii) specify and determine the title and other provisions of such Obligations in accordance with paragraph (c) of this section, (iv) set forth or provide for the approval of the form of the Obligation, (v) authorize any reserve fund or other funds for such Obligations pursuant to subparagraph (g) of this section and (vi) provide for the retirement of such Obligations from the First Tier Redemption Account or otherwise, provided that the provisions with respect to such Obligations shall not be in conflict with the provisions of the Master Trust Agreement.

(e) Upon their authorization by resolution of the Corporation as described above, the First Tier Obligations of a Series issued under this section shall be issued in the manner hereinabove set forth or referred to, and shall be delivered to the purchasers thereof, but before, or concurrently with, the delivery of such Obligations to such purchasers there shall have been filed with the Trustee the following:

(i) a copy, certified by an official of the Corporation, of the resolution of the Corporation authorizing the First Tier Obligations and directing their delivery to the purchasers;

(ii) an original executed counterpart of the Supplemental Agreement;

(iii) a certificate signed by a Corporation Representative to the effect that (1) (A) no default has occurred and is continuing under the Master Trust Agreement or (B) after the issuance of the proposed Obligations to cure an existing default under the Master Trust Agreement, no default will have occurred and be continuing under the Master Trust Agreement and (2) (A) no default by the Commission has occurred and is continuing under the Toll Rate Agreement or (B) after the issuance of the proposed Obligations, no default by the Commission will have occurred and be continuing under the Toll Rate Agreement;

(iv) a certificate of a Corporation Representative regarding transfers from the Revenue Fund required under the Master Trust Agreement;

(v) a certificate by the General Engineering Consultant setting forth their opinions as to: (1) the aggregate estimated amount of the cost of the acquisition or construction of the System Segment for which the First Tier Obligations are to be issued, (2) the Estimated Date of Completion for such System Segment, and (3) the estimated amount of the Senior Operating Expenses and Junior Operating Expenses for each of the Fiscal Years through the repayment of all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the First Tier Obligations proposed to be issued (provided that items (1) and (2) shall not be applicable with respect to First Tier Obligations issued solely for refunding purposes and item (3) shall not be applicable in the case of First Tier Obligations issued to refund Outstanding First Tier Obligations which do not cause, in any Fiscal Year, an increase in then existing annual Debt Service Requirements of the First Tier Obligations);

(vi) a certificate by the Traffic Consultant setting forth their opinion as to the aggregate amount of projected Revenues of the System (which may include appropriate investment income as estimated by a Corporation Representative) under the Toll Rate Schedule then in effect and referred to, set forth in, or attached to, such certificate, for each of the Fiscal Years through the repayment of all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the First Tier Obligations proposed to be issued;

(vii) a certificate by a Corporation Representative, derived, in part, from the certificates described in subparagraphs (e)(v) and (vi) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," stating (1) the projected Senior Net Revenues and projected Junior Operating Expenses for each Fiscal Year through the repayment of all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the First Tier Obligations proposed to be issued; (2) the annual Debt Service Requirements (which may account for appropriate investment income as estimated by a Corporation Representative) for all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the First Tier Obligations proposed to be issued; (3) the projected balance of the Rate Stabilization Fund for each Fiscal Year during any Construction and Ramp-up Period; and (4) in the case of First Tier Obligations proposed to be issued to refund Outstanding First Tier Obligations, (A) the annual Debt Service Requirements for all Outstanding First Tier Obligations (including any First Tier Obligations being refunded but excluding the First Tier Obligations then proposed to be delivered) and (B) the annual Debt Service Requirements for all Outstanding First Tier Obligations (excluding any First Tier Obligations being refunded) and the First Tier Obligations then proposed to be delivered;

(viii) for the issuance of a Series of First Tier TELA Obligations, (1) an original executed counterpart of any amendment or supplement to any outstanding Toll Equity Loan Agreement, if necessary, providing for, in each Fiscal Year such First Tier TELA Obligations are to be Outstanding, any necessary or related adjustment in (A) the Maximum Available Aggregate Amount and the Maximum Available Annual Amount, respectively, and (B) the TELA Supported Junior Operating Expenses or other amounts in the Project Budget or (2) an original executed counterpart of any new Toll Equity Loan Agreement providing for, in each Fiscal Year such First Tier TELA Obligations are to be Outstanding, any necessary or related adjustment in or establishment of (A) the particular Maximum Available Aggregate Amount and the particular Maximum Available Annual Amount, respectively, and (B) the particular Project Budget;

(ix) for the issuance of a Series of First Tier TELA Obligations, a certificate of a Corporation Representative, demonstrating with reasonable detail that the annual Debt Service Requirements for all Outstanding First Tier TELA Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations (excluding any Obligations being refunded), including the First Tier TELA Obligations proposed to be issued plus the projected TELA Supported Junior Operating Expenses, for the current Fiscal Year and in each Fiscal Year thereafter for which any Covered Operating Expense Toll Equity Loan Supported Obligations and any proposed Additional Obligations are to be Outstanding but shall exclude estimated TELA Supported Junior Operating Expenses for any Fiscal Year that only proposed Non-Covered Operating Expense Additional Obligations are to be Outstanding, is less than or equal to the applicable aggregate Maximum Available Annual Amount for each such Fiscal Year as set forth any outstanding Toll Equity Loan Agreements (as may have been amended or supplemented); and

(x) for the issuance of a Series of First Tier TELA Obligations, an opinion or opinions of general counsel to TxDOT and Counsel to the Corporation to the effect that the Toll Equity Loan Agreement or any amendment or supplement thereto described in clause (viii) above has been duly authorized, executed and delivered and is a valid, binding and enforceable obligation of TxDOT and the Corporation, respectively, subject to sovereign immunity, bankruptcy, equitable principles and other standard legal opinion exceptions.

(f) For the issuance of a Series of First Tier Obligations, except as provided in subparagraphs (a) and (j) of this section, when the documents mentioned above shall have been filed with the Trustee and when the First Tier Obligations authorized by the resolution provided in subparagraph (e)(i) of this section shall have been executed in accordance with the Master Trust Agreement and the resolution, the Corporation may deliver such Obligations at one time to or upon the order of the purchasers named in such resolution, upon receipt by the purchasers and the Trustee of an opinion of Bond Counsel that the issuance of such Obligations has been duly authorized and that all conditions precedent to the delivery of such Obligations have been fulfilled; provided that, except in the case of refunding First Tier Obligations being issued to refund Outstanding First Tier Obligations which do not cause an increase in the then existing annual Debt Service Requirements of the First Tier Obligations in any Fiscal Year, such Obligations shall not be delivered unless there shall have been filed with the Trustee an additional certificate by a Corporation Representative (based on the above-described certificates of the General Engineering Consultant, the Traffic Consultant, and the Corporation Representative, as applicable) certifying that:

(i) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.50 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations and any then Outstanding Second Tier Obligations and Subordinate Tier Obligations for which "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Effect of Bankruptcy Related Event on TIFIA Obligations" is applicable (excluding any such First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded) and the First Tier Obligations then proposed to be delivered;

(ii) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.30 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations and Second Tier Obligations (excluding any First Tier Obligations or Second Tier Obligations being refunded) and the First Tier Obligations then proposed to be delivered; and

(iii) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.10 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations (excluding any First Tier Obligations, Second Tier Obligations or Subordinate Tier Obligations being refunded) and the First Tier Obligations then proposed to be delivered; provided that for this clause (iii), the Corporation Representative may assume that Senior Net Revenues include the amounts forecasted to be on deposit in the Rate Stabilization Fund during any Construction and Ramp-up Period.

(g) The Corporation may establish a reserve account, a Capitalized Interest Account and/or any other fund or funds pursuant to the provisions of the applicable Supplemental Agreement for the purpose of paying or securing a particular Series of First Tier Obligations, any specific group or Series of First Tier Obligations or, for a Capitalized Interest Account, any specific group of Obligations authorized by the same particular Supplemental Agreement. Any reserve account shall be segregated into a separate subaccount and separately identified within the First Tier Reserve Account. Any reserve account or other fund so established shall be held solely for the benefit of the Owners of the particular Series or group of Series of First Tier Obligations for which such subaccount or fund was established. Each such reserve account shall be designated in such manner as is necessary to identify the First Tier Obligations it secures and to distinguish such subaccount from any other accounts or subaccounts within the First Tier Reserve Account created for the benefit of any other First Tier Obligations. Any Capitalized Interest Account shall be segregated into a separate subaccount and separately identified within the First Tier Interest Account or the Construction Fund, as directed by the Corporation Representative. Any such Capitalized Interest Account so established shall be held for the benefit of the Owners of the particular Series, group of Series of First Tier Obligations or group of Obligations authorized by the same particular Supplemental Agreement, for which such account was established, as the case may be. Each such Capitalized Interest Account shall be designated in such manner as is necessary to identify the Obligations it secures and to distinguish such subaccount from any other subaccounts within (i) the First Tier Interest Account created for the benefit of any other First Tier Obligations or (ii) the Construction Fund. Any other fund created hereby shall be designated in such manner as is necessary to identify the First Tier Obligations it secures and to distinguish such subaccount from any other funds, account or subaccounts created for the benefit of any other First Tier Obligations. Prior to establishing any reserve account, Capitalized Interest Account or other fund hereby, a Corporation Representative shall deliver a certificate to the Trustee to the effect that the establishment and operation of such account or fund will not have a material adverse effect on the ability of the Corporation to comply with its covenants in the Master Trust Agreement or in the Supplemental Agreements authorizing the issuance of the Outstanding First Tier Obligations.

(h) Immediately after the delivery of any First Tier Obligations issued under this section, the Corporation shall deposit the proceeds thereof, if any, (including accrued interest, if any, collected at the time of the delivery of such Obligations) with the Trustee, which shall in turn deposit the proceeds as directed by a Corporation Representative in accordance with the purposes for which such First Tier Obligations were issued.

(i) Notwithstanding anything to the contrary contained in this section, the Corporation may enter into First Tier Credit Agreements constituting Qualified Credit Agreements in connection with First Tier Obligations and the First Tier Payment Obligations as specified thereunder may be secured by and made payable from a lien on and pledge of the pledged Senior Net Revenues on a parity with the Outstanding First Tier Obligations. In addition, the Trustee shall withdraw from the Revenue Fund for deposit into the First Tier Debt Service Fund such amounts as are necessary for the Corporation to pay such First Tier Payment Obligations in accordance with the Master Trust Agreement.

(j) To finance the costs of completion of the Initial Project, the Corporation may, without complying with the provisions of subparagraphs (e)(iv) through (vii), (e)(ix) and (f) of this section, issue First Tier Obligations in a Principal amount, together with any Subordinate Tier Obligations issued pursuant to subparagraph (j) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Subordinate Tier Obligations," not in excess of 10% of the Principal amount of the Obligations issued for the Initial Project, if prior to the issuance thereof there is delivered to the Trustee a certificate of the General Engineering Consultant stating: (i) that at the time the Obligations issued for the Initial Project were issued, the Corporation had reason to believe that the proceeds of such Obligations issued for the Initial Project, together with any other moneys then expected to be available, would provide sufficient moneys for the completion of the Initial Project (ii) the amount estimated to be needed to so complete the Initial Project; and (iii) that the proceeds of all such Completion Obligations to be applied to the completion of the Initial Project, together with a reasonable estimate by a Corporation Representative of (1) investment income to be earned on the proceeds of all such Completion Obligations and available to pay such costs, (2) the amount of moneys, if any, committed to such completion from available cash or marketable securities and reasonably estimated earnings thereon, (3) enumerated bank loans (including letters or lines of credit), and (4) any other moneys reasonably expected to be available, will be in an amount not less than the estimated amount needed to complete the Initial Project set forth in such certificate of the General Engineering Consultant. The Principal amount of the Completion Obligations permitted in subparagraph (j) of this section may include the amount required to (I) provide completed and equipped facilities of substantially the same type and scope contemplated at the time the Obligations issued for the Initial Project were originally issued, (II) provide for capitalized interest during the period of construction, (III) provide the required deposit, if any, in any reserve fund permitted by subparagraphs (d) and (g) of this section and (IV) pay the costs and expenses of issuing such First Tier Obligations being issued as Completion Obligations.

(k) Notwithstanding anything in this section to the contrary, subparagraphs (e)(iv) through (vii), (e)(ix) and (f) shall not be applicable to the issuance of any First Tier Obligations (i) issued to refund the Series 2014B Bonds and/or the Series 2014C Bonds or (ii) initially delivered to USDOT or other Governmental Lender for certain eligible costs, the proceeds of which are to be used to retire the Series 2014B Bonds and/or the Series 2014C Bonds.

Issuance of Second Tier Obligations.

(a) This section shall not be applicable to the issuance of any Second Tier Obligations which constitute all or a portion of the Obligations issued for the Initial Project.

(b) To the extent and in the manner provided in this section, the Corporation reserves and shall have the right and power to issue or incur, at one time or from time to time, Second Tier Obligations, including Second Tier Credit Agreements, which Second Tier Obligations, when issued or incurred, shall be secured by and payable from a lien on and pledge of the Senior Net Revenues subordinate to any First Tier Obligations. Second Tier Obligations shall be in all respects of equal dignity and on parity with any then Outstanding Second Tier Obligations.

(c) Second Tier Obligations may be issued for any purpose then authorized by law, including the refunding of Obligations or other debt and/or the interest thereon, at any time authorized. Such Second Tier Obligations shall be designated Second Tier Non-TELA Obligations or Second Tier TELA Obligations, dated, bear interest (either fixed, variable, or a combination thereof), mature, and shall or may be subject to mandatory or optional redemption prior to maturity with moneys from the Second Tier Debt Service Fund, shall be payable from such source or sources, further secured by any reserve fund or other funds, if any, and shall be executed, sold, and delivered, all as is provided in the resolution and the Supplemental Agreement authorizing the issuance of such Second Tier Obligations, provided that the provisions of such Obligations shall not be in conflict with the provisions of the Master Trust Agreement. Such Second Tier Obligations shall be issued, executed, and delivered in the form and manner as prescribed in the resolution and the Supplemental Agreement authorizing same, and such Second Tier Obligations shall be secured and payable as in the Master Trust Agreement and the resolution provided, and shall be on parity with any then Outstanding Second Tier Non-TELA Obligations or Second Tier TELA Obligations with respect to the Senior Net Revenues.

(d) Second Tier Obligations shall be issued and delivered only after adoption by the Corporation of a resolution and Supplemental Agreement which shall (i) authorize the Obligations as either Second Tier Non-TELA Obligations or Second Tier TELA Obligations and direct their delivery, (ii) describe in brief and general terms the purpose or purposes for which such Obligations are to be issued, (iii) specify and determine the title and other provisions of such Obligations in accordance with paragraph (c) of this section, (iv) set forth or provide for the approval of the form of the Obligation, (v) authorize any reserve fund or other funds for such Obligations pursuant to subparagraphs (g) and (vi) of this section provide for the retirement of such Obligations from the Second Tier Redemption Account or otherwise, provided that the provisions with respect to such Obligations shall not be in conflict with the provisions of the Master Trust Agreement.

(e) Upon their authorization by resolution of the Corporation as described above, the Second Tier Obligations of a Series issued under this section shall be issued in the manner hereinabove set forth or referred to, and shall be delivered to the purchasers thereof, but before, or concurrently with, the delivery of such Obligations to such purchasers there shall have been filed with the Trustee the following:

> (i) a copy, certified by an official of the Corporation, of the resolution of the Corporation authorizing the Second Tier Obligations and directing their delivery to the purchasers;
>
> (ii) an original executed counterpart of the Supplemental Agreement;
>
> (iii) a certificate signed by a Corporation Representative to the effect that (1) (A) no default has occurred and is continuing under the Master Trust Agreement or (B) after the issuance of the proposed Obligations to cure an existing default under the Master Trust Agreement, no default will have occurred and be continuing under the Master Trust Agreement and (2) (A) no default by the Commission has occurred and is continuing under the Toll Rate Agreement or (B) after the issuance of the proposed Obligations, no default by the Commission will have occurred and be continuing under the Toll Rate Agreement;
>
> (iv) a certificate of a Corporation Representative regarding transfers from the Revenue Fund required under the Master Trust Agreement;
>
> (v) a certificate by the General Engineering Consultant setting forth their opinions as to: (1) the aggregate estimated amount of the cost of the acquisition or construction of the System Segment for which the Second Tier Obligations are to be issued, (2) the Estimated Date of Completion for such System Segment, and (3) the estimated amount of the Senior Operating Expenses and Junior Operating Expenses for each of the Fiscal Years through the repayment of all Outstanding First Tier

Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the Second Tier Obligations proposed to be issued (provided that items (1) and (2) shall not be applicable with respect to Second Tier Obligations issued for refunding purposes and item (3) shall not be applicable in the case of Second Tier Obligations issued to refund Outstanding First Tier Obligations and/or Second Tier Obligations where the annual Debt Service Requirements of such refunding Second Tier Obligations in any Fiscal Year is less than the aggregated Debt Service Requirements in each such Fiscal Year of the First Tier Obligations and Second Tier Obligations being refunded);

(vi) a certificate by the Traffic Consultant setting forth their opinion as to the aggregate amount of projected Revenues of the System (which may include appropriate investment income as estimated by a Corporation Representative) under the Toll Rate Schedule then in effect and referred to, set forth in, or attached to, such certificate, for each of the Fiscal Years through the repayment of all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the Second Tier Obligations proposed to be issued;

(vii) a certificate by a Corporation Representative, derived, in part, from the certificates described in subparagraphs (e)(v) and (vi) of this section, stating (1) the projected Senior Net Revenues and projected Junior Operating Expenses for each Fiscal Year through the repayment of all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the Second Tier Obligations proposed to be issued; (2) the annual Debt Service Requirements (which may account for appropriate investment income as estimated by a Corporation Representative) for all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the Second Tier Obligations proposed to be issued; (3) the projected balance of the Rate Stabilization Fund for each Fiscal Year during any Construction and Ramp-up Period; and (4) in the case of Second Tier Obligations proposed to be issued to refund Outstanding First Tier Obligations and/or Second Tier Obligations, (A) the annual Debt Service Requirements for all Outstanding First Tier Obligations and Second Tier Obligations (including any First Tier Obligations and Second Tier Obligations being refunded, as the case may be, but excluding the Second Tier Obligations then proposed to be delivered) and (B) the annual Debt Service Requirements for all Outstanding First Tier Obligations and Second Tier Obligations (excluding any First Tier Obligations and Second Tier Obligations being refunded) and the Second Tier Obligations then proposed to be delivered;

(viii) for the issuance of a Series of Second Tier TELA Obligations, (1) an original executed counterpart of any amendment or supplement to any outstanding Toll Equity Loan Agreement, if necessary, providing for, in each Fiscal Year such Second Tier TELA Obligations are to be Outstanding, any necessary or related adjustment in (A) the Maximum Available Aggregate Amount and the Maximum Available Annual Amount, respectively, and (B) the TELA Supported Junior Operating Expenses or other amounts in the Project Budget or (2) an original executed counterpart of any new Toll Equity Loan Agreement providing for, in each Fiscal Year such Second Tier TELA Obligations are to be Outstanding, any necessary or related adjustment in or establishment of (A) the particular Maximum Available Aggregate Amount and the particular Maximum Available Annual Amount, respectively, and (B) the particular Project Budget;

(ix) for the issuance of a Series of Second Tier TELA Obligations, a certificate of a Corporation Representative demonstrating with reasonable detail that the annual Debt Service Requirements for all Outstanding First Tier TELA Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations (excluding any Obligations being refunded), including the Second Tier TELA Obligations proposed to be issued, plus the projected TELA Supported Junior Operating Expenses, for the current Fiscal Year and in each Fiscal Year thereafter for which any Covered Operating Expense Toll Equity Loan Supported Obligations and any proposed Additional Obligations are to be Outstanding but shall exclude estimated TELA Supported Junior Operating Expenses for any Fiscal Year that only proposed Non-Covered Operating Expense Additional Obligations are to be

Outstanding, is less than or equal to the applicable aggregate Maximum Available Annual Amount for each such Fiscal Year as set forth in any outstanding Toll Equity Loan Agreements (as may have been amended or supplemented); and

(x) for the issuance of a Series of Second Tier TELA Obligations, an opinion or opinions of general counsel to TxDOT and Counsel to the Corporation to the effect that the Toll Equity Loan Agreement or any amendment or supplement thereto described in clause (viii) above has been duly authorized, executed and delivered and is a valid, binding and enforceable obligation of TxDOT and the Corporation, respectively, subject to sovereign immunity, bankruptcy, equitable principles and other standard legal opinion exceptions.

(f) For the issuance of a Series of Second Tier Obligations, except as provided in subparagraphs (a) and (j) of this section, when the documents mentioned above shall have been filed with the Trustee and when the Second Tier Obligations authorized by the resolution provided in subparagraph (e)(i) of this section shall have been executed in accordance with the Master Trust Agreement and the resolution, the Corporation may deliver such Obligations at one time to or upon the order of the purchasers named in such resolution, upon receipt by the purchasers and the Trustee of an opinion of Bond Counsel that the issuance of such Obligations has been duly authorized and that all conditions precedent to the delivery of such Obligations have been fulfilled; provided that, except in the case of refunding Second Tier Obligations being issued to refund Outstanding First Tier Obligations and/or Second Tier Obligations where the annual Debt Service Requirements of such refunding Second Tier Obligations in any Fiscal Year is less than the aggregated Debt Service Requirements in each such Fiscal Year of the First Tier Obligations and Second Tier Obligations being refunded, such Obligations shall not be delivered unless there shall have been filed with the Trustee an additional certificate by a Corporation Representative (based on the above described certificates of the General Engineering Consultant, the Traffic Consultant, and the Corporation Representative, as applicable) certifying that:

(i) for the issuance of Second Tier Obligations which are to be TIFIA Obligations for which "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Effect of Bankruptcy Related Event on TIFIA Obligations" could apply, the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.50 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations and any then Outstanding Second Tier Obligations and Subordinate Tier Obligations for which "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Effect of Bankruptcy Related Event on TIFIA Obligations" is applicable (excluding any such First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded) and the Second Tier Obligations which are to be TIFIA Obligations then proposed to be delivered;

(ii) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.30 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations and Second Tier Obligations (excluding any First Tier Obligations or Second Tier Obligations being refunded) and the Second Tier Obligations then proposed to be delivered; and

(iii) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.10 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations (excluding any First Tier Obligations, Second Tier Obligations or Subordinate Tier Obligations being refunded) and the Second Tier Obligations then proposed to be delivered; provided that for this clause (iii), the Corporation Representative may assume that Senior Net Revenues include the amounts forecasted to be on deposit in the Rate Stabilization Fund during any Construction and Ramp-up Period.

(g) The Corporation may establish a reserve account, a Capitalized Interest Account and/or any other fund or funds pursuant to the provisions of the applicable Supplemental Agreement for the purpose of paying or securing a particular Series of Second Tier Obligations, any specific group or Series of Second Tier Obligations or, for a Capitalized Interest Account, any specific group of Obligations authorized by the same particular Supplemental

Agreement. Any reserve account shall be segregated into a separate subaccount and separately identified within the Second Tier Reserve Account. Any reserve account or other fund so established shall be held solely for the benefit of the Owners of the particular Series or group of Series of Second Tier Obligations for which such subaccount or fund was established. Each such reserve account shall be designated in such manner as is necessary to identify the Second Tier Obligations it secures and to distinguish such subaccount from any other accounts or subaccounts within the Second Tier Reserve Account created for the benefit of any other Second Tier Obligations. Any Capitalized Interest Account shall be segregated into a separate subaccount and separately identified within the Second Tier Interest Account or the Construction Fund, as directed by the Corporation Representative. Any such Capitalized Interest Account so established shall be held for the benefit of the Owners of the particular Series, group of Series of Second Tier Obligations or group of Obligations authorized by the same particular Supplemental Agreement, for which such account was established, as the case may be. Each such Capitalized Interest Account shall be designated in such manner as is necessary to identify the Second Tier Obligations it secures and to distinguish such subaccount from any other subaccounts within (i) the Second Tier Interest Account created for the benefit of any other Second Tier Obligations or (ii) the Construction Fund. Any other fund created hereby shall be designated in such manner as is necessary to identify the Second Tier Obligations it secures and to distinguish such subaccount from any other funds, account or subaccounts created for the benefit of any other Second Tier Obligations. Prior to establishing any reserve account, Capitalized Interest Account or other fund hereby, a Corporation Representative shall deliver a certificate to the Trustee to the effect that the establishment and operation of such account or fund will not have a material adverse effect on the ability of the Corporation to comply with its covenants in the Master Trust Agreement or in the Supplemental Agreements authorizing the issuance of the Outstanding Second Tier Obligations.

(h) Immediately after the delivery of any Second Tier Obligations issued under this section, the Corporation shall deposit the proceeds thereof, if any, (including accrued interest, if any, collected at the time of the delivery of such Obligations) with the Trustee, which shall in turn deposit the proceeds as directed by a Corporation Representative in accordance with the purposes for which such Second Tier Obligations were issued.

(i) Notwithstanding anything to the contrary contained in this section, the Corporation may enter into Second Tier Credit Agreements constituting Qualified Credit Agreements in connection with Second Tier Obligations and the Second Tier Payment Obligations as specified thereunder may be secured by and made payable from a lien on and pledge of the pledged Senior Net Revenues on a parity with the Outstanding Second Tier Obligations. In addition, the Trustee shall withdraw from the Revenue Fund for deposit into the Second Tier Debt Service Fund such amounts as are necessary for the Corporation to pay such Second Tier Payment Obligations in accordance with the Master Trust Agreement.

(j) Notwithstanding anything in this section to the contrary, subparagraphs (e)(iv) through (vii), (e)(ix) and (f) of this section shall not be applicable to the issuance of any Second Tier Obligations (i) issued to refund the Series 2014B Bonds and/or the Series 2014C Bonds or (ii) initially delivered to USDOT or other Governmental Lender for certain eligible costs and the proceeds of which are to be used to retire the Series 2014B Bonds and/or the Series 2014C Bonds.

Issuance of Subordinate Tier Obligations.

(a) This section shall not be applicable to the issuance of any Subordinate Tier Obligations which constitute all or a portion of the Obligations issued for the Initial Project.

(b) To the extent and in the manner provided in this section, the Corporation reserves and shall have the right and power to issue or incur, at one time or from time to time, Subordinate Tier Obligations, including Subordinate Tier Credit Agreements, which Subordinate Tier Obligations, when issued or incurred, shall be secured by and payable from a lien on and pledge of the Senior Net Revenues subordinate to any First Tier Obligations and any Second Tier Obligations. Each Series of Subordinate Tier Obligations shall be created pursuant to a Supplemental Agreement and shall identify the level of subordination and the priority of payment to which such series is entitled relative to any other Series of Subordinate Tier Obligations, provided, however, that in no event shall the priority of payment be above that of any First Tier Obligations or any Second Tier Obligations. Subject to the foregoing sentence, Subordinate Tier Obligations shall be in all respects of equal dignity and on parity with any then Outstanding Subordinate Tier Obligations.

(c) Subordinate Tier Obligations may be issued for any purpose then authorized by law, including the refunding of Obligations or other debt and/or the interest thereon, at any time authorized. Such Subordinate Tier Obligations shall be designated Subordinate Tier Non-TELA Obligations or Subordinate Tier TELA Obligations, dated, bear interest (either fixed, variable, or a combination thereof), mature, and shall or may be subject to mandatory or optional redemption prior to maturity with moneys from the Subordinate Tier Debt Service Fund, shall be payable from such source or sources, further secured by any reserve fund or other funds, if any, and shall be executed, sold, and delivered, all as is provided in the resolution and the Supplemental Agreement authorizing the issuance of such Subordinate Tier Obligations, provided that the provisions of such Obligations shall not be in conflict with the provisions of the Master Trust Agreement and the priority of payment of such Obligations shall be established as set forth above. Such Subordinate Tier Obligations shall be issued, executed, and delivered in the form and manner as prescribed in the resolution and the Supplemental Agreement authorizing same, and such Subordinate Tier Obligations shall be secured and payable as in the Master Trust Agreement and the resolution provided.

(d) Subordinate Tier Obligations shall be issued and delivered only after adoption by the Corporation of a resolution and Supplemental Agreement which shall (i) authorize the Obligations as either Subordinate Tier Non-TELA Obligations or Subordinate Tier TELA Obligations and direct their delivery, (ii) describe in brief and general terms the purpose or purposes for which such Obligations are to be issued, (iii) specify and determine the title and other provisions of such Obligations in accordance with paragraph (b) of this section, including the level of subordination and priority of payment therefor, (iv) set forth or provide for the approval of the form of the Obligation, (v) authorize any reserve fund or other funds for such Obligations pursuant to subparagraph (g) of this section and (vi) provide for the retirement of such Obligations from the Subordinate Tier Redemption Account or otherwise, provided that the provisions with respect to such Obligations shall not be in conflict with the provisions of the Master Trust Agreement.

(e) Upon their authorization by resolution of the Corporation as described above, the Subordinate Tier Obligations of a Series issued under this section shall be issued in the manner hereinabove set forth or referred to, and shall be delivered to the purchasers thereof, but before, or concurrently with, the delivery of such Obligations to such purchasers there shall have been filed with the Trustee the following:

(i) a copy, certified by an official of the Corporation, of the resolution of the Corporation authorizing the Subordinate Tier Obligations and directing their delivery to the purchasers;

(ii) an original executed counterpart of the Supplemental Agreement;

(iii) a certificate signed by a Corporation Representative to the effect that (1) (A) no default has occurred and is continuing under the Master Trust Agreement or (B) after the issuance of the proposed Obligations to cure an existing default under the Master Trust Agreement, no default will have occurred and be continuing under the Master Trust Agreement and (2) (A) no default by the Commission has occurred and is continuing under the Toll Rate Agreement or (B) after the issuance of the proposed Obligations, no default by the Commission will have occurred and be continuing under the Toll Rate Agreement;

(iv) a certificate of a Corporation Representative regarding transfers from the Revenue Fund required under the Master Trust Agreement;

(v) a certificate by the General Engineering Consultant setting forth their opinions as to: (1) the aggregate estimated amount of the cost of the acquisition or construction of the System Segment for which the Subordinate Tier Obligations are to be issued, (2) the Estimated Date of Completion for such System Segment, and (3) the estimated amount of the Senior Operating Expenses and Junior Operating Expenses for each of the Fiscal Years through the repayment of all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the Subordinate Tier Obligations proposed to be issued (provided that items (1) and (2) shall not be applicable with respect to Subordinate Tier Obligations issued for refunding purposes and item (3) shall not be applicable in the case of Subordinate Tier Obligations issued to refund Outstanding First Tier Obligations, Second Tier Obligations and/or Subordinate Tier Obligations where the annual Debt Service Requirements of such refunding Subordinate Tier Obligations in any Fiscal Year is less than the aggregated Debt Service Requirements in each such Fiscal Year of the First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded);

(vi) a certificate by the Traffic Consultant setting forth their opinion as to the aggregate amount of projected Revenues of the System (which may include appropriate investment income as estimated by a Corporation Representative) under the Toll Rate Schedule then in effect and referred to, set forth in, or attached to, such certificate, for each of the Fiscal Years through the repayment of all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the Subordinate Tier Obligations proposed to be issued;

(vii) a certificate by a Corporation Representative, derived, in part, from the certificates described in subparagraphs (e)(v) and (vi) of this section, stating (1) the projected Senior Net Revenues and projected Junior Operating Expenses for each Fiscal Year through the repayment of all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the Subordinate Tier Obligations proposed to be issued; (2) the annual Debt Service Requirements (which may account for appropriate investment income as estimated by a Corporation Representative) for all Outstanding First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations and TELA/Other Tier Obligations (excluding any Obligations being refunded), including the Subordinate Tier Obligations proposed to be issued; (3) the projected balance of the Rate Stabilization Fund for each Fiscal Year during any Construction and Ramp-up Period; and (4) in the case of Subordinate Tier Obligations proposed to be issued to refund Outstanding First Tier Obligations, Second Tier Obligations and/or Subordinate Tier Obligations, (A) the annual Debt Service Requirements for all Outstanding First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations (including any First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded, as the case may be, but excluding the Second Tier Obligations then proposed to be delivered) and (B) the annual Debt Service Requirements for all Outstanding First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations (excluding any First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded) and the Subordinate Tier Obligations then proposed to be delivered;

(viii) for the issuance of a Series of Subordinate Tier TELA Obligations, (1) an original executed counterpart of any amendment or supplement to any outstanding Toll Equity Loan Agreement, if necessary, providing for, in each Fiscal Year such Subordinate Tier TELA Obligations are to be Outstanding, any necessary or related adjustment in (A) the Maximum Available Aggregate Amount and the Maximum Available Annual Amount, respectively, and (B) the TELA Supported Junior Operating Expenses or other amounts in the Project Budget or (2) an original executed counterpart of any new Toll Equity Loan Agreement providing for, in each Fiscal Year such Subordinate Tier TELA Obligations are to be Outstanding, any necessary or related adjustment in or establishment of (A) the particular Maximum Available Aggregate Amount and the particular Maximum Available Annual Amount, respectively, and (B) the particular Project Budget;

(ix) for the issuance of a Series of Subordinate Tier TELA Obligations, a certificate of a Corporation Representative demonstrating with reasonable detail that the annual Debt Service Requirements for all Outstanding First Tier TELA Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations (excluding any Obligations being refunded), including the Subordinate Tier TELA Obligations proposed to be issued, plus the projected TELA Supported Junior Operating Expenses, for the current Fiscal Year and in each Fiscal Year thereafter for which any Covered Operating Expense Toll Equity Loan Supported Obligations and any proposed Additional Obligations are to be Outstanding but shall exclude estimated TELA Supported Junior Operating Expenses for any Fiscal Year that only proposed Non-Covered Operating Expense Additional Obligations are to be Outstanding, is less than or equal to the applicable aggregate Maximum Available Annual Amount for each such Fiscal Year as set forth in any outstanding Toll Equity Loan Agreements (as may have been amended or supplemented); and

(x) for the issuance of a Series of Subordinate Tier TELA Obligations, an opinion or opinions of general counsel to TxDOT and Counsel to the Corporation to the effect that the Toll Equity Loan Agreement or any amendment or supplement thereto described in clause (viii) above has been duly authorized, executed and delivered and is a valid, binding and enforceable obligation of TxDOT and the Corporation, respectively, subject to sovereign immunity, bankruptcy, equitable principles and other standard legal opinion exceptions.

(f) For the issuance of a Series of Subordinate Tier Obligations, except as provided in subparagraphs (a), (j) and (k) of this section, when the documents mentioned above shall have been filed with the Trustee and when the Subordinate Tier Obligations authorized by the resolution provided in subparagraph (e)(i) of this section shall have been executed in accordance with the Master Trust Agreement and the resolution, the Corporation may deliver such Obligations at one time to or upon the order of the purchasers named in such resolution, upon receipt by the purchasers and the Trustee of an opinion of Bond Counsel that the issuance of such Obligations has been duly authorized and that all conditions precedent to the delivery of such Obligations have been fulfilled; provided that, except in the case of refunding Subordinate Tier Obligations being issued to refund Outstanding First Tier Obligations, Second Tier Obligations and/or Subordinate Tier Obligations where the annual Debt Service Requirements of such refunding Subordinate Tier Obligations in any Fiscal Year is less than the aggregated Debt Service Requirements in each such Fiscal Year of the First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded, such Obligations shall not be delivered unless there shall have been filed with the Trustee an additional certificate by a Corporation Representative (based on the above described certificates of the General Engineering Consultant, the Traffic Consultant, and the Corporation Representative, as applicable) certifying that:

(i) for the issuance of Subordinate Tier Obligations which are to be TIFIA Obligations for which "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Effect of Bankruptcy Related Event on TIFIA Obligations" could apply, the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.50 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations and any then Outstanding Second Tier Obligations and Subordinate Tier Obligations for which "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Effect of Bankruptcy Related Event on TIFIA Obligations" is applicable (excluding any such First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations being refunded) and the Subordinate Tier Obligations which are to be TIFIA Obligations then proposed to be delivered; and

(ii) the projected Senior Net Revenues for the current and each Fiscal Year after the date of such certificate are at least 1.10 times the annual Debt Service Requirements for each such Fiscal Year for all then Outstanding First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations (excluding any First Tier Obligations, Second Tier Obligations or Subordinate Tier Obligations being refunded) and the Subordinate Tier Obligations then proposed to be delivered; provided that for this clause (ii), the Corporation Representative may assume that Senior Net Revenues include the amounts forecasted to be on deposit in the Rate Stabilization Fund during any Construction and Ramp-up Period.

(g) The Corporation may establish a reserve account, a Capitalized Interest Account and/or any other fund or funds pursuant to the provisions of the applicable Supplemental Agreement for the purpose of paying or securing a particular Series of Subordinate Tier Obligations, any specific group or Series of Subordinate Tier Obligations or, for a Capitalized Interest Account, any specific group of Obligations authorized by the same particular Supplemental Agreement. Any reserve account shall be segregated into a separate subaccount and separately identified within the Subordinate Tier Reserve Account. Any reserve account or other fund so established shall be held solely for the benefit of the Owners of the particular Series or group of Series of Subordinate Tier Obligations for which such subaccount or fund was established. Each such reserve account shall be designated in such manner as is necessary to identify the Subordinate Tier Obligations it secures and to distinguish such subaccount from any other accounts or subaccounts within the Subordinate Tier Reserve Account created for the benefit of any other Subordinate Tier Obligations. Any Capitalized Interest Account shall be segregated into a separate subaccount and separately identified within the Subordinate Tier Interest Account or the Construction Fund, as directed by the Corporation Representative. Any such Capitalized Interest Account so established shall be held for the benefit of the Owners of the particular Series, or group of Series of Subordinate Tier Obligations or group of Obligations authorized by the same particular Supplemental Agreement, for which such account was established, as the case may be. Each such Capitalized Interest Account shall be designated in such manner as is necessary to identify the Subordinate Tier Obligations it secures and to distinguish such subaccount from any other subaccounts within (i) the Subordinate Tier Interest Account created for the benefit of any other Subordinate Tier Obligations or (ii) the Construction Fund. Any other fund created hereby shall be designated in such manner as is necessary to identify the Subordinate Tier Obligations it secures and to distinguish such subaccount from any other funds, account or subaccounts created for the benefit of any other Subordinate Tier Obligations. Prior to establishing any reserve account, Capitalized Interest Account or other fund hereby, a Corporation Representative shall deliver a certificate to the Trustee to the effect that the establishment and operation of such account or fund will not have a material adverse effect on the ability of the Corporation to comply with its covenants in the Master Trust Agreement or in the Supplemental Agreements authorizing the issuance of the Outstanding Subordinate Tier Obligations.

(h) Immediately after the delivery of any Subordinate Tier Obligations issued under this section, the Corporation shall deposit the proceeds thereof, if any, (including accrued interest, if any, collected at the time of the delivery of such Obligations) with the Trustee, which shall in turn deposit the proceeds as directed by a Corporation Representative in accordance with the purposes for which such Subordinate Tier Obligations were issued.

(i) Notwithstanding anything to the contrary contained in this section, the Corporation may enter into Subordinate Tier Credit Agreements constituting Qualified Credit Agreements in connection with Subordinate Tier Obligations and the Subordinate Tier Payment Obligations as specified thereunder may be secured by and made payable from a lien on and pledge of the pledged Senior Net Revenues, subject to subparagraph (b) of this section, on parity with the Outstanding Subordinate Tier Obligations. In addition, the Trustee shall withdraw from the Revenue Fund for deposit into the Subordinate Tier Debt Service Fund such amounts as are necessary for the Corporation to pay such Subordinate Tier Payment Obligations in accordance with the Master Trust Agreement.

(j) To finance the costs of completion of the Initial Project, the Corporation may, without complying with the provisions of subparagraphs (e)(iv) through (vii), (e)(ix) and (f) of this section, issue Subordinate Tier Obligations in a Principal amount, together with any First Tier Obligations issued pursuant to subparagraph (j) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," not in excess of 10% of the Principal amount of the Obligations issued for the Initial Project, if prior to the issuance thereof there is delivered to the Trustee a certificate of the General Engineering Consultant stating: (i) that at the time the Obligations issued for the Initial Project were issued, the Corporation had reason to believe that the proceeds of such Obligations issued for the Initial Project, together with any other moneys then expected to be available, would provide sufficient moneys for the completion of the Initial Project (ii) the amount estimated to be needed to so complete the Initial Project; and (iii) that the proceeds of all such Completion Obligations to be applied to the completion of the Initial Project, together with a reasonable estimate by a Corporation Representative of (1) investment income to be earned on the proceeds of all such Completion Obligations and available to pay such costs, (2) the amount of moneys, if any, committed to such completion from available cash or marketable securities and reasonably estimated earnings thereon, (3) enumerated bank loans (including letters or lines of credit), and (4) any other moneys reasonably expected to be available, will be in an amount not less than the estimated amount needed to complete the Initial Project set forth in such certificate of the General Engineering Consultant. The Principal amount of the Completion Obligations permitted in this section may include the amount required to (I) provide completed and equipped facilities of substantially the same type and scope contemplated at the time the Obligations issued for the Initial Project were originally issued, (II) provide for capitalized interest during the period of construction, (III) provide the required deposit, if any, in any reserve fund permitted by subparagraphs (d) and (g) of this section and (IV) pay the costs and expenses of issuing such Subordinate Tier Obligations being issued as Completion Obligations.

Effect of Bankruptcy Related Event on TIFIA Obligations.

Notwithstanding any other provision to the contrary in the Master Trust Agreement or in any of the Financing Documents, upon the occurrence and during the continuance of any Bankruptcy Related Event of the Corporation, any TIFIA Obligations, if issued and outstanding, shall, if the Owner of such particular TIFIA Obligations is USDOT or another Governmental Lender requiring the same treatment, at such time, automatically and without action on the part of such owner or any other Person immediately become, and be of equal rank and on parity with the First Tier Obligations and shall be entitled to all rights of an Owner of First Tier Obligations (including, without limitation, the right of payment pro rata with other First Tier Obligations pursuant to "SUMMARY OF MASTER TRUST

AGREEMENT PROVISIONS – Pro Rata Application of Funds"); provided the benefit of any sub-account created within the First Tier Reserve Account shall be determined pursuant to the terms of the Supplemental Agreement establishing such sub-account. Upon such event, the money and investments held in any Debt Service Fund allocable to the payment of any TIFIA Obligation shall be transferred by the Trustee to the First Tier Debt Service Fund.

TELA/Other Tier Obligations.

Subject to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Actions Relating to Certain Financing Documents," the Corporation, without the consent of any Owner, reserves the right to amend or supplement the Initial Toll Equity Note and the related Toll Equity Loan Agreement, execute and deliver additional Toll Equity Notes and the related Toll Equity Loan Agreements and incur the related additional TELA/Other Tier Debt Obligations to evidence any Toll Equity Loan in connection with any Toll Equity Loan Agreement in accordance with subparagraph (e)(viii) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," "–Issuance of Second Tier Obligations," and "–Issuance of Subordinate Tier Obligations." The Toll Equity Note, as so amended, supplemented or subsequently delivered, and any such additional TELA/Other Tier Debt Obligations shall be secured by and payable from a lien on and pledge of the Trust Estate equally and ratably with, and in the same manner and to the same extent as the Outstanding TELA/Other Tier Obligations, and shall be payable from and secured by the TELA/Other Tier Payment Fund and shall be in all respects of equal dignity and on a parity with any then Outstanding TELA/Other Tier Obligations.

Further, subject to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Actions Relating to Certain Financing Documents," the Corporation, without the consent of any Owner, reserves the right to amend or supplement any Toll Equity Note and the related Toll Equity Loan Agreement, in any manner provided that, as certified by the Corporation Representative, (i) the annual Debt Service Requirements for all Outstanding First Tier TELA Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations and the estimated TELA Supported Junior Operating Expenses (as certified by the General Engineering Consultant) for the current Fiscal Year and in each Fiscal Year any Toll Equity Loan Supported Obligations are Outstanding is less than or equal to the applicable aggregate Maximum Available Annual Amount for each such Fiscal Year as set forth in any outstanding Toll Equity Loan Agreements, as amended or supplemented or (ii) if prior to any amendment or supplement, there is any Fiscal Year (including the then current Fiscal Year) in which the applicable aggregate Maximum Available Annual Amount for such Fiscal Year as set forth in any outstanding Toll Equity Loan Agreements is less than the annual Debt Service Requirements for all Outstanding First Tier TELA Obligations, Second Tier TELA Obligations and Subordinate Tier TELA Obligations and the estimated TELA Supported Junior Operating Expenses (as certified by the General Engineering Consultant for the current Fiscal Year and in each Fiscal Year any Toll Equity Loan Supported Obligations are Outstanding) for any such Fiscal Year (in each such Fiscal Year, a "TELA Coverage Deficit"), then the amendment or supplement to any outstanding Toll Equity Loan Agreements must (A) reduce the TELA Coverage Deficit in each Fiscal Year such a deficit occurs and (B) for all other Fiscal Years that do not have a TELA Coverage Deficit, not create a TELA Coverage Deficit in any such Fiscal Year.

Notwithstanding anything contrary in this section, the certification required in the immediately preceding paragraph shall include estimated TELA Supported Junior Operating Expenses for each Fiscal Year for which any Covered Operating Expense Toll Equity Loan Supported Obligations and any proposed Additional Obligations are to be Outstanding but shall exclude estimated TELA Supported Junior Operating Expenses for any Fiscal Year that only proposed Non-Covered Operating Expense Additional Obligations are to be Outstanding.

Project Budget.

In the event that a particular Project Budget is amended or supplemented in connection with the issuance of Additional Obligations pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," "–Issuance of Second Tier Obligations," and "–Issuance of Subordinate Tier Obligations," and in accordance with "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Actions Relating to Certain Financing Documents," such amended and supplemented Project Budget shall replace and be substituted for the superseded Project Budget. In the event that a new discrete Project Budget established in connection with the issuance of Additional Obligations pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," "–Issuance of Second Tier Obligations," and "–Issuance of Subordinate Tier Obligations," and in accordance with "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Actions Relating to Certain Financing Documents," such new discrete Project Budget shall be added to the existing Project Budget.

Construction Fund.

A special fund is created and designated System "Construction Fund," and established initially with the Trustee, and into which (i) any amounts as determined by a Corporation Representative, and (ii) any designated portion of the purchase price of the Obligations issued for the Initial Project or any Obligations issued under "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," "–Issuance of Second Tier Obligations" and "–Issuance of Subordinate Tier Obligations" shall be deposited. There also may be deposited to the credit of the Construction Fund or any subaccount therein any moneys received from any other source for paying Costs of a System Segment or for any other purpose authorized by law. A Supplemental Agreement or a Corporation Representative in writing may direct the Trustee to create accounts within the Construction Fund for particular sources of funds deposited into the Construction Fund.

Subject to the other provisions of the Master Trust Agreement, the moneys credited to the Construction Fund (including all obligations held as investments thereof and the proceeds of such investments) shall be applied to the payment of (i) the Costs of any System Segments or other improvements, extensions, enlargements, or additions to the System or the Grand Parkway Project, (ii) the interest on Obligations to the extent such money is credited to a Capitalized Interest Account within the Construction Fund or (iii) the cost of other purposes then authorized by law; and, pending such application, shall be subject to a lien and charge in favor of the Owners of all Obligations then Outstanding and for the further security of such owners until paid out or transferred as herein provided. Any liquidated damages for delayed completion under a construction contract relating to the acquisition or construction of a System Segment shall be deposited initially into the Construction Fund to be used for the Costs of related System Segment, Costs of the acquisition or construction of any other System Segment, and, if there are no such Costs, such amounts shall be transferred to the Debt Service Funds as directed by a Corporation Representative in writing to the Trustee.

Notwithstanding anything in the Master Trust Agreement to the contrary, the Corporation may contribute any amounts to the Construction Fund from any source other than proceeds of Obligations provided any such funds shall be maintained in a separate subaccount of the Construction Fund and shall not be comingled with proceeds of any Obligations. Any such amounts contributed to the Construction Fund (and investment earnings thereon) by the Corporation may be transferred out of the Construction Fund and no longer subject to the provisions of the Master Trust Agreement upon written direction of a Corporation Representative to the Trustee.

Progress Reports; Audits During Construction.

The Corporation covenants that, at least quarterly during the acquisition and construction of any portion of the System which it finances in whole or in part with Obligations, commencing within 120 days from the initial delivery of the Obligations issued for the Initial Project or Obligations financing an additional System Segment, as the case may be, it will cause the General Engineering Consultant to prepare a progress report, within 45 days after the end of each quarter, in connection with the acquisition or construction of such System Segment, including their then current estimates of:

(i) the date on which such System Segment will be opened for traffic, unless such System Segment shall have been opened for traffic prior to the date of such System Segment,

(ii) the Estimated Date of Completion and an estimated date of Substantial Completion of such System Segment,

(iii) the cost of such System Segment but excluding any Obligation discount and the interest during construction and for one year after completion of construction, and

(iv) the amount of funds required each six (6) months during the remaining estimated period of construction to meet the above described cost of such System Segment exclusive of funds provided for construction contingencies, and accompanied by a progress schedule for such construction, and further including, as to construction, comparisons between the actual times elapsed and the actual costs, and the original estimates of such times and costs.

Copies of such progress reports shall be filed with the Trustee and the Corporation. The Corporation shall file such progress reports with the Municipal Securities Rulemaking Board through its Electronic Municipal Market Access system within 15 days of the Corporation's receipt of such reports.

A Corporation Representative shall deliver to the Trustee a report or certificate certifying when Substantial Completion of the Initial Project, or any additional System Segment, has occurred. In certifying Substantial Completion of the Initial Project and any additional System Segment, such Corporation Representative shall base such certification upon his or her review of the quarterly progress reports for such project prepared by the General Engineering Consultant and upon consultation with the Traffic Consultant. After a Corporation Representative has delivered a report or certificate certifying Substantial Completion of the Initial Project or any additional System Segment, as the case may be, to the Trustee, no further progress reports under this section shall be required to be prepared with respect to such project or segment.

Certificates and Opinions after Completion of Construction; Disposition of Balance in Construction Fund.

When the construction of a System Segment has been substantially completed, which fact shall be evidenced to the Trustee by a certificate stating the date of such substantial completion, signed by a Corporation Representative and approved by the General Engineering Consultant, accompanied by an opinion of Counsel to the Corporation or counsel to the Department stating that the Corporation or the Department has acquired title or easements, or has acquired the right of possession by condemnation proceedings which may still be pending, in the name of the Corporation or the Department to the right-of way for the System Segment free from all liens or encumbrances except liens, encumbrances or other defects of title which, in the opinion of such counsel, do not have a materially adverse effect upon the Corporation's right to use such right-of-way for the purposes intended or which have been adequately guarded against by a bond or other form of indemnity, guaranty or insurance, in which opinion such counsel may rely on title insurance policies of companies satisfactory to such counsel as evidence of title when such policies are obtained, and accompanied by a certificate of the General Engineering Consultant stating the amount, if any, required in their opinion for the payment of any remaining part of the Cost of the System, the balance in the Construction Fund in excess of the amount, if any, stated in such certificate, shall, at the option and direction of the Corporation but subject to any federal tax law limitations, either (1) be utilized for additional System Segments or other improvements, extensions, enlargements, or additions to the System or the Grand Parkway Project, (2) be used by the Trustee to pay debt service on, to redeem or to purchase and cancel Outstanding Obligations as directed in writing by the Corporation Representative or (3) transferred to such other fund or account as directed in a certificate of a Corporation Representative if such certificate is accompanied by an opinion of Bond Counsel to the effect that such transfer will not adversely affect the tax-exempt status of the interest on the affected Outstanding Tax-Exempt Obligations under the Code and is authorized by State law; provided, however, any balance of any Capitalized Interest Account within the Construction Fund will be transferred into the applicable Debt Service Funds as directed in writing by the Corporation Representative.

If at any time there is filed with the Trustee a certificate signed by a Corporation Representative and approved by the General Engineering Consultant stating that the Cost of the System has been fully paid the balance in the Construction Fund shall be disposed of as provided in the foregoing paragraph.

Alternate Provisions for Construction Fund.

Notwithstanding any other provisions of the Master Trust Agreement, if Additional Obligations are issued, the Corporation may, in a Supplemental Agreement, provide that the Construction Fund shall be held, used, and drawn on for such purposes, in such manner, and under such circumstances as shall be directed and prescribed in such Supplemental Agreement, and all provisions of the Master Trust Agreement with respect to the Construction Fund shall be altered, modified, or abrogated accordingly. A Supplemental Agreement or a Corporation Representative in writing may direct the Trustee to create accounts within the Construction Fund for particular sources of funds deposited into the Construction Fund.

Covenants as to Tolls.

In the Toll Rate Agreement for the benefit of the Corporation, the Trustee and the Owners of the Obligations, the Commission has covenanted that it will (1) adopt and maintain in effect a Toll Rate Schedule for the System and

(2) establish charges for other uses of the property constituting a part of the System such as property leases, designed, collectively, to produce Senior Net Revenues in each Fiscal Year in an amount in compliance with the Commission Rate Covenant. To the extent permitted by law, the Corporation covenants and agrees to take all such action necessary to cause the Commission to meet its obligations under the Toll Rate Agreement.

Revenue Fund.

A special fund held by the Trustee is created and designated "Revenue Fund." The Corporation covenants that all Revenues of the System (excepting investment income from such funds and accounts that constitute a portion of the Revenues of the System, other than the Revenue Fund, which shall be retained in such funds and accounts except as otherwise required to be transferred as provided herein) will be collected by the Corporation and deposited daily, as far as practicable and within the control of the Corporation, with the Trustee for the credit of the Revenue Fund. It shall be the duty of the Trustee to provide the Corporation the ability to verify the amount of each such daily deposit separately.

To the extent authorized by law and subject to the Toll Rate Agreement, the Corporation may enter into an agreement, or consent to any agreements entered into by the Commission or the Department, with any other authority or other similar legal body operating a toll road whether or not connected to the System, for the collection and application of tolls charged for trips over all or a portion of one or more toll roads, which, on the basis of the revenues to be received by any such agreement, will result in the receipt by the Corporation of the allocable portion of such tolls relating to the System (less fees and expenses associated with such arrangement). Amounts relating to the System which constitute Revenues of the System received by the Corporation from such other authority or other similar legal body or pursuant to the Toll Rate Agreement, the Project Agreement and the Master Custodial Agreement, in accordance with such agreements, shall be deposited when received with the Trustee for credit to the Revenue Fund.

Duties of General Engineering Consultant.

The Corporation covenants that it will cause the General Engineering Consultant employed by it under the provisions of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Employment of General Engineering Consultant and Traffic Consultant," to make an inspection of the System on or before the 90th day prior to the end of each Fiscal Year and to submit to the Corporation a report setting forth (a) their findings whether the System has been maintained in good repair, working order and condition and (b) their advice and recommendations as to the proper maintenance, repair, and operation of the System during the ensuing Fiscal Year. Copies of such reports shall be filed with the Trustee. The General Engineering Consultant shall review and comment on preliminary drafts of the Annual Budget prior to the adoption of the Annual Budget by the Corporation pursuant to Section 505, including providing a recommendation regarding the Major Maintenance Requirement.

Budget.

The Corporation covenants that before the end of each Fiscal Year, it will adopt a budget for the ensuing Fiscal Year consisting of Revenues of the System, Operating Expenses, Major Maintenance Expenses, capital expenditures (to include a projected budget of Major Maintenance Expenses and capital expenditures for an additional three Fiscal Years beyond then beginning Fiscal Year (a total of Four Fiscal Years)) and payments into the Debt Service Funds, the Operation and Maintenance Reserve Fund, the Rate Stabilization Fund and the Major Maintenance Fund for such Fiscal Year (hereinafter sometimes called the "Annual Budget"). Such Annual Budget must separately account for TELA Supported Junior Operating Expenses, Non-TELA Supported Junior Operating Expenses, Major Maintenance Expenses and capital expenditures between System Segments financed with Toll Equity Loan Supported Obligations, accounting among the respective Toll Equity Loan Agreements, and System Segments which were not so financed. Copies of the Annual Budget shall be filed with the Trustee and mailed to the General Engineering Consultant. As no payment of Operating Expenses or payments from the Debt Service Funds will occur prior to October 15, 2013, and notwithstanding the preceding paragraph, the Corporation shall only be required to adopt its first Annual Budget by October 15, 2013, which budget shall include the period from the initial delivery date of the Obligations issued for the Initial Project through August 31, 2014.

If for any reason the Corporation shall not have adopted the Annual Budget before the first day of any Fiscal Year, the Annual Budget for the preceding Fiscal Year, shall, until the adoption of the Annual Budget, be deemed to be in force and shall be treated as the Annual Budget under the Master Trust Agreement.

The Corporation may at any time adopt an amended or supplemental Annual Budget for the remainder of the then current Fiscal Year, and when so adopted the Annual Budget as so amended or supplemented shall be treated as the Annual Budget under the provisions of the Master Trust Agreement; provided, however, that before the adoption of any such amended or supplemental Annual Budget, the General Engineering Consultant shall have reviewed and commented on drafts of the amended or supplemented Annual Budget. Copies of any such amended or supplemental Annual Budget shall be filed with the Trustee and mailed to the General Engineering Consultant.

The Corporation covenants that all payments for maintenance, repair and operation in any Fiscal Year will not exceed the reasonable and necessary amount required therefor, and that it will not expend any amount or incur any obligations for maintenance, repair, and operation in excess of the amounts provided for Operating Expenses in the Annual Budget, or amended or supplemental Annual Budget, except as provided in the Master Trust Agreement and except amounts payable from the Operation and Maintenance Reserve Fund, the Rate Stabilization Fund, the Major Maintenance Fund and the Grand Parkway Enhancement Fund. Nothing in this section contained shall limit the amount which the Corporation may expend for Operating Expenses in any Fiscal Year provided any amounts expended therefor in excess of the Annual Budget shall be received by the Corporation from some source other than the Revenues of the System for such Fiscal Year.

Payment of Senior Operating Expenses.

(a) A special fund held by the Trustee and created and designated the "Senior Operation and Maintenance Fund" is hereby created. On each Transfer Date, the Trustee shall withdraw from the Revenue Fund and deposit to the Senior Operation and Maintenance Fund an amount required to make the total amount in the Senior Operation and Maintenance Fund equal to one-sixth (1/6) of the amount of the total Senior Operating Expenses scheduled for the then current Fiscal Year in the then current Annual Budget, plus all prior accruals for any insurance and other periodic or regularly recurring expenses. All Senior Operating Expenses shall be paid directly by the Trustee, upon written direction of a Corporation Representative, by drawing checks or drafts or by other means on the Senior Operation and Maintenance Fund as may be determined by the Trustee and the Corporation Representative and such fund shall be used for no other purpose.

(b) Notwithstanding the above paragraph and as an alternative to such paragraph, the Corporation may cause a Depositary of the Corporation to create a special fund to be held by the Corporation and designated the "Senior Operation and Maintenance Fund" and, upon written direction from the Corporation Representative to the Trustee, the Trustee shall transfer all amounts in the Senior Operation and Maintenance Fund to the credit of the Senior Operation and Maintenance Fund held by such Depositary and such fund will be maintained and administered by the Corporation and the Senior Operation and Maintenance Fund held by the Trustee shall be closed. On each Transfer Date, the Trustee shall withdraw from the Revenue Fund and deposit to the credit of the Corporation in the Senior Operation and Maintenance Fund, on written request of the Corporation, an amount which a Corporation Representative shall certify in such request to the Trustee at least one Business Day prior to such Transfer Date to be required to make the total amount in the Senior Operation and Maintenance Fund equal to one-sixth (1/6) of the amount of the total Senior Operating Expenses scheduled for the then current Fiscal Year in the then current Annual Budget, plus all prior accruals for any insurance and other periodic or regularly recurring expenses. All Senior Operating Expenses shall be paid directly by the Corporation by drawing checks or drafts on the Senior Operation and Maintenance Fund in such manner as may be determined by the Corporation and such fund shall be used for no other purpose.

Creation of Rebate Fund; Debt Service Funds; Junior Operation and Maintenance Fund; Operation and Maintenance Reserve Fund; TELA/Other Tier Payment Fund; Rate Stabilization Fund; Major Maintenance Fund; and Grand Parkway Enhancement Fund.

(a) A special fund held by the Trustee is created and designated the "Rebate Fund."

(b) A special fund held by the Trustee is created and designated the "First Tier Debt Service Fund" and the three separate accounts are hereby designated the "First Tier Interest Account," "First Tier Redemption Account" and "First Tier Reserve Account," respectively. There may be created pursuant to a Supplemental Agreement sub-accounts within the First Tier Reserve Account necessary or convenient to the creation and method of funding a reserve fund for a series of First Tier Obligations.

(c) A special fund held by the Trustee is created and designated "Second Tier Debt Service Fund." There are hereby created three separate accounts in the Second Tier Debt Service Fund, designated "Second Tier Interest Account," "Second Tier Redemption Account" and "Second Tier Reserve Account," respectively. There may be created pursuant to a Supplemental Agreement sub-accounts within the Second Tier Reserve Account necessary or convenient to the creation and method of funding a reserve fund for a series of Second Tier Obligations.

(d) A special fund held by the Trustee is created and designated "Subordinate Tier Debt Service Fund." There are hereby created three separate accounts in the Subordinate Tier Debt Service Fund, designated "Subordinate Tier Interest Account," "Subordinate Tier Redemption Account" and "Subordinate Tier Reserve Account," respectively. There may be created pursuant to a Supplemental Agreement sub-accounts within the Subordinate Tier Interest Account, the Subordinate Tier Redemption Account and the Subordinate Tier Reserve Account necessary or convenient to the payment of Principal of or interest on a series of Subordinate Tier Obligations, priorities of such payment among series of Subordinate Tier Obligations and the creation and method of funding a reserve fund for a series of Subordinate Tier Obligations.

(e) A special fund held by the Trustee is created and designated "Junior Operation and Maintenance Fund" is hereby created, subject to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Payment of Junior Operating Expenses."

(f) A special fund held by the Trustee is created and designated "Operation and Maintenance Reserve Fund."

(g) A special fund held by the Trustee is created and designated "TELA/Other Tier Payment Fund."

(h) A special fund held by the Trustee is created and designated "Rate Stabilization Fund."

(i) A special fund held by the Trustee is created and designated "Major Maintenance Fund."

(j) A special fund held by the Trustee is created and designated "Grand Parkway Enhancement Fund."

Flow of Funds.

(a) Commencing on the fifth Business Day preceding the first day of November 2013 and each month thereafter (each such date, a "Transfer Date"), transfers from the Revenue Fund shall be made to the below-listed funds and accounts in the order of priority in which the funds and accounts are listed below.

In the event that in any month the Trustee submits a Draw Request solely with respect to (i) the First Tier TELA Obligations and the related First Tier Debt Service Fund, (ii) the Second Tier TELA Obligations and the related Second Tier Debt Service Fund, (iii) the Subordinate Tier TELA Obligations and the related Subordinate Tier Debt Service Fund, (iv) TELA Supported Junior Operating Expenses and the Junior Operation and Maintenance Fund and (v) the Major Maintenance Fund, under a Toll Equity Loan Agreement pursuant to "TRUST AGREEMENT – Toll Equity Loan Agreement Draw Requests," and the amount received by the Trustee pursuant to such Draw Request is insufficient to pay all amounts requested in such Draw Request, the Trustee shall apply the amounts received under such Draw Request, (A) first, to any amounts required to be deposited in the First Tier Debt Service Fund on such date with respect to the First Tier TELA Obligations pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Application and Pledge of Moneys in Debt Service Funds," "–Withdrawals from Interest Accounts" and "–Application of Moneys in Redemption Accounts; Payment of Obligations and Payment Obligations; Redemption of Obligations," (B) second, to any amounts required to be deposited in the Second Tier Debt Service Fund on such date with respect to the Second Tier TELA Obligations pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Application and Pledge of Moneys in Debt Service Funds," "–Withdrawals from Interest Accounts" and "–Application of Moneys in Redemption Accounts; Payment of Obligations and Payment Obligations; Redemption of Obligations," (C) third, to any amounts required to be deposited in the Subordinate Tier Debt Service Fund on such date with respect to the Subordinate Tier TELA Obligations pursuant to "SUMMARY OF

MASTER TRUST AGREEMENT PROVISIONS – Application and Pledge of Moneys in Debt Service Funds," "–Withdrawals from Interest Accounts" and "–Application of Moneys in Redemption Accounts; Payment of Obligations and Payment Obligations; Redemption of Obligations," (D) fourth, to any amounts required to be deposited in the Junior Operation and Maintenance Fund on such date pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Payment of Junior Operating Expenses" and (E) fifth, to any amounts required to be deposited in the Major Maintenance Fund on such date pursuant to SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Major Maintenance Fund."

(1) Rebate Fund;

(2) Senior Operation and Maintenance Fund;

(3) First Tier Interest Account;

(4) First Tier Redemption Account;

(5) First Tier Reserve Account;

(6) Second Tier Interest Account;

(7) Second Tier Redemption Account;

(8) Second Tier Reserve Account;

(9) Subordinate Tier Interest Account;

(10) Subordinate Tier Redemption Account;

(11) Subordinate Tier Reserve Account;

(12) Junior Operation and Maintenance Fund;

(13) Operation and Maintenance Reserve Fund;

(14) TELA/Other Tier Payment Fund;

(15) Rate Stabilization Fund;

(16) Major Maintenance Fund; and

(17) Grand Parkway Enhancement Fund.

In recognition that (i) Obligations and the interest thereon, including Payment Obligations, may come due on various dates, (ii) First Tier Obligations have a security interest in the Senior Net Revenues senior to that securing the Second Tier Obligations and the Subordinate Tier Obligations and senior to the security interest in the Junior Net Revenues securing the TELA/Other Tier Obligations, (iii) Second Tier Obligations have a security interest in the Senior Net Revenues senior to that securing the Subordinate Tier Obligations and senior to the security interest in the Junior Net Revenues securing the TELA/Other Tier Obligations, (iv) Subordinate Tier Obligations have a security interest in the Senior Net Revenues senior to the security interest in the Junior Net Revenues securing the TELA/Other Tier Obligations, (v) Second Tier Obligations or interest thereon, may become due and payable on a date or dates in a Fiscal Year prior to the date a First Tier Obligation or the interest thereon is due, (vi) Subordinate Tier Obligations, or interest thereon, may become due and payable on a date or dates in a Fiscal Year prior to the date a First Tier Obligation or a Second Tier Obligation, or the interest thereon, is due, (vii) a series of Subordinate Tier Obligations may have a priority of payment different than another series of Subordinate Tier Obligations, as may be provided in the applicable Supplemental Agreements and (viii) TELA/Other Tier Obligations, or interest thereon, may become due and payable on a date or dates in a Fiscal Year prior to the date a First Tier Obligation, a Second Tier Obligation or a Subordinate Tier Obligation, or the interest thereon, is due, the Corporation covenants that no transfer from the Revenue Fund to any fund or account, other than the Senior Operation and Maintenance Fund or the First Tier Debt Service Fund), will be made in any Fiscal Year unless, in the opinion of a Corporation Representative (based on the Annual Budget for such Fiscal Year) set forth in a certificate delivered to the Trustee on or before the first business day of such Fiscal Year and updated on the date of delivery of any Additional Obligations issued during such year, such transfers during such Fiscal Year are not anticipated to result in the inability of the Corporation to make a later transfer, as required by the Master Trust Agreement, to a fund or account securing Obligations that have a security interest in the Senior Net Revenues or the Junior Net Revenues, as the case may be, senior to that securing the Obligations that are secured by the fund or account into which the transfer is scheduled to be made. If (A) a Corporation Representative fails to deliver the certificate described in the prior sentence for a Fiscal Year, or (B) at any time during a Fiscal Year the Corporation determines that transfers from the Revenue Fund to any fund or account may result in the inability of the Corporation to make a later transfer within the six (6) month period from the date of such determination, as required by the Master Trust Agreement, to a fund or account securing Obligations that have a security interest in the Senior Net Revenues or the Junior Net Revenues, as the case may be, senior to that securing the Obligations that are secured by the fund or account into which the transfer is scheduled to be made, a Corporation Representative shall deliver to the Trustee a certificate to that effect, then, in either case, for such Fiscal Year or the remainder of such Fiscal Year (i) transfers from the Revenue Fund to any fund or account shall be made strictly in the priority set forth in the first paragraph of subparagraph (a) of this section and subparagraph (b) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Subordinate Tier Obligations," (ii) such transfers from the Revenue Fund shall be made once each month on each Transfer Date, and (iii) after each monthly deposit to the Senior Operation and Maintenance Fund, no transfer to a fund or account shall be made until all funds and accounts with a higher priority have on deposit therein all amounts to be deposited in such fund or account for such Fiscal Year.

(b) The Corporation covenants to calculate and to pay directly to the government of the United States all amounts due for payment of "arbitrage rebate" under Section 148(a) of the Code with respect to any Tax-Exempt Obligations. Nevertheless, the Corporation in the future may deposit with the Trustee or direct the Trustee to deposit in the Rebate Fund amounts held in any fund hereunder for any or all Series of First Tier Obligations, Second Tier Obligations, Subordinate Tier Obligations or TELA/Other Tier Obligations (which direction shall specify the procedures for collection and payment of amounts due in respect of arbitrage rebate) if (a) required under any amendments to Section 148(a) of the Code or (b) the Corporation otherwise determines that the funding of the Rebate Fund is necessary or appropriate. The Rebate Fund is a trust fund but the amounts therein do not constitute part of the Trust Estate. Amounts on deposit in the Rebate Fund may be used solely to make payments to the United States under Section 148 of the Code and to pay costs related to the calculation of the amounts due. Upon satisfaction of the Corporation's covenants described above, any amounts remaining in the Rebate Fund shall be deposited in the Revenue Fund.

(c) After first having made the deposits required by subparagraph (b) of this section prior to the transfer under this clause (c), if any, and subject to subparagraph (a) of this section, on each Transfer Date, the Trustee shall withdraw from the Revenue Fund and deposit to the credit of the Senior Operation and Maintenance Fund (whether maintained by the Trustee or the Corporation), the amount to be deposited into the Senior Operation and Maintenance Fund as determined pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Payment of Senior Operating Expenses."

If at the time the Trustee is required to make a deposit to the credit of the Senior Operation and Maintenance Fund (whether maintained by the Trustee or the Corporation) from the Revenue Fund pursuant to the above paragraph the money therein shall not be sufficient for such purpose, the Trustee shall withdraw the amount of such deficiency from the money on deposit in the following funds or accounts and transfer the same to the credit of the Senior Operation and Maintenance Fund (whether maintained by the Trustee or the Corporation) in the following order of priority to the extent that funds are available therein: the Revenue Fund, the Grand Parkway Enhancement Fund, the Major Maintenance Fund, the Rate Stabilization Fund and the Operation and Maintenance Reserve Fund.

(d) After first having made the deposits required by subsections (b) and (c) of this section prior to the transfer under this clause (d), if any, and subject to subparagraph (a) of this section, on the Transfer Date preceding each interest, Principal or redemption payment date for the First Tier Obligations or such other day as set forth in a Supplemental Agreement, the Trustee shall withdraw from the Revenue Fund and deposit to the applicable account in the First Tier Debt Service Fund (or to a fund or account created to pay or repay amounts owed under a First Tier

Credit Agreement entered into in connection with a series of First Tier Obligations in lieu of the foregoing) the amounts due on any First Tier Obligation.

If at the time the Trustee is required to make a deposit into the First Tier Debt Service Fund from the Revenue Fund pursuant to the above paragraph, the money therein shall not be sufficient for paying amount then to be due on the First Tier Obligations (allocated on the basis provided in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Pro Rata Application of Funds"), then the Trustee shall withdraw the amount of such deficiency from the money on deposit in the following funds or accounts and transfer the same to the First Tier Debt Service Fund in the following order of priority to the extent that funds are available therein: the Revenue Fund, the Grand Parkway Enhancement Fund, the Major Maintenance Fund, the Rate Stabilization Fund, the Operation and Maintenance Reserve Fund, any applicable reserve subaccount in the First Tier Reserve Account and the Junior Operation and Maintenance Fund. If, after making such transfers, the money in the First Tier Debt Service Fund allocated to the First Tier TELA Obligations is insufficient to make payment, when due, of interest on and/or the Principal or premium on such First Tier TELA Obligations, the Trustee shall make a draw under the applicable Toll Equity Loan Agreement by submitting a Draw Request in accordance with "TRUST AGREEMENT – Toll Equity Loan Agreement Draw Requests" in an amount sufficient to satisfy any shortfall relating to the First Tier TELA Obligations, to the extent that funds are available thereunder. Amounts drawn under the applicable Toll Equity Loan Agreement for the foregoing purpose as described in this clause (d) shall be deposited by the Trustee into the TELA Draw Clearing Account and then credited to the First Tier Debt Service Fund for application solely for the benefit of such First Tier TELA Obligations to which the Toll Equity Loan Agreement relates as set forth in this clause (d).

(e) After first having made the deposits required by subparagraphs (b) through (d) of this section prior to the transfer under this clause (e), if any, and subject to subparagraph (a) of this section, on each Transfer Date the Trustee shall transfer from the Revenue Fund to the credit of the First Tier Reserve Account or subaccount therein the amount, if any, required to accumulate any applicable reserve requirement or restore any deficiency in such account or subaccount due to a withdrawal or change in value of Permitted Investments in order to make the amount on deposit therein or reimbursement to an obligor of any Reserve Surety Agreement related thereto, as provided in any Supplemental Agreements.

(f) After first having made the deposits required by subparagraphs (b) through (e) of this section prior to the transfer under this clause (f), if any, and subject to subparagraph (a) of this section, on the Transfer Date preceding each interest, Principal or redemption payment date for any Second Tier Obligations or such other day as set forth in a Supplemental Agreement, the Trustee shall withdraw from the Revenue Fund and deposit to the applicable account in the Second Tier Debt Service Fund (or to a fund or account created to pay or repay amounts owed under a Second Tier Credit Agreement entered into in connection with a series of Second Tier Obligations in lieu of the foregoing) the amounts due on any Second Tier Obligation.

If at the time the Trustee is required to make a deposit into the Second Tier Debt Service Fund from the Revenue Fund pursuant to the above paragraph, the money therein shall not be sufficient for paying amount then to be due on the Second Tier Obligations (allocated on the basis provided in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Pro Rata Application of Funds"), then the Trustee shall withdraw the amount of such deficiency from the money on deposit in the following funds or accounts and transfer the same to the Second Tier Debt Service Fund in the following order of priority to the extent that funds are available therein: the Revenue Fund, the Grand Parkway Enhancement Fund, the Major Maintenance Fund, the Rate Stabilization Fund, the Operation and Maintenance Reserve Fund, any applicable reserve subaccount in the Second Tier Reserve Account and the Junior Operation and Maintenance Fund. If, after making such transfers, the money in the Second Tier Debt Service Fund allocated to the Second Tier TELA Obligations is insufficient to make such payment relating to such Second Tier TELA Obligations, the Trustee shall make a draw under the applicable Toll Equity Loan Agreement by submitting a Draw Request in accordance with "TRUST AGREEMENT – Toll Equity Loan Agreement Draw Requests" in an amount sufficient to satisfy any shortfall relating to the Second Tier TELA Obligations, to the extent that funds are available thereunder. Amounts drawn under the applicable Toll Equity Loan Agreement for the foregoing purpose as described in this clause (f) shall be deposited by the Trustee into the TELA Draw Clearing Account and then credited to the Second Tier Debt Service Fund for application solely for the benefit of such Second Tier TELA Obligations to which the Toll Equity Loan Agreement relates as set forth in this clause (f).

(g) After first having made the deposits required by subparagraphs (b) through (f) of this section prior to the transfer under this clause (g), if any, and subject to subparagraph (a) of this section, on each Transfer Date the Trustee shall transfer from the Revenue Fund to the credit of the Second Tier Reserve Account or subaccount therein the amount, if any, required to accumulate any applicable reserve requirement or restore any deficiency in such account or subaccount due to a withdrawal or change in value of Permitted Investments in order to make the amount on deposit therein or reimbursement to an obligor of any Reserve Surety Agreement related thereto, as provided in any Supplemental Agreements.

(h) After first having made the deposits required by subparagraphs (b) through (g) of this section prior to the transfer under this clause (h), if any, and subject to subparagraph (a) of this section, on each Transfer Date preceding each interest, Principal or redemption payment date for any Subordinate Tier Obligations or such other day as set forth in a Supplemental Agreement and subject to subparagraph (b) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Subordinate Tier Obligations," the Trustee shall withdraw from the Revenue Fund and deposit to the applicable account in the Subordinate Tier Debt Service Fund (or to a fund or account created to pay or repay amounts owed under a Subordinate Credit Agreement entered into in connection with a series of Subordinate Tier Obligations in lieu of the foregoing) the amounts due on any Subordinate Tier Obligation.

Subject to subparagraph (b) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Subordinate Tier Obligations," if at the time the Trustee is required to make a deposit into the Subordinate Tier Debt Service Fund from the Revenue Fund pursuant to the above paragraph, the money therein shall not be sufficient for paying amount then to be due on the Subordinate Tier Obligations (allocated on the basis provided in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Pro Rata Application of Funds"), then the Trustee shall withdraw the amount of such deficiency from the money on deposit in the following funds or accounts and transfer the same to the Subordinate Tier Debt Service Fund in the following order of priority to the extent that funds are available therein: the Revenue Fund, the Grand Parkway Enhancement Fund, the Major Maintenance Fund, the Rate Stabilization Fund, the Operation and Maintenance Reserve Fund, any applicable reserve subaccount in the Subordinate Tier Reserve Account and the Junior Operation and Maintenance Fund. If, after making such transfers, the money in the Subordinate Tier Debt Service Fund allocated to the Subordinate Tier TELA Obligations is insufficient to make payment, when due, of interest on and/or Principal of or premium on such Subordinate Tier TELA Obligations, the Trustee shall make a draw under the applicable Toll Equity Loan Agreement by submitting a Draw Request in accordance with "TRUST AGREEMENT – Toll Equity Loan Agreement Draw Requests" in an amount sufficient to satisfy any shortfall relating to the Subordinate Tier TELA Obligations, to the extent that funds are available thereunder. Amounts drawn under the applicable Toll Equity Loan Agreement for the foregoing purpose as described in this clause (h) shall be deposited by the Trustee into the TELA Draw Clearing Account and then credited to the Subordinate Tier Debt Service Fund for application solely for the benefit of such Subordinate Tier TELA Obligations to which the Toll Equity Loan Agreement relates as set forth in this clause (h).

(i) In each Fiscal Year, after first having made the deposits required by subparagraphs (b) through (h) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds" prior to the transfer under this clause (i), if any, and subject to subparagraph (a) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," on each Transfer Date the Trustee shall transfer from the Revenue Fund to the credit of the Subordinate Tier Reserve Account or subaccount therein the amount, if any, required to accumulate any applicable reserve requirement or restore any deficiency in such account or subaccount due to a withdrawal or change in value of Permitted Investments in order to make the amount on deposit therein or reimbursement to an obligor of any Reserve Surety Agreement related thereto, as provided in any Supplemental Agreements.

(j) After first having made the deposits required by subparagraphs (b) through (i) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds" prior to the transfer under this clause (j), if any, and subject to subparagraph (a) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," on each Transfer Date, the Trustee shall transfer from the Revenue Fund and deposit to the credit of the Junior Operation and Maintenance Fund (whether maintained by the Trustee or the Corporation), the amount to be deposited into the Junior Operation and Maintenance Fund as determined pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Payment of Junior Operating Expenses."

If at the time the Trustee is required to make a deposit to the credit of the Junior Operation and Maintenance Fund (whether maintained by the Trustee or the Corporation) from the Revenue Fund pursuant to the above paragraph the money therein shall not be sufficient for such purpose, the Trustee shall withdraw the amount of such deficiency from the money on deposit in the following funds or accounts and transfer the same to the credit of the Junior Operation and Maintenance Fund (whether maintained by the Trustee or the Corporation) in the following order of priority to the extent that funds are available therein: the Revenue Fund, the Grand Parkway Enhancement Fund, the Major Maintenance Fund, the Rate Stabilization Fund and the Operation and Maintenance Reserve Fund for application, pro rata, between TELA Supported Junior Operating Expenses and Non-TELA Supported Junior Operating Expenses. If, after making such transfers, on the Transfer Date the money in the Junior Operation and Maintenance Fund allocated to the TELA Supported Junior Operating Expenses is insufficient to make such payment of such TELA Supported Junior Operating Expenses, the Trustee shall make a draw under the applicable Toll Equity Loan Agreement by submitting a Draw Request in accordance with "TRUST AGREEMENT – Toll Equity Loan Agreement Draw Requests" in an amount sufficient to satisfy any such shortfall, to the extent that funds are available thereunder. Amounts drawn under the applicable Toll Equity Loan Agreement for the foregoing purpose as described in this clause (j) shall be deposited by the Trustee into the TELA Draw Clearing Account and then credited to the Junior Operation and Maintenance Fund (whether maintained by the Trustee or the Corporation) for application to TELA Supported Junior Operating Expenses as set forth in this clause (j) and "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Payment of Junior Operating Expenses."

(k) After first having made the deposits required by subparagraphs (b) through (j) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds" prior to the transfer under this clause (k), if any, and subject to subparagraph (a) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," on each Transfer Date, the Trustee shall transfer from the Revenue Fund to the credit of the Operation and Maintenance Reserve Fund an amount sufficient to accumulate an amount equal to or restore the balance in the Operation and Maintenance Reserve Fund to an amount equal to the Operation and Maintenance Reserve Requirement.

(l) After first having made the deposits required by subparagraphs (b) through (k) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds" prior to the transfer under this clause (l), if any, and subject to subparagraph (a) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," on the Transfer Date preceding each interest, Principal or redemption payment date for any TELA/Other Tier Obligations, the Trustee shall withdraw from the Revenue Fund and deposit to the TELA/Other Tier Payment Fund the amounts due on any TELA/Other Tier Obligation.

(m) After first having made the deposits required by subparagraphs (b) through (l) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds" prior to the transfer under this clause (m), if any, and subject to subparagraph (a) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," on each Transfer Date, the Trustee shall transfer from the Revenue Fund, but only to the extent Revenues of the System in such fund are available and as provided in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS - Rate Stabilization Fund," to the credit of the Rate Stabilization Fund amounts sufficient to accumulate an amount equal to or to restore the balance in the Rate Stabilization Fund to an amount equal to the Rate Stabilization Fund Requirement.

(n) After first having made the deposits required by subparagraphs (b) through (m) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds" prior to the transfer under this clause (n), if any, and subject to subparagraph (a) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," on each Transfer Date the Trustee shall transfer from the Revenue Fund, but only to the extent Revenues of the System in such fund are available, to the credit of the Major Maintenance Fund amounts sufficient to accumulate an amount equal to or to restore the balance in the Major Maintenance Fund to an amount equal to the Major Maintenance Requirement.

(o) After first having made the deposits provided by subparagraphs (b) through (n) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," subject to the following conditions, on or before the last Business Day of each Fiscal Year (or more frequently if every condition set forth below has been satisfied) the Trustee shall transfer from the Revenue Fund to the credit of the Grand Parkway Enhancement Fund all Revenues of the System remaining in the Revenue Fund (and accrued to such current Fiscal Year) that a Corporation Representative determines, in a certificate delivered to the Trustee, to be in excess of the amount required to be reserved therein for transfers expected to be made in the first two months of the following Fiscal Year to the First Tier

Interest Account, the First Tier Redemption Account, the Second Tier Interest Account, the Second Tier Redemption Account, the Subordinate Tier Interest Account, the Subordinate Tier Redemption Account or the TELA/Other Tier Payment Fund. The certificate of a Corporation Representative must also state that, as of the date of the transfer:

(1) no Event of Default under "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Events of Default" currently exists, and

(2) every fund and account established by or required to be established by the Master Trust Agreement contains at least the amount required to be deposited therein in such Fiscal Year.

Application and Pledge of Moneys in Debt Service Funds.

(a) Subject to the terms and conditions set forth in the Master Trust Agreement, the First Tier Debt Service Fund shall be held in trust and disbursed by the Trustee for (1) after utilizing amounts available in any applicable Capitalized Interest Account for the related First Tier Obligations, the payment of interest upon the First Tier Obligations issued hereunder as such interest falls due, or (2) the payment of the Principal of such First Tier Obligations at maturity, or (3) the payment of First Tier Payment Obligations, or (4) the payment of the purchase price or redemption price of such First Tier Obligations before maturity, as provided in the Master Trust Agreement or any Supplemental Agreement, and such moneys are hereby pledged to and charged with the payment mentioned in this subparagraph.

(b) Subject to the terms and conditions set forth in the Master Trust Agreement, the Second Tier Debt Service Fund shall be held in trust and disbursed by the Trustee for (1) after utilizing amounts available in any applicable Capitalized Interest Account for the related Second Tier Obligations, the payment of interest upon the Second Tier Obligations issued hereunder as such interest falls due, or (2) the payment of the Principal of such Second Tier Obligations at maturity, or (3) the payment of Second Tier Payment Obligations, or (4) the payment of the purchase price or redemption price of such Second Tier Obligations before maturity, as provided in the Master Trust Agreement or any Supplemental Agreement, and such moneys are hereby pledged to and charged with the payment mentioned in this subparagraph.

(c) Subject to the terms and conditions set forth in the Master Trust Agreement, including subparagraph (b) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Subordinate Tier Obligations," the Subordinate Tier Debt Service Fund shall be held in trust and disbursed by the Trustee for (1) after utilizing amounts available in any applicable Capitalized Interest Account for the related Subordinate Tier Obligations, the payment of interest upon the Subordinate Tier Obligations issued hereunder as such interest falls due, or (2) the payment of the Principal of such Subordinate Tier Obligations at maturity, or (3) the payment of Subordinate Tier Payment Obligations, or (4) the payment of the purchase price or redemption price of such Subordinate Tier Obligations before maturity, as provided in the Master Trust Agreement or any Supplemental Agreement, and such moneys are hereby pledged to and charged with the payment mentioned in this subparagraph.

Withdrawals from Interest Accounts.

(a) The Trustee shall, from time to time and after utilizing amounts available in any applicable Capitalized Interest Account for the related First Tier Obligations, withdraw from the First Tier Interest Account and remit to the respective Owners of First Tier Obligations the amounts required for paying interest upon the First Tier Obligations as such interest comes due on the dates and in the manner provided in the Master Trust Agreement or any Supplemental Agreement or other proceedings approved by the Corporation.

(b) The Trustee shall, from time to time and after utilizing amounts available in any applicable Capitalized Interest Account for the related Second Tier Obligations, withdraw from the Second Tier Interest Account and remit to the respective Owners of Second Tier Obligations the amounts required for paying interest upon the Second Tier Obligations as such interest comes due on the dates and in the manner provided in the Master Trust Agreement or any Supplemental Agreement or other proceedings approved by the Corporation.

(c) Subject to subparagraph (b) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Subordinate Tier Obligations" and "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," the Trustee shall, from time to time and after utilizing amounts available in any applicable Capitalized Interest Account for the related Subordinate Tier Obligations, withdraw from the Subordinate Tier Interest Account or any applicable sub-account therein and remit to the respective Owners of Subordinate Tier Obligations the amounts required for paying interest upon the Subordinate Tier Obligations as such interest comes due on the dates and in the manner provided in the Master Trust Agreement or any Supplemental Agreement or other proceedings approved by the Corporation.

Application of Moneys in Redemption Accounts; Payment of Obligations and Payment Obligations; Redemption of Obligations.

(a) To the extent of any moneys at any time in the First Tier Redemption Account, the Trustee shall retire or provide for the retirement of Principal of First Tier Obligations, including First Tier Payment Obligations, with money from the First Tier Redemption Account, and the Trustee shall pay, when due, the amount of Principal of all First Tier Obligations scheduled to mature and all First Tier Payment Obligations, and the Trustee shall redeem or purchase First Tier Obligations prior to maturity during each year specified in, and pursuant to, any optional or mandatory redemption or purchase provisions required for First Tier Obligations, and shall pay the Principal, any redemption premium required therefor, and all necessary and proper expenses in connection therewith, from the First Tier Redemption Account, but shall pay all accrued interest on First Tier Obligations from the First Tier Interest Account.

(b) To the extent of any moneys at any time in the Second Tier Redemption Account, the Trustee shall retire or provide for the retirement of Principal of Second Tier Obligations, including Second Tier Payment Obligations, with money from the Second Tier Redemption Account, and the Trustee shall pay, when due, the amount of Principal of all Second Tier Obligations scheduled to mature and all Second Tier Payment Obligations, and the Trustee shall redeem or purchase Second Tier Obligations prior to maturity during each year specified in, and pursuant to, any optional or mandatory redemption or purchase provisions required for Second Tier Obligations, and shall pay the Principal, any redemption premium required therefor, and all necessary and proper expenses in connection therewith, from the Second Tier Redemption Account, but shall pay all accrued interest on Second Tier Obligations from the Second Tier Interest Account.

(c) Subject to subparagraph (b) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Subordinate Tier Obligations" and the related Supplemental Agreements, to the extent of any moneys at any time in the Subordinate Tier Redemption Account or any sub-account therein, the Trustee shall retire or provide for the retirement of Principal of Subordinate Tier Obligations, including Subordinate Tier Payment Obligations, with money from the Subordinate Tier Redemption Account or the applicable sub-account therein, and the Trustee shall pay, when due, the amount of Principal of all Subordinate Tier Obligations scheduled to mature and all Subordinate Tier Payment Obligations, and the Trustee shall redeem or purchase Subordinate Tier Obligations prior to maturity during each year specified in, and pursuant to, any optional or mandatory redemption or purchase provisions required for Subordinate Tier Obligations, and shall pay the Principal, any redemption premium required therefor, and all necessary and proper expenses in connection therewith, from the Subordinate Tier Redemption Account or the applicable sub-account therein, but shall pay all accrued interest on Subordinate Tier Obligations from the Subordinate Tier Interest Account or the applicable sub-account therein.

Application of Moneys in Reserve Accounts.

(a) Moneys and investments held for the credit of any subaccounts of the First Tier Reserve Account shall be used finally to retire the last of the applicable Outstanding First Tier Obligations to which the subaccounts relate, respectively, and/or for the purpose of paying interest on and Principal of the First Tier Obligations to which the subaccounts relate whenever and to the extent that the moneys held for the credit of the First Tier Interest Account and the First Tier Redemption Account shall be insufficient for such purpose. The provision for any subaccount of the First Tier Reserve Account related to a Series of First Tier Obligations shall be set out in the Supplemental Agreement related thereto, including any reserve requirement, requirement to make up any deficiency in such account and disposition of any excess moneys and investments therein. If a Reserve Surety Agreement is used as a reserve for any Series of First Tier Obligations, any reimbursements required thereunder to be paid to an obligor as a result of a draw or demand thereunder and any expenses payable thereunder shall be made, as provided in the related Reserve Surety Agreement, from moneys deposited into the applicable subaccount of the First Tier Reserve Account until fully paid.

(b) Moneys and investments held for the credit of any subaccounts of the Second Tier Reserve Account shall be used finally to retire the last of the applicable Outstanding Second Tier Obligations to which the subaccounts relate, respectively, and/or for the purpose of paying interest on and Principal of the Second Tier Obligations to which the subaccounts relate whenever and to the extent that the moneys held for the credit of the Second Tier Interest Account and the Second Tier Redemption Account shall be insufficient for such purpose. The provision for any subaccount of the Second Tier Reserve Account related to a Series of Second Tier Obligations shall be set out in the Supplemental Agreement related thereto, including any reserve requirement, requirement to make up any deficiency in such account and disposition of any excess moneys and investments therein. If a Reserve Surety Agreement is used as a reserve for any Series of Second Tier Obligations, any reimbursements required thereunder to be paid to an obligor as a result of a draw or demand thereunder and any expenses payable thereunder shall be made, as provided in the related Reserve Surety Agreement, from moneys deposited into the applicable subaccount of the Second Tier Reserve Account until fully paid.

(c) Moneys and investments held for the credit of any subaccounts of the Subordinate Tier Reserve Account shall be used finally to retire the last of the applicable Outstanding Subordinate Tier Obligations to which the subaccounts relate, respectively, and/or for the purpose of paying interest on and Principal of the Subordinate Tier Obligations to which the subaccounts relate whenever and to the extent that the moneys held for the credit of the Subordinate Tier Interest Account and the Subordinate Tier Redemption Account shall be insufficient for such purpose. The provision for any subaccount of the Subordinate Tier Reserve Account related to a Series of Subordinate Tier Obligations shall be set out in the Supplemental Agreement related thereto, including any reserve requirement, requirement to make up any deficiency in such account and disposition of any excess moneys and investments therein. If a Reserve Surety Agreement is used as a reserve for any Series of Subordinate Tier Obligations, any reimbursements required thereunder to be paid to an obligor as a result of a draw or demand thereunder and any expenses payable thereunder shall be made, as provided in the related Reserve Surety Agreement, from moneys deposited into the applicable subaccount of the Subordinate Tier Reserve Account until fully paid.

Payment of Junior Operating Expenses.

(a) On each Transfer Date, the Trustee shall withdraw from the Revenue Fund and deposit to the credit of the Junior Operation and Maintenance Fund an amount required to make the total amount in the Junior Operation and Maintenance Fund equal to one-sixth (1/6) of the amount of the total Junior Operating Expenses scheduled for the then current Fiscal Year in the then current Annual Budget, plus all prior accruals for any insurance and other periodic or regularly recurring expenses. All Junior Operating Expenses shall be paid directly by the Trustee, upon written direction of a Corporation Representative, by drawing checks or drafts or by other means on the Junior Operation and Maintenance Fund as may be determined by the Trustee and the Corporation Representative.

(b) Notwithstanding subparagraph (a) of this section and as an alternative to such section, the Corporation may cause a Depositary of the Corporation to create a special fund to be held by the Corporation and designated the "Junior Operation and Maintenance Fund" and, upon written direction from the Corporation Representative to the Trustee, the Trustee shall transfer all amounts in the Junior Operation and Maintenance Fund to the credit of the Junior Operation and Maintenance Fund held by such Depositary and such fund will be maintained and administered by the Corporation and the Junior Operation and Maintenance Fund held by the Trustee shall be closed. On each Transfer Date, the Trustee shall withdraw from the Revenue Fund and deposit to the credit of the Corporation in the Junior Operation and Maintenance Fund, on written request of the Corporation, an amount which a Corporation Representative shall certify in such request to the Trustee at least one Business Day prior to such Transfer Date to be required to make the total amount in the Junior Operation and Maintenance Fund equal to one-sixth (1/6) of the amount of the total Junior Operating Expenses scheduled for the then current Fiscal Year in the then current Annual Budget, plus all prior accruals for any insurance and other periodic or regularly recurring expenses. All Junior Operating Expenses shall be paid directly by the Corporation by drawing checks or drafts on the Junior Operation and Maintenance Fund as may be determined by the Corporation Representative.

(c) If at any time the amount in the Debt Service Funds to the credit of the Interest Accounts, the Redemption Accounts, and the Reserve Accounts relating to First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations shall be insufficient for the purpose of paying the interest on or Principal or premium of the First Tier Obligations, the Second Tier Obligations and Subordinate Tier Obligations when due, then the Trustee or the Corporation, as the case may be, shall transfer, in the priorities set forth in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," from the Junior Operation and Maintenance Fund, to the Trustee in the case of the Corporation, for deposit in such applicable the Debt Service Funds for credit to the Interest Accounts and Redemption Accounts an amount sufficient to make up any such deficiency, provided that no such transfer shall be made of moneys in the Junior Operation and Maintenance Fund which are, determined by a written certificate of the Corporation Representative provided to the Trustee, to be needed then for operation and maintenance necessary to maintain safe operation of the System or to prevent loss of revenue of the System. Any moneys so required to be transferred from the Junior Operation and Maintenance Fund to such Interest Accounts or the Redemption Accounts shall be restored by the Trustee from the first available moneys in the Revenue Fund, subject to the same conditions as are prescribed for deposits to the credit of the Junior Operation and Maintenance Fund under the provisions of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds."

(d) At such time that there are TELA Supported Junior Operating Expenses and Non-TELA Supported Junior Operating Expenses, the Trustee or the Corporation, as the case may be, shall establish a special subaccount within the Junior Operation and Maintenance Fund for each type of Junior Operating Expenses and allocate the funds in the Junior Operation and Maintenance Fund between such subaccounts pro rata as such expenses are provided for in the applicable Annual Budget.

Use of Operation and Maintenance Reserve Fund.

Moneys held by the Trustee in the Operation and Maintenance Reserve Fund shall be used (i) for the purpose of paying the cost of Operating Expenses by the Trustee transferring amounts on deposit therein to the credit of the Senior Operation and Maintenance Fund and the Junior Operation and Maintenance Fund, as the case may be and in such priority, to cure any deficiencies therein to the extent of any such deficiency and (ii) as provided in this section and "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds."

The Trustee shall make payments directly from the Operation and Maintenance Reserve Fund to the Corporation or TxDOT, as directed in writing by a Corporation Representative, and such Fund shall be used only for the purposes and in the manner provided in this section.

If at any time the amount in the Debt Service Funds to the credit of the Interest Accounts, the Redemption Accounts, and the Reserve Accounts relating to First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations shall be insufficient for the purpose of paying the interest on or Principal of the First Tier Obligations, the Second Tier Obligations and the Subordinate Tier Obligations, respectively, when due, then the Trustee shall transfer, in the priorities set forth in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," from the Operation and Maintenance Reserve Fund to the applicable Debt Service Funds for credit to the Interest Accounts and Redemption Accounts an amount sufficient to make up any such deficiency, provided that no such transfer shall be made of moneys in the Operation and Maintenance Reserve Fund which are, determined by the Corporation which a Corporation Representative shall certify to the Trustee, to be needed then for operation and maintenance necessary to maintain safe operation of the System or to prevent loss of revenue of the System. Any moneys so required to be transferred from the Operation and Maintenance Reserve Fund to the Interest Accounts or the Redemption Accounts shall be restored by the Trustee from the first available moneys in the Revenue Fund, subject to the same conditions as are prescribed for deposits to the credit of the Operation and Maintenance Reserve Fund under the provisions of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds."

Application and Pledge of Moneys in TELA/Other Tier Payment Fund.

Subject to the terms and conditions set forth in the Master Trust Agreement, the TELA/Other Tier Payment Fund shall be held in trust and disbursed by the Trustee for (1) the payment of the TELA/Other Tier Debt Obligations issued hereunder as such falls due, or (2) the payment of the TELA/Other Tier Payment Obligations, as such become due, as provided in the Master Trust Agreement or any Supplemental Agreement, and such moneys are hereby pledged to and charged with the payment mentioned in this section.

Rate Stabilization Fund.

The Corporation has made provision for funding the Rate Stabilization Fund Requirement in the Rate Stabilization Fund with proceeds of certain of the Obligations issued for the Initial Project. Upon the issuance of Additional Obligations for a purpose other than refunding any Outstanding Obligations or completing the Initial Project pursuant to subparagraph (j) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations" or "–Issuance of Subordinate Tier Obligations" (and funding any related reserve or other funds), the Corporation shall deposit an amount necessary to cause the Rate Stabilization Fund to have an amount equal to the Rate Stabilization Fund Requirement as of such date (i) from proceeds of such Additional Obligations, (ii) from Revenues of the System, but only to the extent available pursuant to this section and subparagraph (m) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," or (iii) at the option of the Corporation, from any other lawfully available source.

In the priorities established in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," amounts on deposit in the Rate Stabilization Fund (a) shall be transferred by the Trustee to the Senior Operation and Maintenance Fund, the First Tier Debt Service Fund, the Second Tier Debt Service Fund, the Subordinate Tier Debt Service Fund or the Junior Operation and Maintenance Fund to cure a deficiency therein and (b) upon written direction by the Corporation Representative, may be transferred by the Trustee to any other fund under the Master Trust Agreement to be used for any other purpose for which Revenues of the System are permitted to be used under applicable law and the Master Trust Agreement, including as a claims payment fund or any similar function for any self-insurance program of the Corporation pursuant to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Insurance Recommendations" and "–Schedule of Insurance Policies; Settlement of Insurance Claims; Insurance Proceeds." Use of amounts on deposit to the Rate Stabilization Fund for any of the foregoing purposes shall not constitute an Event of Default. The moneys in the Rate Stabilization Fund, after their use as provided in this paragraph, need not be replenished; provided, however, pursuant to the preceding paragraph, the Corporation shall replenish the Rate Stabilization Fund to the Rate Stabilization Fund Requirement upon the issuance of any Additional Obligations for a purpose other than refunding any Outstanding Obligations or completing the Initial Project pursuant to subparagraph (j) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations" or "–Issuance of Subordinate Tier Obligations" (and funding any related reserve or other funds).

Notwithstanding anything in this section to the contrary, the Trustee shall replenish the Rate Stabilization Fund to the Rate Stabilization Fund Requirement or a lesser amount at such time and in such manner as directed in writing by a Corporation Representative from Revenues of the System available pursuant to subparagraph (m) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds." Additionally, notwithstanding anything in the Master Trust Agreement to the contrary, at such time that there is no Toll Equity Loan Agreement outstanding, the Corporation may determine to (i) reduce the Rate Stabilization Fund Requirement to a lesser amount or (ii) eliminate the requirement for the Rate Stabilization Fund and the Rate Stabilization Fund Requirement, and, upon such determination and receipt by the Corporation and the Trustee of (y) written confirmation that such action will not, in and of itself, cause any ratings then assigned to any Outstanding First Tier Obligations or Second Tier Obligations to be adversely affected by Moody's, S&P and/or Fitch, respectively, and (z) an opinion of Bond Counsel that the use of any released amounts from the Rate Stabilization Fund complies with applicable law, the Corporation Representative shall give written notice to the Trustee of such Corporation determination and direct the Trustee to transfer any released amounts from the Rate Stabilization Fund into the Revenue Fund and, if appropriate, close the Rate Stabilization Fund.

A Rate Stabilization Fund Obligation issued in an amount equal to all or part of the Rate Stabilization Fund Requirement may be used in lieu of depositing cash into the Rate Stabilization Fund. In addition, a Rate Stabilization Fund Obligation may be substituted for monies and investments in the Rate Stabilization Fund if the substitution of the Rate Stabilization Fund Obligation will not, in and of itself, cause any ratings then assigned to the Obligations by Moody's, S&P and/or Fitch, respectively, to be lowered, the Rate Stabilization Fund Obligation is approved by the Texas Attorney General, if then required by State law, and the resolution authorizing the substitution of the Rate

Stabilization Fund Obligation for all or part of the Rate Stabilization Fund Requirement contains a finding that such substitution is cost effective.

If (i) the long-term, unsecured credit rating of the issuer of the Rate Stabilization Fund Obligation falls below the third highest generic rating category (i.e., "A") by Moody's, S&P and/or Fitch, respectively, (ii) the issuer of the Rate Stabilization Fund Obligation defaults in its payment obligations thereunder, or (iii) the issuer of the Rate Stabilization Fund Obligation becomes insolvent, the Corporation shall within three months of such occurrence either, only to the extent Revenues of the System are available pursuant to this section and subparagraph (m) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," (A) deposit into the Rate Stabilization Fund an amount sufficient to cause the cash and investments on deposit therein to accumulate to the Rate Stabilization Fund Requirement, or (B) replace such instrument with a Rate Stabilization Fund Obligation meeting the requirements of this section. Upon replacement, the Commission may terminate the existing Rate Stabilization Fund Obligation in accordance with its terms. The Trustee shall have no obligation to monitor the credit ratings of the issuer of any Rate Stabilization Fund Obligation.

Any cash released from the Rate Stabilization Fund as a result of deposit of a Rate Stabilization Fund Obligation may be used for any purpose authorized by State law upon written direction of the Corporation Representative to the Trustee, subject to receipt of an opinion of Bond Counsel that such use will not adversely affect the tax-exempt status of any Tax-Exempt Obligations that may have funded the cash deposit.

Major Maintenance Fund.

Moneys in the Major Maintenance Fund shall be disbursed to pay Major Maintenance Expenses shown in the Annual Budget for the System and shall be disbursed only for such purposes, except to the extent hereinafter provided in this section. All Major Maintenance Expenses shall be paid directly by the Trustee, upon written direction of a Corporation Representative, by drawing checks or drafts or by other means on the Major Maintenance Fund as may be determined by the Trustee and the Corporation Representative.

In addition and in the priorities established in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," amounts on deposit in the Major Maintenance Fund shall be transferred by the Trustee to the Senior Operation and Maintenance Fund, the First Tier Debt Service Fund, the Second Tier Debt Service Fund, the Subordinate Tier Debt Service Fund or the Junior Operation and Maintenance Fund to cure a deficiency therein.

Subject to subparagraph (a) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds" and to the extent moneys in the Major Maintenance Fund are insufficient to pay the Major Maintenance Expenses then due, the Trustee shall transfer the amount of such deficiency from the money on deposit in the following funds or accounts and transfer the same to the credit of the Major Maintenance Fund in the following order of priority to the extent that funds are available therein: the Revenue Fund and the Grand Parkway Enhancement Fund. If, after making such transfers, the moneys in the Major Maintenance Fund are insufficient to pay the Major Maintenance Expenses then due, upon written direction of the Corporation Representative, the Trustee shall make a draw under the applicable Toll Equity Loan Agreement by submitting a Draw Request in accordance with "TRUST AGREEMENT - Toll Equity Loan Agreement Draw Requests" in an amount sufficient to satisfy any shortfall as determined by the Corporation Representative, to the extent that funds are available thereunder, and the Corporation Representative certifies in writing to the Trustee that, after such draw, there remains sufficient capacity in the unused portion of the Maximum Available Annual Amount for such Fiscal Year to pay any unpaid Debt Service Requirements of the Outstanding Toll Equity Loan Supported Obligations for which the applicable Toll Equity Loan Agreement is applicable due through the end of such Fiscal Year. Amounts drawn under the applicable Toll Equity Loan Agreement for the foregoing purpose as described in this section shall be deposited by the Trustee into the TELA Draw Clearing Account and then credited to the Major Maintenance Fund for application as set forth in this section.

Grand Parkway Enhancement Fund.

Moneys held in the Grand Parkway Enhancement Fund shall be used for any lawful purpose with priority given to (a) in the priorities established in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds", curing a deficiency in the Senior Operation and Maintenance Fund, the First Tier Debt Service Fund, the

Second Tier Debt Service Fund, the Subordinate Tier Debt Service Fund or the Junior Operation and Maintenance Fund, (b) paying for any of the purposes set forth in the Master Trust Agreement, including any amounts due to the Department under any Toll Equity Loan Agreement, the Project Agreement or any other agreement and any amounts transferred and deposited to any fund or account created under the Master Trust Agreement or any Supplemental Agreement and (c) paying any costs of the System or paying any costs related to any section or segment of the Grand Parkway Project without regard to whether such section or segment can become part of the System. The Trustee shall disburse moneys on deposit in the Grand Parkway Enhancement Fund within two Business Days after receipt by the Trustee of written requisition requests, in substantially the form attached to the Master Trust Agreement and signed by a Corporation Representative.

Toll Equity Loan Agreement Draw Requests.

In order to cause TxDOT to fund a draw under the applicable Toll Equity Loan Agreement with respect to any deficiency in the amount required to be deposited in the applicable Debt Service Funds or accounts or the Junior Operation and Maintenance Fund or a draw for Major Maintenance Expenses permitted under a Toll Equity Loan Agreement and the Trustee, acting in accordance with the Master Trust Agreement, shall present TxDOT by 10:00 a.m., Austin, Texas time on the fourth Business Day prior to the date such draw amount is needed for deposit in the applicable fund or account, with a draw request in substantially the form provided in the Master Trust Agreement (a "Draw Request"). The Trustee shall deposit and use the proceeds of any draw under the applicable Toll Equity Loan Agreement as provided in the Master Trust Agreement. The Trustee will make such Draw Request to obtain an advance in an amount sufficient for such purpose from TxDOT without further direction or instruction or other action from the Corporation (except as required in connection with Major Maintenance Expenses a certification of TELA Capacity) or any Owners of the Outstanding First Tier TELA Obligations, Second Tier TELA Obligations or Subordinate Tier TELA Obligations. The amount requested by the Trustee will not include any amount requested by the Trustee for the same purpose under any previously submitted Draw Request which was not paid by TxDOT due to a Non-Appropriation Event. The Trustee shall specify the amount of the shortfall for each applicable account or the amount to be drawn for Major Maintenance Expenses, as the case may be, on such Draw Request as the total amount requested for an advance under the applicable Toll Equity Loan Agreement. Such Draw Request will be transmitted to TxDOT by facsimile transmittal to the facsimile number referred to in the applicable Toll Equity Loan Agreement and shall be promptly confirmed by written notice to TxDOT sent by certified or registered mail or private delivery service to the address and to the attention of the person referred to in the Toll Equity Loan Draw Request (it being understood that the giving or receipt of such confirmation shall not be a condition precedent to any advances under the applicable Toll Equity Loan Agreement in connection with such Draw Request).

A special fund held by the Trustee is created and designated "TELA Draw Clearing Account." The Trustee may deposit the proceeds of any draw under the applicable Toll Equity Loan Agreement into the TELA Draw Clearing Account and transfer or disburse such funds for the purposes set forth in the related Draw Request and as provided herein. Proceeds of any draw under a Toll Equity Loan Agreement do not constitute Revenues of the System.

Investment of Moneys; Time Deposits or Other Arrangements in Lieu of Investments.

All moneys held for the credit of the Construction Fund shall, as nearly as may be practicable, be invested and reinvested by the Trustee, as directed by the Corporation, in Permitted Investments which shall mature, or which shall be subject to redemption by the holder thereof at the option of such holder, in such amounts and at such times as will be required to provide moneys when needed to pay the Costs payable from the Construction Fund or interest on the particular Obligations with respect to any Capitalized Interest Account within the Construction Fund.

Moneys held for the credit of the Reserve Accounts shall, as nearly as may be practicable, be invested and reinvested by the Trustee, as directed by the Corporation, in Permitted Investments which shall mature, or shall be subject to redemption by the holder thereof at the option of such holder, not later than five years after the date of such investment.

Moneys held for the credit of the Operation and Maintenance Reserve Fund, the Major Maintenance Fund and the Rate Stabilization Fund shall be invested and reinvested by the Trustee, as directed by the Corporation, in

Permitted Investments which shall mature, or which shall be subject to redemption by the holder thereof at the option of such holder, not later than five years after the date of such investment.

Moneys held for the credit of the Grand Parkway Enhancement Fund may be invested by the Trustee, as directed by the Corporation, in any of the Permitted Investments.

Moneys held for the credit of the Senior Operation and Maintenance Fund and the Junior Operation and Maintenance Fund shall, as nearly as may be practicable, be invested and reinvested by the Corporation, and moneys held for the credit of the Revenue Fund, the Interest Accounts, the Redemption Accounts and the TELA/Other Tier Payment Fund shall, as nearly as may be practicable, be invested and reinvested by the Trustee, as directed by the Corporation, in Permitted Investments which shall mature, or which shall be subject to redemption by the holder thereof at the option of such holder, not later than the respective dates which will allow moneys to be available in each of such funds and accounts for use at the appropriate times and for the purposes for which they were created.
In lieu of the investments as provided above, and at the option of the Corporation, and in any other case where the Corporation deems it advisable, the Corporation may make interest bearing time deposits, invest in certificates of deposit, or make other similar arrangements with the Trustee or any other Depositary in connection with moneys in any fund or account created by the Master Trust Agreement, as may be permitted by law, and which will allow moneys to be available in each of the funds and accounts created by the Master Trust Agreement for use at the appropriate times and for the purposes for which they were created, provided that all such time deposits, certificates of deposit, and other similar agreements shall be secured in the manner provided in "TRUST AGREEMENT - Depositaries; Deposits Constitute Trust Funds; Qualifications of Depositaries; Security for Deposits" for uninvested moneys.

Investments and Deposits Deemed to be Part of Funds and Accounts for which Purchased; Valuation of Funds or Accounts; Rebates to United States of America.

Obligations purchased as an investment of moneys in any fund or account created under the provisions of the Master Trust Agreement and all time deposits or similar arrangements made in connection therewith, shall be deemed at all times to be a part of such fund or account, and the interest accruing thereon and any profit realized from any investment shall be credited to such fund or account, and any loss resulting from any investment shall be charged to such fund or account. It is further provided that, at the option of the Corporation, during the period of construction or completion of construction of any System Segments, the Corporation may transfer, or direct the Trustee to transfer, as the case may be, from the Construction Fund and deposit to the credit of the applicable Interest Account, from the investment earnings deposited in the Construction Fund and/or the Operation and Maintenance Reserve Fund all or any part of an amount, which, together with the amount then available in the applicable Interest Account, will be sufficient to pay the interest coming due on the Obligations on each interest payment date, respectively. The Trustee shall account for all amounts at any time on hand in the Construction Fund attributable to all investment earnings, regardless of their source, and shall make the deposits required above to the extent of such investment earnings on hand at the time each such deposit is required to be made.

The Trustee, any other Depositaries, and the Corporation, as the case may be, shall sell at the best price obtainable in the exercise of reasonable diligence, or present for payment or redemption, any obligation or investment so purchased, whenever and to the extent it shall be necessary so to do, in order to provide moneys required to meet any payment or transfer from any fund or account. The Trustee, any other Depositaries, and the Corporation, as the case may be, shall present for payment all such obligations or investments when they mature or when they shall be called for redemption and the proceeds thereof shall be reinvested promptly, unless needed to meet any such payment or transfer. Neither the Trustee, any other Depositaries, nor the Corporation shall be liable or responsible for making any such investment or for any loss resulting from any such investment, but any resulting deficiency in any fund or account shall be restored from the first moneys available therefor in accordance with "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds." The Trustee and any other Depositaries shall advise the Corporation in writing, on or before the eighth day of each month, of the details of all money and investments held by them for the credit of any such fund or account.

The provisions of the Master Trust Agreement which relate to the deposit and to the investment of moneys shall be subject to the provisions of any applicable laws of the State.

All Permitted Investments purchased as an investment of any fund or account created hereunder shall be valued at the value of Permitted Investments. The Corporation shall advise the Trustee of the value of Permitted Investments for any Permitted Investments for any funds held by the Corporation or the Trustee as of the last business day of the current Fiscal Year and semiannually thereafter as of the last business day of the sixth and twelfth months, respectively, of each Fiscal Year.

Notwithstanding any other provisions of the Master Trust Agreement, other than "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Flow of Funds," if investment income derived from any fund or account maintained pursuant hereto is required to be rebated to the United States of America, as may required by the federal tax covenants of the Corporation set forth in the relevant Supplemental Agreement, in order to prevent any Tax-Exempt Obligations from being "arbitrage bonds," such investment income shall be so rebated, through the Rebate Fund, if required, from the appropriate fund or account, and the amounts of such rebates shall not be considered to be Revenues of the System. The Trustee shall forthwith, upon the request and direction of the Corporation, transmit any such rebate amounts held by it to the United States of America as directed by the Corporation.

Payment of Principal, Interest and Premium; Pledge of Tolls and Other Revenue of the System.

The Corporation covenants that it will promptly pay the Principal of and the interest on every Obligation, including Payment Obligations, at the places, on the dates and in the manner provided herein and in such Obligations, and any premium required for the retirement of such Obligations by redemption, according to the true intent and meaning thereof. The Principal, interest (except interest paid from proceeds of the Obligations) and premiums are payable solely in the priorities and from the sources herein described, including the Revenues of the System, which sources, tolls, and other revenues are pledged to the payment thereof in the manner and to the extent hereinabove particularly specified, and nothing in the Obligations or in the Master Trust Agreement will be construed as pledging any other funds or assets of the Corporation for their payment, except as otherwise provided for the sale of factoring of accounts receivable.

Chapter 1208, Texas Government Code, applies to the issuance of the Obligations and the pledge of, lien on and security interest in the Trust Estate granted by the Corporation under the Master Trust Agreement, and such pledge of, lien on and security interest in the Trust Estate are therefore valid, effective, and perfected. If Texas law is amended at any time while the Obligations are outstanding and unpaid such that the pledge of, lien on and security interest in the Trust Estate granted by the Corporation under this Trust Agreement is to be subject to the filing requirements of Chapter 9, Business & Commerce Code, then in order to preserve to the Owners the perfection of the pledge of, lien on and security interest in the Trust Estate, the Corporation agrees to take such measures as it determines are reasonable and necessary under Texas law to comply with the applicable provisions of Chapter 9, Texas Business & Commerce Code, to perfect such pledge of, lien on and security interest in the Trust Estate, *provided, however*, that the Corporation and the Trustee shall take reasonably required measures to perfect such pledge of, lien on and security interest in the Trust Estate as directed by the Owners of not less than 25% of the aggregate Principal amount of the Obligations then Outstanding.

Use and Operation of System; Project Agreement.

(a) The Corporation covenants that it will establish and enforce reasonable rules and regulations governing the use of the System and the operation thereof, that all compensation, salaries, fees and wages paid by it in connection with the maintenance, repair and operation thereof will be reasonable, that no more persons will be employed by it than are necessary, that it will maintain and operate the System in an efficient and economical manner, that, from the Revenues of the System, it will at all times maintain the same in good repair and in sound operating condition and will make all necessary repairs, renewals and replacements, and that it will comply with all valid acts, rules, regulations, orders and directions of any legislative, executive, administrative or judicial body applicable to the System.

(b) The Corporation further covenants that it will take all lawful action on its part which may be necessary or desirable to advertise and promote the System to the traveling public and to place and replace highway designation signs and adequate directional signs to the System which, in the judgment of the Corporation, may be beneficial to the System or necessary to protect against the diversion of traffic from the System.

(c) In the Project Agreement for the benefit of the Corporation, the Trustee and the Owners of the Obligations, the Department has covenanted that, among other obligations, it will (i) perform or discharge certain retained obligations of the Department with respect to the System, (ii) limit and restrict the sale, lease, transfer or creation of certain other encumbrances of all or part of the System while the Master Trust Agreement is outstanding, (iii) take certain actions or refrain from certain actions relating to the tax-exempt status of any Tax-Exempt Obligations, (iii) comply with certain legal requirements and not create any lien or charge on the Revenues of the System and (iv) take certain action relating to insurance policies and proceeds. To the extent permitted by law, the Corporation covenants and agrees to take all such action necessary to cause the Department to meet its obligations under the Project Agreement.

Observance and Compliance with Valid Requirements; No Liens or Charges Upon System, Tolls or Other Revenues; Payment of Lawful Charges.

The Corporation covenants that it will duly observe and comply with all valid requirements of any governmental authority relative to the System or any part thereof, that it will not create or suffer to be created any lien or charge upon the System or any part thereof or upon the tolls or other revenue therefrom, including the Revenues of the System, except (i) the lien and charge of the Obligations secured hereby upon such tolls and revenues, including the Revenues of the System and (ii) the lien or encumbrance permitted by the Master Trust Agreement, unless any such lien or charge is junior and subordinate in all respects to the lien and charge of the Obligations secured hereby, it being understood that the Corporation may issue Obligations payable from, or secured by, moneys in the Grand Parkway Enhancement Fund to the extent now or hereafter permitted by law without violating the foregoing covenant. The Corporation further covenants that, from such revenues or other available funds, it will pay or cause to be discharged, or will make adequate provision to satisfy and discharge, within sixty (60) days after the same shall accrue, all lawful claims and demands for labor, materials, supplies or other objects which, if unpaid, might by law become a lien upon the System or any part thereof or the tolls or other revenue therefrom; provided, however, that nothing in contained in this section shall require the Corporation to pay or cause to be discharged, or make provision for, any such lien or charge so long as the validity thereof shall be contested in good faith and by appropriate legal proceedings.

Employment of General Engineering Consultant and Traffic Consultant.

(a) The Corporation covenants that, until the Obligations and the interest thereon shall have been paid or provision for such payment shall have been made, it will employ a General Engineering Consultant for the purpose of performing and carrying out the duties imposed on the General Engineering Consultant by the Master Trust Agreement.

(b) The Corporation covenants that, until the Obligations and the interest thereon shall have been paid or provision for such payment shall have been made, it will, for the purpose of performing and carrying out the duties imposed on the Traffic Consultant by the Master Trust Agreement, employ from time to time where required by the Master Trust Agreement, an independent engineer or engineering firm or corporation, other than the General Engineering Consultant, having a nation-wide and favorable repute for skill and experience in such work.

Insurance Recommendations.

The Corporation covenants that it will keep the System and its use and operation thereof insured (including through self-insurance) at all times in such amounts, subject to such exceptions and deductibles and against such risks, as are customary for similar organizations, including business interruption insurance. Any insurance policies shall be carried with a responsible insurance company or companies authorized to do business in the State. Except as provided in the immediately succeeding paragraph, any self-insurance program shall be deemed actuarially sound in the written opinion of an accredited actuary, which opinion shall be filed with the Trustee at least annually. At any time and from time to time, the Corporation may elect to terminate self-insurance of a given type. Upon making such election, the Corporation shall, to the extent then deemed necessary by a qualified insurance consultant, determined by the Corporation, obtain and maintain comparable commercial insurance.

On the July 1 following the Substantial Completion of the Initial Project and every three years thereafter (except with respect to self-insurance, which shall be annually deemed actuarially sound in the written opinion of an accredited actuary if such actuary services are reasonably commercially available and, if not, in a certificate of a

Corporate Representative), the Corporation shall cause a qualified insurance consultant, determined by the Corporation, to certify to the Trustee that (a) it has reviewed the adequacy of the Corporation's insurance, listing the types and amounts of insurance, and (b) it finds such coverage to be reasonable and customary for similar organizations. If the qualified insurance consultant concludes that coverage other than that currently carried by the Corporation should be carried, the Corporation shall obtain such insurance coverage unless it determines in good faith that it is unreasonable or uneconomical to obtain such coverage and a Corporation Representative certifies the same in writing to the Trustee.

Any insurance policies maintained by the Corporation shall name the Trustee as a co-insured and be available at reasonable times for inspection by the Trustee, its agents and representatives.

Schedule of Insurance Policies; Settlement of Insurance Claims; Insurance Proceeds.

On or before the end of each Fiscal Year following the Substantial Completion of the Initial Project, the Corporation shall mail to the General Engineering Consultant and the Trustee a schedule or other evidence of all insurance policies or self-insurance programs referred to "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Insurance Recommendations" which are then in effect, stating with respect to each policy the name of the insurer, the amount, number and expiration date, and the hazards and risks covered thereby, and also stating the details of each self insurance program established by the Corporation. Any such insurance policies and self-insurance programs shall be open to the inspection of the Owners and their representatives at all reasonable times. The Trustee is hereby authorized, but is not obligated, in its own name to demand, collect, sue and receipt for any insurance money which may become due and payable under any policies payable to it.

Any appraisement or adjustment of any loss or damage under any policy payable to the Trustee and any settlement or payment of indemnity under such policy which may be agreed upon between the Corporation and any insurer shall be evidenced to the Trustee by a certificate, signed by a Corporation Representative, which certificate may be relied upon by the Trustee as conclusive. The Trustee shall in no way be liable or responsible for the collection of insurance moneys in case of any loss or damage.

The Corporation covenants that it will take actions as it deems necessary to demand, collect and sue for any proceeds that may become due and payable to it under any policy.

The Corporation shall pay any insurance proceeds it receives under builders all risk, and property all risk to the Trustee for deposit into the Revenue Fund to the extent attributable to the debt service. Otherwise, such insurance proceeds shall be deposited to the Construction Fund and used for any repairs or modifications of the System necessary or desirable as a result of damage or destruction to the System. If no such repairs or modifications are necessary or desirable, or if any funds remain in the Construction Fund after completion of all such repairs and modifications, the proceeds of such insurance or remaining proceeds, as applicable, shall be deposited to the Revenue Fund and applied as provided in the Master Trust Agreement.

The Corporation shall direct that the any contractor related to the construction and acquisition of the System pay insurance proceeds payable to the Corporation under any insurance policies maintained by such contractor pursuant to the terms of any construction or similar agreement with the Corporation directly to the Trustee for deposit into the Revenue Fund to the extent attributable to the debt service. Otherwise, such insurance proceeds shall be deposited to the Construction Fund. To the extent that the Corporation receives insurance payments under a business interruption insurance policy, such amounts shall be deposited into the Revenue Fund as directed by a Corporation Representative in writing to the Trustee.

Accurate Records; Reports; Annual Audits; Additional Reports or Audits, Annual Report.

The Corporation covenants that it will keep an accurate record of the daily tolls and other revenues collected, of the number and class of vehicles using the System and of the application of such tolls. Such record shall be open to the inspection of the Owners and their agents and representatives.

The Corporation further covenants that, by the last day of the second month after each fiscal quarter, commencing after the first full month after Substantial Completion of any System Segment, it will cause to be filed with the Trustee and mailed to the General Engineering Consultant and the Traffic Consultant copies of any revision of the Toll Rate Schedule during the preceding fiscal quarter and a report setting forth in respect of the preceding fiscal quarter:

(a) the income and expense account of the System, which will separately account for Senior Operating Expenses and Junior Operating Expenses,

(b) the number of vehicles in each class using the System,

(c) all payments, deposits and credits to and any payments, transfers and withdrawals from each fund and account created under the provisions of the Trust Agreement,

(d) all Obligations issued, paid, purchased or redeemed,

(e) the amounts at the end of such fiscal quarter to the credit of each such fund and account, created pursuant to the provisions of the Trust Agreement and any Supplemental Agreement, showing the respective amounts to the credit of each such fund and account, and any security held therefor, and showing the details of any investments thereof, and

(f) the amounts of the proceeds received from any sales of property.

The Corporation covenants that it will maintain books and accounts reflecting the operations of the System, as a separate enterprise, in accordance with Accounting Principles. The books and records of the System may form a part of the books and records of the Corporation but shall be maintained as a separate enterprise account.

In addition, the Corporation covenants that as soon as practicable, but in no event more than one hundred eighty (180) days after the last day of each Fiscal Year, beginning with the Fiscal Year in which Substantial Completion occurs, it will prepare or cause to be prepared a financial report of the results of operations of the System for such Fiscal Year in accordance with Accounting Principles, certified by a certified public accountant approved by the Corporation, and containing an audited balance sheet as of the end of such Fiscal Year, an audited statement of operations for such Fiscal Year, and an audited statement of cash flows of such Fiscal Year. A copy of such audit shall be filed with the Trustee promptly after the receipt by the Corporation for such purpose.

The Corporation further covenants that it will furnish to the Trustee such other information concerning the System or the operation thereof as the Trustee may reasonably request.

Sale or Factoring of Accounts Receivable.

The Corporation may sell all or a portion of its accounts receivables provided the Corporation receives fair and reasonable value as determined by a Corporation Representative. The Corporation may create a security interest, lien or pledge in its accounts receivable component of the Revenues of the System and the proceeds thereof securing an obligation of the Corporation to repurchase or replace accounts receivables sold as long as the aggregate maximum amount secured by any such pledges, liens or security interests does not exceed ten percent (10%) of the Revenues of the System of the Fiscal Year preceding the creation of such pledge or security interest. Notwithstanding the foregoing, the Corporation may sell or otherwise create a security interest lien or pledge in the accounts receivables related to video tolling transactions or other tolling transactions that has toll rates greater than the toll rates applicable to base electronic transponder transactions so long as the Corporation receives an amount not less than the revenue the Corporation would have received applying the electronic transponder toll rates to such transactions. All amounts received by the Corporation pursuant to this section shall be deposited into the Revenue Fund.

Condemnation Proceeds.

In the event the Corporation receives any payment or other proceeds in respect of a total or partial condemnation of the System, it shall cause such proceeds to be deposited to the Construction Fund and utilized for any repairs or modifications of the System necessary or desirable as a result of such condemnation. If no such repairs or modifications are necessary or desirable, the proceeds of such condemnation shall be deposited to the Revenue Fund.

Events of Default.

Each of the following events is hereby declared an "Event of Default," that is to say: If

(a) subject to the last three sentences of this section, the Corporation shall default in the payment of the Principal or premium, if any, of any of the Obligations when the same shall become due and payable, either at maturity or otherwise; or

(b) subject to the last three sentences of this section, the Corporation shall default in the payment of any installment of interest on any Obligation when the same shall become due and payable; or

(c) any part of the System shall be destroyed or damaged to the extent of impairing its efficient operation and materially adversely affecting its Revenues of the System, the Senior Net Revenues or the Junior Net Revenues and shall not be promptly repaired, replaced or reconstructed (whether such failure promptly to repair, replace or reconstruct the same be due to the impracticability of such repair, replacement or reconstruction or to lack of funds therefor or for any other reason); or

(d) judgment for the payment of money shall be rendered against the Corporation if such judgment is under any circumstances payable from the Revenues of the System and any such judgment shall not be discharged within ninety (90) days from the entry thereof or an appeal shall not be taken therefrom or from the order, decree or process upon which or pursuant to which such judgment shall have been granted or entered, in such manner as to set aside or stay the execution of or levy under such judgment, decree or process or the enforcement thereof; or

(e) an order or decree shall be entered, with the consent or acquiescence of the Corporation, appointing a receiver or receivers of the System or any part thereof or of the Revenues of the System thereof, or if such order or decree, having been entered without the consent or acquiescence of the Corporation, shall not be vacated or discharged or stayed within ninety (90) days after the entry thereof; or

(f) any proceeding shall be instituted, with the consent or acquiescence of the Corporation, for the purpose of effecting a composition between the Corporation and its creditors or for the purpose of adjusting the claims of such creditors, pursuant to any federal or state statute now or hereafter enacted, if the claims of such creditors are under any circumstances payable from the Revenues of the System; or

(g) the Corporation shall default in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Obligations or in the Master Trust Agreement on the part of the Corporation to be performed, and such default shall continue for sixty (60) days after written notice specifying such default and requiring same to be remedied shall have been given to the Corporation by the Trustee, which may give such notice in its discretion and shall give such notice at the written request of the Owners of not less than ten percent (10%) in Principal amount of the Obligations then Outstanding; and the Trustee shall investigate and consider any allegation of such default; or

(h) the Corporation shall default in the due and punctual performance of any of the covenants, conditions, agreements and provisions contained in the Obligations or in the particular Supplemental Agreement with respect only to the Owners of the particular Obligations issued thereunder on the part of the Corporation to be performed, and such default shall continue for sixty (60) days after written notice specifying such default and requiring same to be remedied shall have been given to the Corporation by the Trustee, which may give such notice in its discretion and shall give such notice at the written request of the Owners of the particular Obligations issued under such Supplemental Agreement of not less than ten percent (10%) in Principal amount of such particular Obligations then Outstanding; and the Trustee shall investigate and consider any allegation of such default; or

(i) the occurrence and continuance of an event of default by the Corporation under a Credit Agreement; or

(j) the Commission or the Corporation shall default in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Toll Rate Agreement on the part of the

Commission or the Corporation, as the case may be, to be performed, and such default shall continue for sixty (60) days after written notice specifying such default and requiring same to be remedied shall have been given to the Commission or the Corporation, as the case may be, by the Corporation or by the Trustee, which may give such notice in its discretion and shall give such notice at the written request of the Owners of not less than ten percent (10%) in Principal amount of the Obligations then Outstanding; and the Trustee shall investigate and consider any allegation of such default; or

(k) the Department or the Corporation shall default in the due and punctual performance of any other of the covenants, conditions, agreements and provisions contained in the Project Agreement on the part of the Department or the Corporation, as the case may be, to be performed, and such default shall continue for sixty (60) days after written notice specifying such default and requiring same to be remedied shall have been given to the Department or the Corporation, as the case may be, by the Corporation or by the Trustee, which may give such notice in its discretion and shall give such notice at the written request of the Owners of not less than ten percent (10%) in Principal amount of the Obligations then Outstanding; and the Trustee shall investigate and consider any allegation of such default.

A payment default under subparagraph (a) or (b) of this section with respect to a Second Tier Obligation or a Subordinate Tier Obligation shall not constitute an Event of Default with respect to First Tier Obligations. A payment default under subparagraph (a) or (b) of this section with respect to a Subordinate Tier Obligation shall not constitute an Event of Default with respect to First Tier Obligations or Second Tier Obligations. A payment default under a TELA/Other Tier Obligation shall not constitute an Event of Default under the Master Trust Agreement.

Enforcement of Remedies.

Upon the happening and continuance of any Event of Default specified in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Events of Default," then and in every such case the Trustee may proceed, and upon the written request of the Owners of not less than twenty percent (20%) in Principal amount of the Obligations then Outstanding under the Master Trust Agreement shall proceed, subject to the provisions of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Majority of Owners May Control Proceedings" and the Master Trust Agreement, to protect and enforce its rights and the rights of the Owners under Chapter 431, Transportation Code, and under the Master Trust Agreement, the Toll Rate Agreement or the Project Agreement by such suits, actions or special proceedings in equity or at law, or by proceedings in the office of any board or officer having jurisdiction, either for mandamus or the specific performance of any covenant or agreement contained in the Master Trust Agreement or in aid or execution of any power granted in the Master Trust Agreement or for the enforcement of any proper legal or equitable remedy, as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce such rights. Notwithstanding anything to the contrary contained in the Master Trust Agreement, acceleration of the Principal of or interest on the Obligations upon the occurrence of an Event of Default is not a remedy available under the Master Trust Agreement and in no event shall the Trustee, the Owners or other parties have the ability, upon the occurrence of an Event of Default, to declare immediately due and payable the Principal of or interest on the Obligations.

In the enforcement of any remedy under the Master Trust Agreement the Trustee shall be entitled to sue for, enforce payment of and receive any and all amounts then or during any default becoming, and at any time remaining, due from the Corporation for Principal, interest or otherwise under any of the provisions of the Master Trust Agreement or of the Obligations and unpaid, with interest on overdue payments at the rate or rates of interest borne by such Obligations, together with any and all costs and expenses of collection and of all proceedings hereunder and under such Obligations, without prejudice, to any other right or remedy of the Trustee or of the Owners, and to recover and enforce judgment or decree against the Corporation, but solely as provided in the Master Trust Agreement and in such Obligations, for any portion of such amounts remaining unpaid, with interest, costs and expenses, and to collect (but solely from moneys in the applicable Debt Service Fund or the TELA/Other Tier Payment Fund, as the case may be, and any other moneys available for such purposes) in any manner provided by law, the moneys adjudged or decreed to be payable.

Pro Rata Application of Funds.

If an Event of Default specified in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Events of Default" has occurred and is continuing and the moneys in the Revenue Fund, the First Tier Debt Service Fund, the Second Tier Debt Service Fund, the Subordinate Tier Debt Service Fund, the Operation and Maintenance Reserve Fund, the Rate Stabilization Fund, the Major Maintenance Fund, the Grand Parkway Enhancement Fund, the Construction Fund or any other debt service funds established under the Master Trust Agreement shall not be sufficient to pay the Principal of or the interest on the Obligations as the same become due and payable, such moneys, together with any moneys then available or thereafter becoming available for such purpose, whether through the exercise of the remedies provided for in this section or otherwise, shall be applied (subject to the provisions of the Master Trust Agreement) as follows; provided, however, amounts on deposit in a fund or account (i) dedicated to the payment or security of the First Tier Obligations, the Second Tier Obligations or Subordinate Tier Obligations , including any proceeds of a draw on a Toll Equity Loan Agreement pursuant to the Master Trust Agreement, or (ii) constituting Additional Obligation Security for the benefit of one or more specific series of obligations shall not be applied as provided below but shall be used only for the purpose for which such deposits were made:

(a) Unless the Principal of all the First Tier Obligations shall then be due and payable, all such moneys shall be applied first: to the payment to the persons entitled thereto of all installments of interest then due on the First Tier Obligations, in the order of the maturity of the installments of such interest, and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the First Tier Obligations; and second: to the payment of the Principal of any First Tier Obligations which have matured, and, if the amount available shall not be sufficient to pay all of such matured First Tier Obligations, then to the payment thereof ratably, according to the amount due; or if no First Tier Obligations have matured, to the retirement of First Tier Obligations in accordance with the provisions of the Master Trust Agreement.

(b) If the Principal of all the First Tier Obligations shall then be due and payable, all such moneys shall be applied to the payment of the Principal and interest then due and unpaid upon the First Tier Obligations, without preference or priority of Principal over interest or of interest over Principal, or of any installment of interest over any other installment of interest, or of any First Tier Obligation over any other First Tier Obligation, ratably, according to the amounts due respectively for Principal and interest, to the persons entitled thereto without any discrimination or preference except as to any difference in the respective rates of interest specified in the First Tier Obligations.

(c) If there is no default existing in the payment of the Principal of, premium, if any, or interest on the First Tier Obligations but the Principal of, premium, if any, or interest on Second Tier Obligations has not been paid when due, unless the Principal of all the Second Tier Obligations shall then be due and payable, all such moneys shall be applied first: to the payment to the persons entitled thereto of all installments of interest then due on the Second Tier Obligations, in the order of the maturity of the installments of such interest, and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference except as to any difference in the respective rates of interest specified in the Second Tier Obligations; and second: to the payment of the Principal of any Second Tier Obligations which have matured, and, if the amount available shall not be sufficient to pay all of such matured Second Tier Obligations, then to the payment thereof ratably, according to the amount due; or if no Second Tier Obligations have matured, to the retirement of Second Tier Obligations in accordance with the provisions of the Master Trust Agreement.

(d) If there is no default existing in the payment of the Principal of, premium, if any, or interest on the First Tier Obligations, but the Principal of all the Second Tier Obligations shall then be due and payable, all such moneys shall be applied to the payment of the Principal and interest then due and unpaid upon the Second Tier Obligations, without preference or priority of Principal over interest or of interest over Principal, or of any installment of interest over any other installment of interest, or of any Second Tier Obligation over any other Second Tier Obligation, ratably, according to the amounts due respectively for Principal and interest, to the persons entitled thereto without any discrimination or preference except as to any difference in the respective rates of interest specified in the Second Tier Obligations.

(e) If there is no default existing in the payment of the Principal of, premium, if any, or interest on the First Tier Obligations and Second Tier Obligations but the Principal of, premium, if any, or interest on Subordinate Tier Obligations has not been paid when due, unless the Principal of all the Subordinate Tier Obligations shall then be due and payable, all such moneys shall be applied first: to the payment to the persons entitled thereto of all installments of interest then due on the Subordinate Tier Obligations, in the order of priority established in the Supplemental Agreement entered into in conjunction with the issuance of such Subordinate Tier Obligations, and within a class of Subordinate Tier Obligations, in the order of the maturity of the installments of such interest, and, if the amount available shall not be sufficient to pay in full any particular installment, then to the payment ratably, according to the amounts due on such installment, to the persons entitled thereto, without any discrimination or preference within a class of Subordinate Tier Obligations except as to any difference in the respective rates of interest specified in the Subordinate Tier Obligations; and second: to the payment of the Principal of any Subordinate Tier Obligations, in the order of priority established in the Supplemental Agreement entered into in conjunction with the issuance of such Subordinate Tier Obligations, which have matured, and, if the amount available shall not be sufficient to pay all of such matured Subordinate Tier Obligations within such class, then to the payment thereof ratably, according to the amount due; or if no Subordinate Tier Obligations have matured, to the retirement of Subordinate Tier Obligations in accordance with the provisions of the Master Trust Agreement and the applicable Supplemental Agreements executed and delivered in conjunction with the issuance of such Subordinate Tier Obligations.

(f) If there is no default existing in the payment of the Principal of, premium, if any, or interest on the First Tier Obligations and Second Tier Obligations, but the Principal of all the Subordinate Tier Obligations shall then be due and payable, all such moneys shall be applied to the payment of the Principal and interest then due and unpaid upon the Subordinate Tier Obligations of each class, in the order of priority established in the Supplemental Agreement entered into in conjunction with the issuance of such Subordinate Tier Obligations, without preference or priority of Principal over interest or of interest over Principal, or of any installment of interest over any other installment of interest, or of any Subordinate Tier Obligation over any other Subordinate Tier Obligation within the same class, ratably, according to the amounts due respectively for Principal and interest, to the persons entitled thereto without any discrimination or preference except as to any difference in the respective rates of interest specified in the Subordinate Tier Obligations.

(g) If there is no default existing in the payment of the Principal of, premium, if any, or interest on the First Tier Obligations, Second Tier Obligations or Subordinate Tier Obligations, but the TELA/Other Tier Obligations shall then be due and payable, all such moneys shall be applied to the payment of the Principal and interest then due and unpaid upon the TELA/Other Tier Obligations, without preference or priority of any TELA/Other Tier Obligations over any other TELA/Other Tier Obligations, ratably, according to the amounts due respectively for such obligations, to the persons entitled thereto without any discrimination or preference except as to any difference in the respective rates of interest specified in the TELA/Other Tier Obligations.

Whenever moneys are to be applied by the Trustee pursuant to the provisions of this section, such moneys shall be applied by the Trustee at such times, and from time to time, as the Trustee in its sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future; the deposit of such moneys with the Paying Agent, or otherwise setting aside such moneys, in trust for the proper purpose shall constitute proper application by the Trustee; and the Trustee shall incur no liability whatsoever to the Corporation, to any Owner or to any other person for any delay in applying any such moneys, so long as the Trustee acts with reasonable diligence, having due regard to the circumstances, and ultimately applies the same in accordance with such provisions of the Master Trust Agreement as may be applicable at the time of application by the Trustee. Whenever the Trustee shall exercise such discretion in applying such moneys, it shall fix the date (which shall be an interest payment date unless the Trustee shall deem another date more suitable) upon which such application is to be made and upon such date interest on the amounts of Principal to be paid on such date shall cease to accrue. The Trustee shall give such notice as it may deem appropriate of the fixing of any such date, and shall not be required to make payment to the Owner of any unpaid Obligation or the interest thereon unless such Obligation shall be presented to the Trustee for appropriate endorsement or for cancellation if fully paid.

Effect of Discontinuance of Proceedings.

In case any action taken by the Trustee on account of any default under the Master Trust Agreement or under the Toll Rate Agreement or the Project Agreement shall have been discontinued or abandoned for any reason, then and in every such case the Corporation, the Trustee and the Owners shall be restored to their former positions and rights under the Master Trust Agreement, respectively, and all rights, remedies, powers and duties of the Trustee shall continue as though no such action had been taken.

Majority of Owners May Control Proceedings.

Anything in the Master Trust Agreement to the contrary notwithstanding, but subject to SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Bond Insurer's Rights" and "–TxDOT Control Rights," the Owners of not less than a majority in Principal amount of the First Tier Obligations then Outstanding hereunder (or, if no First Tier Obligations are then Outstanding, then the Owners of not less than a majority in Principal amount of the Second Tier Obligations then Outstanding, or, if no First Tier Obligations or Second Tier Obligations are then Outstanding, then the Owners of not less than a majority in Principal amount of the Subordinate Tier Obligations then Outstanding) shall have the right, subject to the provisions of the Master Trust Agreement, by an instrument or concurrent instruments in writing executed and delivered to the Trustee, to direct the method and place of conducting all remedial actions to be taken by the Trustee hereunder, provided that such direction shall not be otherwise than in accordance with law or the provisions of the Master Trust Agreement, and that the Trustee shall have the right to decline to follow any such direction which in the opinion of the Trustee, subject to the Master Trust Agreement would be unjustly prejudicial to Owners not parties to such direction.

Restrictions Upon Action by Individual Owner.

No Owner of any of the Outstanding Obligations shall have any right to institute any suit, action, mandamus or other proceeding in equity or at law for the execution of any trust hereunder or the protection or enforcement of any right under the Master Trust Agreement or any resolution of the Corporation authorizing the issuance of Obligations, or any right under the Toll Rate Agreement or the Project Agreement or any right under the Chapter 228, Transportation Code, or the laws of Texas, excepting only an action for the recovery of overdue and unpaid Principal, interest or redemption premium, unless such Owner previously shall have given to the Trustee written notice of the Event of Default or breach of trust or duty on account of which such suit or action is to be taken, and unless the Owners of not less than twenty percent (20%) in Principal amount of the Obligations then Outstanding shall have made written request of the Trustee after the right to exercise such powers or right of action, as the case may be, shall have accrued, and shall have afforded the Trustee a reasonable opportunity either to proceed to exercise the powers granted in the Master Trust Agreement or granted by the Chapter 228, Transportation Code, or by the laws of the State, or to institute such action, suit or proceeding in its or their name, and unless, also, there shall have been offered to the Trustee reasonable security and indemnity satisfactory to it against the costs, expenses and liabilities to be incurred therein or thereby, and the Trustee shall have refused or neglected to comply with such request within a reasonable time; and such notification, request and offer of indemnity are hereby declared in every such case, at the option of the Trustee, to be conditions precedent to the execution of the powers and trusts of the Master Trust Agreement or for any other remedy hereunder or under the Chapter 228, Transportation Code, or the laws of the State. It is understood and intended that no one or more Owners of the Obligations hereby secured shall have any right in any manner whatsoever by his or their action to affect, disturb or prejudice the security of the Master Trust Agreement, or to enforce any right hereunder or under the Chapter 228, Transportation Code, or the laws of the State with respect to the Obligations or the Master Trust Agreement, except in the manner provided in the Master Trust Agreement, and that all proceedings at law or in equity shall be instituted, had and maintained in the manner provided in the Master Trust Agreement and for the benefit of all Owners of the Outstanding Obligations, except as otherwise permitted in the Master Trust Agreement with reference to over-due and unpaid Principal, interest or redemption premium.

Actions by Trustee.

All rights of action under the Master Trust Agreement or under any of the Obligations or under the Toll Rate Agreement or the Project Agreement, enforceable by the Trustee, may be enforced by it without the possession of any of the Obligations or the production thereof on the trial or other proceeding relative thereto, and any such suit, action or proceeding instituted by the Trustee shall be brought in its name for the benefit of all the Owners of such Obligations, subject to the provisions of the Master Trust Agreement.

No Remedy Exclusive.

No remedy in the Master Trust Agreement conferred upon or reserved to the Trustee or to the Owners of the Obligations is intended to be exclusive of any other remedy or remedies, and each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity or by statute.

No Delay or Omission Construed to be a Waiver; Repeated Exercise of Powers and Remedies; Waiver of Default.

No delay or omission of the Trustee or of any Owner of the Obligations to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver of any such default or any acquiescence therein; and every power and remedy given by the Master Trust Agreement to the Trustee and the Owners of the Obligations, respectively, may be exercised from time to time and as often as may be deemed expedient.

The Trustee may, and upon written request of the Owners of not less than a majority in Principal amount of the Obligations then Outstanding shall, waive any default which in its opinion shall have been remedied before the completion of the enforcement of any remedy under the Master Trust Agreement, but no such waiver shall extend to or affect any other existing or any subsequent default or defaults or impair any rights or remedies consequent thereon.

Notice of Default.

The Trustee shall mail to each Bond Insurer of record, and each Owner of record written notice of the occurrence of any Event of Default set forth in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Events of Default," within thirty (30) days after the Trustee has knowledge of any such Event of Default. If in any Fiscal Year the total amount of deposits to the Debt Service Funds shall be less than the amounts required so to be deposited under the provisions of the Master Trust Agreement, after taking in account all transfers from other funds in the Master Trust Agreement and all draws under any Toll Equity Loan Agreement, the Trustee, on or before the first day of the second month of the next succeeding Fiscal Year, shall mail to each Bond Insurer of record, and all Owners of record written notice of the failure to make such deposits. The Trustee shall not, however, be subject to any liability to any Bond Insurer or Owner by reason of its failure to mail any notice required by this section.

Bond Insurer's Rights.

Notwithstanding any other provisions of the Master Trust Agreement, if there has been filed with the Trustee a Bond Insurance Policy, or a certified copy thereof, with respect to any Obligation, provided the Bond Insurer is not in default under such Bond Insurance Policy, the Bond Insurer shall be entitled (i) upon the occurrence and continuance of any Event of Default, to exercise, control and direct the enforcement of all rights and remedies under the Master Trust Agreement granted to the Owners of Obligations entitled to the benefit of such Bond Insurance Policy or the Trustee for the benefit of such Owners under the Master Trust Agreement and direct the Trustee to take any actions in connection therewith and (ii) to grant any consent, direction or approval or take any action expressly permitted by or required under the Master Trust Agreement to be granted or taken by the Owners of Obligations entitled to the benefit of such Bond Insurance Policy, except with respect to the Unanimous Voting Matters. In such event, the Bond Insurer shall be deemed to be the Owner of Obligations entitled to the benefit of the related Bond Insurance Policy for such purpose. Any Bond Insurer under a Bond Insurance Policy, or certified copy thereof, which has been filed with the Trustee and is then in effect shall, for all purposes of the Master Trust Agreement, constitute and may be called a Bond Insurer of record.

TxDOT Control Rights.

So long as TxDOT has not failed to honor a Draw Request under a Toll Equity Loan Agreement, whether due to a Non-Appropriation Event or otherwise:

(a) TxDOT shall be deemed to be the Owner of all Toll Equity Loan Supported Obligations for purposes of (i) exercising all remedies and directing the Trustee to take actions or for any other purposes following an Event of Default, and (ii) granting any consent (other than a consent under "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Actions Relating to Certain Financing Documents"), direction or approval or taking any action permitted by or required under the Master Trust Agreement to be granted or taken by the Owners of such Toll Equity Loan Supported Obligations.

(b) Anything in the Master Trust Agreement to the contrary notwithstanding, upon the occurrence and continuance of an Event of Default, TxDOT shall be entitled to control and direct the enforcement of all rights and remedies granted to the Owners of Toll Equity Loan Supported Obligations or the Trustee for the benefit of such Owners of Toll Equity Loan Supported Obligations under the Master Trust Agreement.

Supplemental Agreements by Corporation and Trustee.

The Corporation and the Trustee may, from time to time and at any time, without the consent of the Owners of the Obligations, enter into such agreements supplemental hereto as shall not be in conflict with the terms and provisions hereof (which supplemental agreements shall thereafter form a part hereof),

(a) to cure any ambiguity or formal defect or omission in the Master Trust Agreement or in any Supplemental Agreement, or

(b) to grant to or confer upon the Trustee for the benefit of the Owners any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Owners or the Trustee, or

(c) to close the Master Trust Agreement against or provide limitations and restrictions, in addition to the limitations and restrictions contained in the Master Trust Agreement, with respect to the future issuance of Additional Obligations, or

(d) to set forth additional covenants and provisions with respect to any System Segments, and any Obligations issued in connection therewith, or

(e) to provide for the issuance of Additional Obligations and any related adjustment, modification or addition to the Project Budget, all pursuant to "SUMMARY OF MASTER TRUST PROVISIONS – Issuance of First Tier Obligations," "–Issuance of Second Tier Obligations," "–Issuance of Subordinate Tier Obligations," "–TELA/Other Tier Obligations," and "–Project Budget," or

(f) to provide for a new Tier with a security interest in the Junior Net Revenues senior to the security interest in the Junior Net Revenues securing the TELA/Other Tier Obligations and for the issuance of obligations within such new Tier (together with any amendment to the Toll Rate Agreement to provide for such new Tier as provided in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Actions Relating to Certain Financing Documents"), or

(g) to set forth additional provisions, if deemed necessary or advisable, with respect to the issuance of the Additional Obligations permitted under "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," "–Issuance of Second Tier Obligations," "–Issuance of Subordinate Tier Obligations," and "–TELA/Other Tier Obligations," including provisions for the use and functioning of the Construction Fund for additional System Segments, and the addition of certain other funds and accounts necessary or convenient for effecting the payment of Principal of or interest on such Obligations, which changes or amendments do not, in the judgment of the Corporation, materially adversely affect the interests of the Owners of the Outstanding Obligations or any Bond Insurer of record, or

(h) to comply with additional requirements to the extent necessary in the opinion of Bond Counsel to preserve the exemption from federal income taxation of interest on any applicable Obligations under section 103 of the Code, or

(i) to make any changes or amendments requested by Standard & Poor's, Fitch or Moody's, as a condition to the issuance or maintenance of a rating, which changes or amendments do not, in the judgment of the Corporation, materially adversely affect the interests of the Owners of the Outstanding Obligations or any Bond Insurer of record, or

(j) to provide for additional defeasance provisions to the provisions of the Master Trust Agreement or different defeasance provisions to the provisions of the Master Trust Agreement, applicable to the Obligations authorized by such a Supplemental Agreement, or

(k) to the extent permitted by law, to permit the Corporation to enter into Qualified Credit Agreements or to issue Additional Obligations in foreign denominated currencies; provided, however, no such amendment shall be made unless the Corporation shall have received a letter from Standard & Poor's, Fitch and Moody's, as the case may be, to the effect that such amendment will not result in any of such rating agencies lowering the assigned rating on the then Outstanding Obligations, or

(l) upon direction of the Corporation, provided that the Trustee receives a written confirmation from each rating agency then maintaining a rating on the First Tier Obligations, the Second Tier Obligations and the Subordinate Tier Obligations to the effect that the execution and delivery of such Supplemental Agreement will not in and of itself cause such rating agency to reduce or withdraw the then current rating on the First Tier Obligations, the Second Tier Obligations and the Subordinate Tier Obligations, together with the prior written consent of each Bond Insurer and other Credit Provider then providing credit support for any series of affected Obligations;

provided, however, that no such amendment shall have the effect of amending a provision of the Master Trust Agreement with respect to Unanimous Voting Matters.

Modification of Trust Agreement and Supplemental Agreements with Consent of a Majority of Owners of Obligations; Restrictions on Modifications; Notice of Supplemental Agreements.

Subject to the terms and provisions contained in this section, and not otherwise, the Owners of not less than a majority of the aggregate Principal amount of the Obligations then Outstanding, or in case less than all of the Obligations then Outstanding are affected by the modification or amendment, the Owners of not less than a majority of the aggregate Principal amount of the Obligations so affected and Outstanding, shall have the right, from time to time, anything contained in the Master Trust Agreement to the contrary notwithstanding, to consent to and approve the execution by the Corporation and the Trustee of such agreement or agreements supplemental hereto as shall be deemed necessary or desirable by the Corporation for the purpose of modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in the Master Trust Agreement or in any Supplemental Agreement; notwithstanding the foregoing or the provisions of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Bond Insurer's Rights" and "–TxDOT Control Rights," nothing herein contained shall permit, or be construed as permitting, (a) an extension of the Principal of or the interest on any Obligation issued hereunder, or (b) a reduction in the Principal amount of any Obligation or the redemption premium or the rate of interest thereon, or (c) the creation of a lien upon or a pledge of revenues ranking prior to or on a parity with (to the extent not permitted hereunder) the lien or pledge created by the Master Trust Agreement, or (d) except as otherwise provided in the Master Trust Agreement, including subparagraph (b) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of Subordinate Tier Obligations," the applicable Supplemental Agreements and in the Master Trust Agreement, preference or priority of any First Tier Obligations, Second Tier Obligations or Subordinate Tier Obligations, as the case may be, over any other First Tier Obligations, Second Tier Obligations, or Subordinate Tier Obligations, or (e) a reduction in the aggregate Principal amount of the Obligations required for consent to such Supplemental Agreement or for any other consent, direction or determination required in the Master Trust Agreement, or (f) a deprivation of an Owner to the lien on the Trust Estate granted by the Master Trust Agreement, or (g) a modification of any term of the Master Trust Agreement relating to drawings under, enforcement rights and remedies concerning, consent rights pertaining to or otherwise affecting the rights of the Trustee in, or the pledge to the Trustee for the benefit of the Owners of the Obligations of, the Toll Equity Loan Agreement (except for modifications in any Supplemental Agreement entered into in accordance with subparagraphs (d), (e) or (f) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Supplemental Agreements by Corporation and Trustee), without the consent of the Owners of not less than 100% in aggregate Principal amount of the Obligations Outstanding that are affected thereby (collectively "Unanimous Voting Matters"). Any amendment or modification of any Unanimous Voting Matter shall also require the written consent of (i) the Bond Insurer as provided in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Rights of Bond Insurers" and (ii) TXDOT for any affected Toll Equity Loan Supported Obligations Outstanding, provided TxDOT has not failed to honor a draw request under the related Toll Equity Loan Agreement, whether due to a Non-Appropriation Event or otherwise. Nothing herein contained, however, shall be construed as making necessary the approval by Owners of the execution of any Supplemental Agreement or Agreements as authorized in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Supplemental Agreements by Corporation and Trustee."

If at any time the Corporation shall request the Trustee to enter into any Supplemental Agreement for any of the purposes of this section, the Trustee shall, at the expense of the Corporation, cause notice of the proposed execution of such Supplemental Agreement to be published once in each week for four successive weeks in a financial journal of general circulation published in the State; provided that if before the first publication of such notice, the Trustee shall cause such notice to be mailed, postage prepaid, to all Owners of Obligations then Outstanding at their addresses as they appear on the registration books provided for in the applicable Supplemental Agreement, then no such publication shall be required. The notice shall briefly set forth the nature of the proposed Supplemental Agreement and shall state that a copy thereof (or a substantially final draft thereof) is on file at the office of the Trustee for inspection by all Owners. The Trustee shall not, however, be subject to any liability to any Owner by reason of its failure to mail the notice required by this section, and any such failure shall not affect the validity of such Supplemental Agreement when consented to and approved as provided in this section.

Whenever, at any time within one (1) year after the date of the first publication of such notice or the date of mailing of such notice, as applicable, the Corporation shall deliver to the Trustee an instrument or instruments purporting to be executed by the Owners of not less than a majority of the aggregate Principal amount of the Obligations then Outstanding, which instrument or instruments shall refer to proposed Supplemental Agreement described in such notice and shall specifically consent to and approve the execution thereof in substantially the form of the copy thereof referred to in such notice as on file with the Trustee, thereupon, but not otherwise, the Trustee may execute such Supplemental Agreement in substantially such form, without liability or responsibility to any Owner of any Obligation, whether or not such Owner shall have consented thereto.

If the Owners of not less than a majority of the aggregate Principal amount of the Obligations Outstanding at the time of the execution (or, in the case that less than all of the Obligations then Outstanding are affected by the modification or amendment, the Owners of not less than a majority of the aggregate Principal amount of the Obligations so affected and Outstanding at the time of the execution) of such Supplemental Agreement shall have consented to and approved the execution thereof as herein provided, no Owner of any Obligation shall have any right to object to the execution of such Supplemental Agreement, or to object to any of the terms and provisions contained therein or the operation thereof, or in any manner to question the propriety of the execution thereof, or to enjoin or restrain the Trustee or the Corporation from executing the same or from taking any action pursuant to the provisions thereof.

Trustee Joining in Supplemental Agreements; Supplemental Agreements Part of Trust Agreement.

The Trustee is authorized to join with the Corporation in the execution of any such Supplemental Agreement and to make the further agreements and stipulations which may be contained therein. Any Supplemental Agreement executed in accordance with the provisions of the Master Trust Agreement shall thereafter form a part of the Master Trust Agreement, and all the terms and conditions contained in any such Supplemental Agreement as to any provision authorized to be contained therein shall be and shall be deemed to be part of the terms and conditions of the Master Trust Agreement for any and all purposes. In case of the execution and delivery of any Supplemental Agreement, express reference may be made thereto in the text of any Obligations issued thereafter, if deemed necessary or desirable by the Trustee or the Corporation.

Upon the execution of any Supplemental Agreement pursuant to the provisions of this section, "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Supplemental Agreements by Corporation" and the Master Trust Agreement, the Master Trust Agreement shall be and be deemed to be modified and amended in accordance therewith, and the respective rights, duties, and obligations under the Master Trust Agreement of the Corporation and the Trustee and all Owners of Obligations then Outstanding shall thereafter be determined, exercised and enforced hereunder, subject in all respects to such modifications and amendments.

Reliance by Trustee on Opinion of Counsel.

The Trustee shall be entitled to receive, and shall be fully protected in relying upon, the opinion of any counsel approved by it, who may be Counsel to the Corporation, as conclusive evidence that any such proposed Supplemental Agreement complies with the provisions of the Master Trust Agreement, and that it is proper for the Trustee, under the provisions of the Master Trust Agreement, to join in the execution of such Supplemental Agreement.

Rights of Bond Insurers.

Notwithstanding the foregoing provisions of the Master Trust Agreement, if there has been filed with the Trustee a Bond Insurance Policy, or a certified copy thereof, with respect to any Obligation, no consent by the Owner of such Obligation to the execution of any Supplemental Agreement or other modification of the Master Trust Agreement shall be effective unless the Bond Insurer consents in writing to the execution of such Supplemental Agreement or other modification, provided the Bond Insurer is not in default under the related Bond Insurance Policy. The Corporation further covenants that it will furnish to each Bond Insurer of record a transcript of the pertinent proceedings relating to each Supplemental Agreement to the Master Trust Agreement.

Release of Trust Agreement.

(a) If the whole amount of the Principal and the interest and the premium, if any, due or to become due and payable upon all of the Obligations then Outstanding shall be paid or sufficient funds shall be held by the Trustee for such purpose, and provision shall also be made for paying all other sums payable hereunder by the Corporation, and if any Obligations to be redeemed prior to maturity shall have been duly called for redemption or irrevocable instructions to call such Obligations for redemption shall have been given by the Corporation to the Trustee, then and in that case the right, title and interest of the Trustee herein shall thereupon cease, determine and become void, provided that the sufficiency of the above funds held by the Trustee for such purpose must be verified in a report which must be obtained by the Trustee from an independent nationally recognized certified public accountant. The Trustee in such case, on demand of the Corporation, shall release the Master Trust Agreement and shall execute such documents to evidence such release as may be reasonably required by the Corporation, and shall turn over to the Corporation all balances remaining in all funds and accounts created by the Master Trust Agreement, other than funds held for redemption or payment of Obligations or interest thereon; otherwise the Master Trust Agreement shall be, continue and remain in full force and effect.

(b) Any Obligation shall be deemed to be paid and no longer Outstanding within the meaning of the Master Trust Agreement (a "Defeased Debt") and any applicable Supplemental Agreement, when payment of the Principal of, redemption premium, if any, on such Defeased Debt, plus interest thereon to the due date thereof and, in the case of an Obligation bearing interest at a Variable Rate, at the lesser of the maximum rate allowed by law or provided in such Obligation (whether such due date be by reason of maturity, upon redemption, mandatory or optional tender, or otherwise), either (i) shall have been made in accordance with the terms thereof, or (ii) shall have been provided by irrevocably depositing with the Trustee, in trust, and irrevocably set aside exclusively for such payment, (1) money sufficient to make such payment or (2) Government Obligations, as defined in the Master Trust Agreement, certified by an independent public accounting firm of national reputation to mature as to Principal and interest in such amount and at such times as will ensure the availability, without reinvestment, of sufficient money to make such payment, and all necessary and proper fees, compensation, and expenses of the Trustee and the Paying Agent pertaining to such Defeased Debt with respect to which such deposit is made shall have been paid or the payment thereof provided for to the satisfaction of the Trustee. At such time as a Defeased Debt shall be deemed to be paid hereunder, it shall no longer be secured by or entitled to the benefits of the Master Trust Agreement except for the purposes of any such payment from such money or Government Obligations.

(c) Any moneys so deposited with the Trustee may at the direction of the Corporation also be invested in Government Obligations, maturing in the amounts and times as hereinbefore set forth, and all income from all Government Obligations in the hands of the Trustee pursuant to the Master Trust Agreement which is not required for the payment of the Obligations, the redemption premium, if any, and interest thereon, with respect to which such money has been so deposited, shall be turned over to the Corporation.

(d) The Corporation hereby covenants that it will not instruct the Trustee to deposit any funds under clause (ii) of subparagraph (b) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS - Release of Trust Agreement" or direct the use of any such deposit which would cause any Tax-Exempt Obligations to be treated as "arbitrage bonds" within the meaning of section 148 of the Code.

(e) For the purpose of the Master Trust Agreement, the term "Government Obligations" shall mean (i) direct, noncallable obligations of the United States of America, including obligations that are unconditionally guaranteed by the United States of America, (ii) noncallable obligations of an agency or instrumentality of the United States of America, including obligations that are unconditionally guaranteed or insured by the agency or instrumentality and that, on the date of the purchase thereof are rated as to investment quality by a nationally recognized investment rating firm not less than "AAA" or its equivalent, (iii) noncallable obligations of a state or an agency or a county, municipality, or other political subdivision of a state that have been refunded and that, on the date the Board of Directors of the Corporation adopts or approves the proceedings authorizing the financial arrangements are rated as to investment quality by a nationally recognized investment rating firm not less than "AAA" or its equivalent and (iv) any other then authorized securities or obligations under applicable State law that may be used to defease obligations such as the Obligations.

(f) Any determination not to redeem Defeased Debt that is made in conjunction with the payment arrangements specified in subparagraphs (b)(i) or (ii) of this section shall not be irrevocable, provided that: (1) in the proceedings providing for such defeasance, the Corporation expressly reserves the right to call the Defeased Debt for redemption; (2) the Corporation gives notice of the reservation of that right to the Owners of the Defeased Debt immediately following the defeasance; (3) the Corporation directs that notice of the reservation be included in any defeasance or redemption notices that it authorizes; and (4) at or prior to the time of the redemption, the Corporation satisfies the conditions of subparagraph (b) of this section with respect to such Defeased Debt as though it was being defeased at the time of the exercise of the option to redeem the Defeased Debt, after taking the redemption into account in determining the sufficiency of the provisions made for the payment of the Defeased Debt.

Actions Relating to Certain Financing Documents.

(a) Notwithstanding any other provision in the Master Trust Agreement to the contrary, except and subject to subparagraph (c) of this section and "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," "–Issuance of Second Tier Obligations," "–Issuance of Subordinate Tier Obligations," "–TELA/Other Tier Obligations," and subparagraph (e) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Supplemental Agreements by Corporation and Trustee," without the prior written direction or consent of the Owners of not less than a majority of the aggregate Principal amount of the Toll Equity Loan Supported Obligations then Outstanding, (i) neither the Corporation nor the Trustee may sell, assign, delegate or otherwise transfer any of its rights or obligations under the Toll Equity Loan Agreement or consent to or accept any such assignment, delegation or other transfer of rights and obligations under the Toll Equity Loan Agreement; (ii) the Trustee may not assume any obligation of the Corporation under the Toll Equity Loan Agreement, and (iii) neither the Corporation nor the Trustee may amend, modify or supplement the Toll Equity Loan Agreement (other than is contemplated in "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Issuance of First Tier Obligations," "–Issuance of Second Tier Obligations," "–Issuance of Subordinate Tier Obligations," "–TELA/Other Tier Obligations," and subparagraph (e) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Supplemental Agreements by Corporation and Trustee") in a manner that is materially adverse to the Owners of Toll Equity Loan Supported Obligations. The Trustee may not amend, modify or supplement the Toll Equity Loan Agreement without the prior written consent of the Corporation.

(b) Notwithstanding any other provision in the Master Trust Agreement to the contrary, except and subject to subparagraph (f) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Supplemental Agreements by Corporation and Trustee," without the prior written direction or consent of the Owners of not less than a majority of the aggregate Principal amount of the Obligations then Outstanding, neither the Corporation nor the Trustee may amend, modify or supplement the Toll Rate Agreement (other than is contemplated in subparagraph (f) of "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – Supplemental Agreements by Corporation and Trustee" or provisions of the Project Agreement described above in "–Use and Operation of System; Project

Agreement), or otherwise consent to any such amendment, modification or supplement thereof, in a manner that is materially adverse to the Owners of Obligations.

(c) Notwithstanding any other provision in the Master Trust Agreement to the contrary, except and subject to subparagraph (d) of this section and "SUMMARY OF MASTER TRUST AGREEMENT PROVISIONS – TELA/Other Tier Obligations," neither the consent of any Owner of the Obligations, of any Bond Insurer nor of the Trustee shall be required for (i) a new Toll Equity Loan Agreement, (ii) any amendment, modification or supplement to any existing Toll Equity Loan Agreement for any adjustment to the Maximum Available Aggregate Amount, the Maximum Available Annual Amount for any Fiscal Year or the Project Budget for any Fiscal Year, as may be required in connection with the issuance of Additional Obligations pursuant to the terms and conditions of the Master Trust Agreement, or (iii) for any other amendment, modification or supplement to a Toll Equity Loan Agreement in connection therewith so long as such other amendment, modification or supplement does not adversely modify the obligations of TxDOT to pay any Draw Request under any such existing Toll Equity Loan Agreement.

(d) Prior to the execution of any amendment, modification or supplement to the Toll Equity Loan Agreement, and as a condition to the effectiveness thereof, the Corporation shall have filed with the Trustee evidence of any consent required of the Owner of any TIFIA Obligation pursuant to any related loan agreement with respect thereto.

(e) For the avoidance of doubt, no term or provision of the Master Trust Agreement providing for the grant of waivers or consent or acceptance of a cure by any party other than the Trustee shall be deemed or interpreted by any Person to require the direction or consent of the Owners of not less than a majority of the aggregate Principal amount of the Obligations then Outstanding in addition to the party whose consent is required.

SUMMARY OF EIGHTH SUPPLEMENTAL AGREEMENT PROVISIONS

2020 First Tier Reserve Account.

The 2020 First Tier Obligations are not secured by the subaccount within the First Tier Reserve Account established for the Series 2013A Bonds; but will be secured by the 2020 Subaccount within the First Tier Reserve Account established herein for the 2020 First Tier Obligations (the “2020 First Tier Reserve Account”). When and for so long as the cash, investments and Reserve Surety Agreement in the 2020 First Tier Reserve Account equal to the 2020 First Tier Reserve Requirement, no deposits need be made to the credit of the 2020 First Tier Reserve Account; but, if and when the 2020 First Tier Reserve Account at any time contains less than the 2020 First Tier Reserve Requirement, the Corporation covenants and agrees that the Corporation shall cure the deficiency in the 2020 First Tier Reserve Account by resuming monthly deposits into the 2020 First Tier Reserve Account in amounts equal to not less than 1/36th of the deficiency remaining of the 2020 First Tier Reserve Requirement until the 2020 First Tier Reserve Requirement has been fully restored. Earnings and income derived from the investment of amounts held for the credit of the 2020 First Tier Reserve Account shall be retained in the 2020 First Tier Reserve Account until the 2020 First Tier Reserve Account contains the 2020 First Tier Reserve Requirements; thereafter, such earnings and income shall, at the option of the Corporation, be deposited into the appropriate subaccount within the First Tier Interest Account or the First Tier Redemption Account, respectively.

Notwithstanding anything to the contrary, the requirement set forth in this subsection to maintain the 2020 First Tier Reserve Requirement in the 2020 First Tier Reserve Account shall be suspended for such time as the Senior Net Revenues for each Fiscal Year are equal to at least 1.75 times the Debt Service Requirements on any Outstanding First Tier Obligations for such Fiscal Year. In the event that the Senior Net Revenues for any Fiscal Year are less than 1.75 times the Debt Service Requirements for any Outstanding First Tier Obligations, the Corporation will be required to commence making 2020 First Tier Reserve Requirement deposits as provided above, and to continue such 2020 First Tier Reserve Requirement deposits until the earlier of (i) such time as the 2020 First Tier Reserve Account contains the 2020 First Tier Reserve Requirement or (ii) the Senior Net Revenues in each of two consecutive Fiscal Years have been equal to at least 1.75 times the Debt Service Requirements on the Outstanding First Tier Obligations for such Fiscal Year. Notwithstanding these provisions, if the Corporation commences deposits in the 2020 First Tier Reserve Account and the requirement to maintain the 2020 First Tier Reserve Requirement in the 2020 First Tier Account is later suspended, any funds so accumulated may, at the discretion of the Corporation: (i) remain in the 2020 First Tier Reserve Account or (ii) be used for any lawful purpose including Costs of the System or to pay debt service on the 2020 First Tier Obligations.

A Reserve Surety Agreement issued in an amount equal to all or part of the 2020 First Tier Reserve Requirement may be used in lieu of depositing cash into the 2020 First Tier Reserve Account. In addition, a Reserve Surety Agreement may be substituted for monies and investments in the 2020 First Tier Reserve Account if the substitution of the Reserve Surety Agreement will not, in and of itself, cause any ratings then assigned to the 2020 First Tier Obligations by Moody's, S&P and/or Fitch, respectively, to be lowered, the Reserve Surety Agreement is approved by the Texas Attorney General, if then required by State law, and the resolution authorizing the substitution of the Reserve Surety Agreement for all or part of the 2020 First Tier Reserve Requirement contains a finding that such substitution is cost effective.

If (i) the long-term, unsecured credit rating of the issuer of the Reserve Surety Agreement falls below the third highest generic rating category (i.e., "A") by Moody's, S&P and/or Fitch, respectively, (ii) the issuer of the Reserve Surety Agreement defaults in its payment obligations thereunder, or (iii) the issuer of the Reserve Surety Agreement becomes insolvent, and if the requirement to maintain the 2020 First Tier Reserve Requirement in the 2020 First Tier Reserve Account is not suspended, the Corporation will within 36 months of such occurrence either (A) only to the extent Revenues of the System are available, deposit into the 2020 First Tier Reserve Account an amount sufficient to cause the cash and investments on deposit therein to accumulate to the 2020 First Tier Reserve Requirement, or (B) replace such instrument with a Reserve Surety Agreement meeting the requirements of this Section. Upon replacement, the Corporation may terminate the existing Reserve Surety Agreement. Any cash released from the 2020 First Tier Reserve Account as a result of deposit of a Reserve Surety Agreement may be used for any purpose authorized by the Trust Agreement, as instructed in writing to the Trustee by a Corporation Representative and subject to receipt by the Corporation and the Trustee of an opinion of Bond Counsel that such use will not adversely effect the tax status of such First Tier Obligations and is permitted by State law.

Payments on Holidays.

In the event that any date for payment of the principal of or interest on the fixed rate Obligations is not a Business Day, then the date for such payment will be the next succeeding Business Day. Payment on such later date will not increase the amount of interest due and will have the same force and effect as if made on the original date payment was due.

Pledge.

The Corporation has pledged and assigned to the Trustee all moneys held by the Trustee in the various funds and accounts created under the Master Trust Agreement, to the extent provided in the Master Trust Agreement, as security for the payment of all Obligations, and the interest thereon, for the benefit and security of all and singular the present and future owners of all Obligations issued pursuant to the Master Trust Agreement and with such priority and distinction as is set forth in the Master Trust Agreement. Such pledge and assignment are hereby confirmed and specifically made applicable and extended to each Series of the Obligations.

Master Trust Agreement Applicable.

Except as modified and supplemented by the Eighth Supplemental Agreement, the provisions of the Master Trust Agreement shall be applicable to each Series of the Obligations for all pertinent purposes.

Supplemental Agreements Without Owners' Consent.

Subject to the Master Trust Agreement and as otherwise provided in the Eighth Supplemental Agreement, the Corporation and the Trustee may from time to time and at any time enter into Supplemental Agreements, without the consent of or notice to any Owner of the Obligations, to effect any one or more of the following:

(a) cure any ambiguity, defect or omission or correct any provision in the Eighth Supplemental Agreement;

(b) grant to or confer upon the Trustee for the benefit of the Owners of the Obligations any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Owners of the

Obligations or the Trustee which are not contrary to or inconsistent with the Master Trust Agreement and the Eighth Supplemental Agreement as then in effect or to subject to the pledge and lien of the Eighth Supplemental Agreement additional revenues, properties or collateral, including Government Obligations;

(c) add to the covenants and agreements of the Corporation in the Eighth Supplemental Agreement other covenants and agreements thereafter to be observed by the Corporation or to surrender any right or power herein reserved to or conferred upon the Corporation which are not contrary to or inconsistent with the Master Trust Agreement and the Eighth Supplemental Agreement as then in effect;

(d) permit the appointment of a co-trustee under the Eighth Supplemental Agreement;

(e) modify, alter, supplement or amend the Eighth Supplemental Agreement in such manner as shall permit the qualification of the Eighth Supplemental Agreement, if required, under the Trust Agreement Act of 1939, the Securities Act of 1933 or any similar federal statute hereafter in effect;

(f) make any other change herein that is determined by the Corporation not to be materially adverse to the interests of the Owners of the Obligations, including changes or amendments requested by any Rating Agency as a condition to the issuance or maintenance of a rating or requested by the Texas Attorney General's office as a condition to the approval of any Obligations; or

(g) if all the Obligations are Book-Entry Obligations, amend, modify, alter or replace any Letter of Representations as provided in the Master Trust Agreement or other provisions relating to Book-Entry Obligations.

The Trustee shall not be obligated to enter into any such Supplemental Trust Agreement that adversely affects the Trustee's own rights, duties or immunities under the Eighth Supplemental Agreement.

Notice of any amendment pursuant to this section shall be sent to the Rating Agencies.

Supplemental Agreements Requiring Owners' Consent.

Subject to the Master Trust Agreement, the Corporation and the Trustee, at any time and from time to time, may execute and deliver a Supplemental Agreement for the purpose of making any modification or amendment to the Eighth Supplemental Agreement, but only with the written consent, given as provided in "SUMMARY OF EIGHTH SUPPLEMENTAL AGREEMENT PROVISIONS – Consent of Owners and Opinions," of the Owners of at least a majority in aggregate principal amount of the Obligations Outstanding at the time such consent is given, and in case less than all of the Obligations then Outstanding are affected by the modification or amendment, of the Owners of at least a majority in aggregate principal amount of the Obligations so affected and Outstanding at the time such consent is given; provided, however, that if such modification or amendment will, by its terms, not take effect so long as any Obligations so affected remain Outstanding, the consent of the Owners of such Obligations shall not be required and such Obligations shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Obligations under this section. Notwithstanding the foregoing, no modification or amendment contained in any such Supplemental Agreement shall permit any of the following, without the consent of each Owner of the Obligations whose rights are affected thereby:

(a) a change in the terms of stated maturity or redemption of any Obligation or of any installment of interest thereon;

(b) a reduction in the principal amount of or redemption premium on any Obligation or in the rate of interest thereon or a change in the coin or currency in which such Obligation is payable;

(c) the creation of a lien on or a pledge of any part of the Trust Estate which has priority over or parity with (to the extent not permitted hereunder) the lien or pledge granted to the Owners of the Obligations under the Eighth Supplemental Agreement (but this provision shall not apply to the release of any part of the Trust Estate as opposed to the creation of a prior or parity lien or pledge);

(d) the granting of a preference or priority of any Obligation over any other Obligation, except to the extent permitted herein;

(e) a reduction in the aggregate principal amount of Obligations of which the consent of the Owners is required to effect any such modification or amendment; or

(f) any provision which requires the consent of each Owner of the Obligations.

Notwithstanding the foregoing, the Owner of any Obligation may extend the time for payment of the principal of or interest on such Obligation; provided, however, that upon the occurrence of an Event of Default, funds available under the Eighth Supplemental Agreement for the payment of the principal of and interest on such Obligations shall not be applied to any payment so extended until all principal and interest payments which have not been extended have first been paid in full. Notice of any Supplemental Agreement executed pursuant to this section shall be given to the Owners of the Obligations promptly following the execution thereof.

Notice of any amendment pursuant to this section shall be sent to the Rating Agencies then maintaining a rating on the Obligations.

Consent of Owners and Opinions.

Each Supplemental Agreement executed and delivered pursuant to the provisions of "EIGHTH SUPPLEMENTAL AGREEMENT – Supplemental Agreements – Supplemental Agreements Requiring Owner's Consent" shall take effect only when and as provided in this section. A copy of such Supplemental Agreement (or brief summary thereof or reference thereto in form approved by the Trustee), together with a request to Owners of the Obligations for their consent thereto in form satisfactory to the Trustee, shall be sent by the Trustee to Owners of the Obligations, at the expense of the Corporation, by first class mail, postage prepaid, provided that a failure to mail such request shall not affect the validity of the Supplemental Trust Agreement when consented to as provided hereinafter. Such Supplemental Agreement shall not be effective unless and until there shall have been filed with the Trustee the written consents of Owners of the Obligations of the percentage of Obligations specified in "SUMMARY OF EIGHTH SUPPLEMENTAL AGREEMENT PROVISIONS – Supplemental Agreements Requiring Owners' Consent" given as provided in the Master Trust Agreement. Any such consent shall be binding upon the Owner giving such consent and upon any subsequent Owner of such Obligations and of any Obligations issued in exchange therefor or in lieu thereof (whether or not such subsequent Owner has notice thereof), unless such consent is revoked in writing by the Owner giving such consent or a subsequent Owner of such Obligations by filing such revocation with the Trustee prior to the date the Trustee receives the material required in subsections (a) and (b) of this section.

Exclusion of Certain Obligations for the Purpose of Consent, Etc.

Obligations that are to be disregarded under the last sentence of the definition of "Outstanding" in the Master Trust Agreement shall not be deemed Outstanding for the purpose of consent or other action or any calculation of Outstanding Obligations provided for in "EIGHTH SUPPLEMENTAL AGREEMENT – Supplemental Agreements." At the time of any consent or other action taken under that Article or elsewhere in the Eighth Supplemental Agreement, the Corporation shall furnish the Trustee a certificate of a Pricing Officer, upon which the Trustee may rely, describing all Obligations so to be excluded.

Effect of Supplemental Agreements.

Upon the execution and delivery of any Supplemental Agreement under "EIGHTH SUPPLEMENTAL AGREEMENT – Supplemental Agreements," the Eighth Supplemental Agreement shall be modified in accordance therewith, and such Supplemental Agreement shall form a part of the Eighth Supplemental Agreement for all purposes; and every Owner of any Obligation theretofore or thereafter authenticated and delivered under the Eighth Supplemental Agreement shall be bound thereby.

Law and Place of Enforcement of the Eighth Supplemental Agreement.

The Eighth Supplemental Agreement shall be construed and interpreted in accordance with the laws of the State. All suits and actions arising out of the Eighth Supplemental Agreement shall be instituted in a court of competent jurisdiction in the State.

Notices to Rating Agencies and Bond Insurer.

The Trustee, or the Corporation in the event of the resignation of the Trustee, shall send to the Rating Agencies, if any, notice of (i) a change of the Trustee, (ii) material changes to the Eighth Supplemental Agreement, the Master Trust Agreement or a Credit Agreement, (iii) expiration, termination, substitution, or extension of a Credit Agreement, (iv) redemption or defeasance of the Obligations and (v) Events of Default under the Master Trust Agreement or a Credit Agreement. The Trustee shall also provide to the Rating Agencies any other information that they may reasonably request to maintain a rating on a Series of the Obligations. The Bond Insurer, if any, shall receive such notices as required by their commitment or other agreement.

Sovereign Immunity.

The Corporation has not waived sovereign immunity from suit for the purpose of adjudicating a claim to enforce the Obligations or for damages for breach of the Obligations.

Springing Agreement.

At such time (i) the Prior Obligations are paid or deemed paid and no longer Outstanding within the meaning of Article XII of the Master Trust Agreement, (ii) the consent of the Owners of any Prior Obligations which remain Outstanding is received or (iii) any combination of (i) and (ii) occurs, the Corporation, in its discretion, may designate all or any portion of Junior Operating Expenses as Senior Operating Expenses for the then current Fiscal Year and subsequent Fiscal Years as evidenced by a Corporation Representative certificate. In such Corporation Representative certificate, the Corporation Representative shall certify that, immediately after such designation, (1) the Commission will be in compliance with its "Rate Covenant" in the Toll Rate Agreement and (2) with respect to all Obligations then Outstanding, the Corporation satisfies the debt service coverages set forth in Section 207(f)(i) through (iii) of the Master Trust Agreement in reliance on certificates substantially similar to the certificates set forth in Section 207(e)(v) through (vii) of the Master Trust Agreement. Once any such designation is made by a Corporation Representative, any references in the Master Trust Agreement or any applicable Supplement to Junior Operating Expenses shall mean Senior Operating Expenses for such Junior Operating Expenses that have been so designated as Senior Operating Expenses.

Amendment of Defeasance Provisions.

In connection with any defeasance, pursuant to the terms of Article XII of the Master Trust Agreement, of any Obligations issued pursuant to the Eighth Supplemental Agreement, the definition of Government Obligations shall be amended to mean (i) direct, noncallable obligations of the United States of America, including obligations that are unconditionally guaranteed by the United States of America, and (ii) noncallable obligations of an agency or instrumentality of the United States of America, including obligations that are unconditionally guaranteed or insured by the agency or instrumentality and that, on the date of the purchase thereof are rated as to investment quality by a nationally recognized investment rating firm not less than “AAA” or its equivalent.

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APPENDIX E

TOLL EQUITY LOAN AGREEMENT

Set forth below is a copy of the Amended and Restated Toll Equity Loan Agreement (referred to in the forepart of this Official Statement as the "*TELA*").

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EXECUTION VERSION

AMENDED AND RESTATED TOLL EQUITY LOAN AGREEMENT

dated as of May 16, 2018

between

Grand Parkway Transportation Corporation, as Borrower,

and

Texas Department of Transportation, as TxDOT,

relating to

STATE HIGHWAY 99 (GRAND PARKWAY) PROJECT

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TOLL EQUITY LOAN AGREEMENT

This AMENDED AND RESTATED TOLL EQUITY LOAN AGREEMENT (this "Agreement"), dated as of May 16, 2018 (the "Effective Date") is made by and between the Grand Parkway Transportation Corporation (the "Borrower") and the Texas Transportation Commission (the "Commission"), acting by and through the Texas Department of Transportation ("TxDOT"), and constitutes a credit agreement under Chapter 1371, Texas Government Code. This Agreement amends, replaces, and supersedes that certain Toll Equity Loan Agreement for the Grand Parkway Project, dated July 17, 2013, entered into between the Borrower and TxDOT (as such agreement has been amended or supplemented prior to the Effective Date, the "Original Agreement"). Capitalized terms used and not defined in this preamble or the Preliminary Statements have the meanings set forth in Section 1.01 hereof.

PRELIMINARY STATEMENTS:

(1) On March 25, 2009, TxDOT and the counties of Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, and Montgomery entered into the Market Valuation Waiver Agreement for SH 99 (Grand Parkway) (as amended, supplemented or superseded by any similar agreement among such parties, the "Market Valuation Waiver Agreement") for the purpose of waiving the requirement in prior Section 228.0111, Texas Transportation Code, to develop a market valuation for the Grand Parkway.

(2) Under prior Section 228.0111, Texas Transportation Code, TxDOT and the local toll project entity, the Harris County Toll Road Authority ("HCTRA"), agreed that the Grand Parkway should be developed, constructed, operated and expanded as a toll highway on the terms and conditions set forth in the Market Valuation Waiver Agreement, and by agreement, waived the statutory requirement to prepare a market valuation based on the terms and conditions set forth therein.

(3) The Commission adopted Minute Order No. 113046 on March 29, 2012, which authorized the creation of the Borrower for the purpose of acting on behalf of the Commission to develop, finance, refinance, design, construct, reconstruct, expand, operate, or maintain the Grand Parkway, including execution of contracts with TxDOT or a developer, and borrowing money.

(4) On July 17, 2013, the Borrower and TxDOT entered into (i) that certain Project Agreement for State Highway 99 (GRAND PARKWAY) Grand Parkway System (the "Original Project Agreement"), which provides the terms and conditions upon which the Borrower will undertake its responsibilities with respect to the development, construction, operation, maintenance and financing of the initial scope facilities in Segments E, F-1, F-2 and G of the Grand Parkway and the portion of Segment D of the Grand Parkway located in Harris County and the pre-development of possible extensions or expansions of the Grand Parkway Project (collectively, the "Initial Project") and under which TxDOT will perform personnel and advisory support for the System, including services relating to the operation and maintenance of the System; and (ii) the Original Agreement, pursuant to which TxDOT agreed to provide financial assistance to the Borrower for the Initial Project.

(5) In order to provide financing for a portion of the Initial Project and to reimburse TxDOT for certain costs incurred for the Initial Project pursuant to the Original Project Agreement, the Borrower issued certain of its Obligations (including certain Toll Equity Loan Supported Obligations supported by the Toll Equity Loan Commitment) pursuant to the Trust Agreement, dated as of August 1, 2013, between the Borrower and the Trustee (said Trust Agreement and any amendments or supplements thereto, the "Trust Agreement").

(6) On June 25, 2015, the Commission adopted Minute Order 114290, which authorized the Borrower to act on behalf of the Commission in the development, financing, refinancing, design, construction, reconstruction, expansion, operation and/or maintenance of Segment H, Segment I-1 and Segment I-2 (collectively, "Segments H&I") as part of the System and authorized the execution of an amendment to the Original Project Agreement to allocate responsibilities, support and assistance for integrating Segments H&I into the System.

(7) On May 1, 2018, the Borrower and TxDOT entered into an Amended and Restated Project Agreement for State Highway 99 (GRAND PARKWAY) Grand Parkway System (as further amended or supplemented, the "Project Agreement"), which replaced the Original Project Agreement in its entirety and assigns certain rights and responsibilities with respect to the System, including the H&I Project.

(8) In order to provide financing for a portion of the costs of the H&I Project and to reimburse TxDOT for certain costs incurred for the H&I Project and to pay certain additional Project Costs of Segments F-1, F-2 and G of the System, the Borrower intends to issue (i) one or more series of Additional Obligations, including certain Toll Equity Loan Supported Obligations supported by the Toll Equity Loan Commitment, pursuant to the Trust Agreement and (ii) certain additional bond anticipation notes (the "2018 BANs") issued pursuant to the 2018 BAN Documents.

(9) On March 28, 2017, pursuant to Minute Order 114880, the Commission authorized TxDOT to enter into the third amendment to the Original Agreement (the "Third Amendment") in order to provide financial assistance for costs of Segments H&I (including Major Maintenance Expenses) in addition to the financial assistance already approved for the System, including by amending the Schedule of Maximum Available Annual Amounts as set forth herein and by adding other amendatory provisions necessary to integrate Segments H&I into the Original Agreement, and TxDOT and the Borrower executed the Third Amendment on May 16, 2018.

(10) TxDOT has agreed to enter into this Agreement in accordance with Section 10.03 of the Third Amendment to incorporate amendments and revisions to the Original Agreement authorized by the Commission in order to provide a complete, comprehensive, coherent and definitive version of the terms and conditions of TxDOT's financial assistance under the Toll Equity Loan Commitment for the System, including for the H&I Project, as set forth herein.

(11) TxDOT and the Borrower now wish to amend and restate the Original Agreement as provided herein.

(12) TxDOT entered into the Original Agreement and is entering into this Agreement pursuant to the provisions of Section 222.103, Texas Transportation Code.

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the parties hereby agree that the Original Agreement is hereby amended and restated in its entirety to read as follows:

ARTICLE I.
DEFINITIONS

Section 1.01 Certain Defined Terms. Capitalized terms used in this Agreement shall have the meanings set forth in this Section 1.01 below (such meanings to be equally applicable to both the singular and plural forms of the terms defined). All other capitalized terms to the extent not otherwise defined herein shall have the respective meanings given to them in the Trust Agreement or the Project Agreement, as applicable. In the event of any conflict in definitions between the Trust Agreement and the Project Agreement, the terms contained in the Trust Agreement shall control.

"2018 BAN Documents" means the BAN Resolution, the BAN Trust Agreement and the 2018 BANs.

"2018 BANs" has the meaning set forth in paragraph (8) of the Preliminary Statements hereto.

"2018 Bond Purchase Contract" means one or more purchase contracts between the Borrower and the initial purchasers of the 2018 Project Debt.

"2018 Closing Date" means the date on which the 2018 Project Debt is issued, authenticated, and delivered in accordance with the Trust Agreement and the 2018 BAN Documents.

"2018 Finance Documents" means each of the Trust Agreement, the 2018 BAN Documents, the 2018 Project Debt and the Master Custodial Agreement.

"2018 Official Statement" means each of the offering documents relating to the 2018 Project Debt, together with any supplements thereto.

"2018 Preliminary Official Statement" means each of the preliminary offering documents relating to the 2018 Project Debt, together with any supplements thereto.

"2018 Pricing Date" means the date of the execution of the 2018 Bond Purchase Contract.

"2018 Project Debt" means the 2018 BANs and one or more series of the Borrower's Obligations issued with respect to Project Costs for the H&I Project and additional Project Costs for Segments F-1, F-2 and G, including certain Toll Equity Loan Supported Obligations supported by the Toll Equity Loan Commitment.

"Agreement" means this Amended and Restated Toll Equity Loan Agreement and any amendments or supplements hereto in accordance with the terms hereof.

"Annual Budget" has the meaning assigned to such term in the Trust Agreement.

"Bankruptcy Event" means (a) commencement by a Person of any case or other proceeding (i) under any existing or future law of any jurisdiction, domestic or foreign, relating to bankruptcy, insolvency, reorganization or relief of debtors, seeking to have an order for relief entered with respect to it, or seeking to adjudicate it as bankrupt or insolvent, or seeking reorganization, arrangement, adjustment, winding up, liquidation, dissolution, composition or other relief with respect to it or its debts, or (ii) seeking appointment of a receiver, trustee, custodian or other similar official for it or for all or any substantial part of its assets, or seeking to make a general assignment for the benefit of its creditors; or (b) commencement against such Person of any case or other proceeding of a nature referred to in clause (a) above that (i) results in the entry of an order for relief or any such adjudication or appointment or (ii) remains undismissed, undischarged, or unbonded for a period of sixty (60) days; or (c) commencement against such Person of any case or other proceeding seeking issuance of a warrant of attachment, execution or similar process against all or any substantial part of its assets which results in the entry of an order for any such relief which shall not have been vacated, discharged, or stayed or bonded pending appeal within sixty (60) days from the entry thereof; or (d) such Person shall take any action in furtherance of, or indicating its consent to, approval of, or acquiescence in, any of the acts set forth in clause (a), (b), or (c) above; or (e) such Person shall admit in writing its inability to pay its debts as they become due.

"BAN Resolution" means the Resolution Authorizing and Providing for the Issuance of Grand Parkway Transportation Corporation Bond Anticipation Notes in One or More Series; Authorizing and Approving the Trust and Security Agreement and Other Instruments and Procedures Relating to the Notes; Approving One or More Purchase Contracts or Other Related Agreements; Authorizing Application to the Texas Bond Review Board; Approving the Form of an Official Statement and Approving Other Matters Related to the Bond Anticipation Notes, adopted by the Borrower on August 24, 2017.

"BAN Trust Agreement" means the Trust and Security Agreement by and between the Borrower and U.S. Bank National Association, as trustee (along with its permitted successors and assigns, the "BAN Trustee"), authorized by the BAN Resolution.

"BAN Trustee" has the meaning set forth in the definition of BAN Trust Agreement herein.

"Base Price Index" means the CPI for October 2013.

"Borrower" has the meaning set forth in the preamble of this Agreement.

"Borrower's Accountant" means any nationally recognized accounting firm or other accountant or auditor reasonably acceptable to TxDOT.

"Capital Maintenance Agreement" means both (i) the Initial Capital Maintenance Agreement and (ii) the H&I Capital Maintenance Agreement, in each case, solely for so long as such agreement remains in effect.

"Capital Maintenance Contractor" means both (i) the Initial Capital Maintenance Contractor solely for so long as the Initial Capital Maintenance Agreement remains in effect and (ii) the H&I Capital Maintenance Contractor solely for so long as the H&I Capital Maintenance Agreement remains in effect.

"Commission" has the meaning set forth in the preamble to this Agreement.

"Corporation Representative" has the meaning assigned to such term in the Trust Agreement.

"CPI" means the Consumer Price Index based on All Urban Consumers (CPI-U) applicable to the South Urban area, published by the Bureau of Labor Statistics of the United States Department of Labor or any successor agency thereto, or any other measure thereafter employed by said Bureau or agency in lieu of such index that measures the cost of living in such geographic area.

"Debt Service Requirements" has the meaning assigned to such term in the Trust Agreement.

"Default" means each event which, with the giving of notice or lapse of time, or both, would constitute an Event of Default.

"Design-Build Contract" means both (i) the Initial Design-Build Contract and (ii) the H&I Design-Build Contract, in each case, solely for so long as such contract remains in effect.

"Design-Build Contractor" means both (i) the Initial Design-Build Contractor solely for so long as the Initial Design-Build Contract remains in effect and (ii) the H&I Design-Build Contractor solely for so long as the H&I Design-Build Contract remains in effect.

"Direct Agreement" means, with respect to any contract entered into by a third-party contractor and TxDOT with respect to the design, construction, operation or maintenance of any Segment, the agreement, assignment, acknowledgment, consent or other instrument entered into between the Borrower and the applicable third-party contractor with respect to such contract and the assignment of certain of TxDOT's rights and obligations thereunder to the Borrower.

"Draw Period" means each 12-month period (September 1 to August 31) set forth in Appendix B attached hereto.

"Effective Date" has the meaning set forth in the preamble to this Agreement.

"Eligible Costs" means amounts expended or incurred, or reasonably anticipated to be expended or incurred, by the Borrower for Project Costs, Major Maintenance Expenses and Operating Expenses.

"Environmental Claim" means any notice, claim or demand (collectively, a "claim") by any Person alleging or asserting liability for investigatory costs, cleanup or other remedial costs, legal costs, environmental consulting costs, governmental response costs, damages to natural resources or other property, personal injuries, fines or penalties related to (a) the presence, or release into the environment, of any Hazardous Substance located within the right of way or emanating from the right of way relating to the construction, operation or maintenance of the System, whether or not owned by the Person against whom such claim is made, or (b) any violation of, or alleged violation of, or liability arising under any Environmental Laws that relate to the construction, operation or maintenance of the System. The term "Environmental Claim" shall include, without limitation, any claim by any Person or Government Authority for investigation, enforcement, cleanup, removal, response, remedial or other actions or damages pursuant to any Environmental Laws, and any claim by any third party seeking damages, contribution, indemnification, cost recovery, compensation or injunctive relief under any Environmental Laws that relate to construction, operation or maintenance of the System.

"Environmental Laws" means any laws as modified and supplemented and in effect from time to time regulating or imposing liability or standards of conduct concerning or relating to the regulation, use or protection of human health or other living organisms, the environment, Hazardous Substances or natural resources related to the environment, or may at any time hereafter be, in effect, including, by way of example and not limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 USC Section 9601 et seq., the Resource Conservation and Recovery Act, 42 USC 6901 et seq., the Federal Clean Water Act, 33 USC Section 1351 et seq., the Occupational Safety and Health Act, 29 USC Section 651 et seq., as currently in force or as hereafter amended. Further, without limiting any of the forgoing, Environmental Laws as used in this Agreement shall also include all "Environmental Laws" as that term is defined in the Design-Build Contract.

"Estimated Date of Completion" means for any Segment, the estimated Service Commencement Date of the Segment.

"Event of Default" (a) with respect to the Borrower, has the meaning set forth in Section 6.01 of this Agreement, and (b) with respect to TxDOT, has the meaning set forth in Section 7.05 of this Agreement.

"Finance Documents" means each of the Trust Agreement, the Project Debt, this Agreement, the Initial TIFIA Loan Agreement, the Master Custodial Agreement, and the 2018 Finance Documents.

"Financial Model" means the financial model prepared by the Borrower as of the date specified in Section 3.01(b) hereof and delivered to TxDOT as provided in Section 3.01(b) hereof that contains the details of the Project Debt, including the proposed 2018 Project Debt, the updated Project Budget, the respective Maximum Available Annual Amounts and the Maximum Available Aggregate Amount, and as updated after the 2018 Pricing Date from time to time in accordance with Section 5.02(b) hereof.

"Fiscal Year" means, presently, each 12-month period ending August 31, or any other period agreed to by the Borrower and TxDOT as the Fiscal Year for the Project or the System.

"Future Offering Document" means any offering document delivered in connection with the sale and delivery of any Refunding Bonds.

"Generally Accepted Accounting Principles" or "GAAP" means those principles of accounting promulgated by the Financial Accounting Standards Board, the Governmental Accounting Standards Board or the standards of the Office of Management and Budget Circular A-133, Audits of States, Local Government and Non-Profit Organizations, as applicable, or which have other substantial authoritative support and are applicable in the circumstances as of the date of a report, as such principles are from time to time supplemented and amended or such other accounting principles as the Commission and TxDOT may be required to employ from time to time pursuant to State law or regulation.

"Government Authority" means any court, federal, state or local government, department, commission, board, bureau, agency or other regulatory or governmental authority.

"Governmental Approval" means all authorizations, covenants, consents, approvals, waivers, exceptions, variances, filings, permits, orders, licenses, exemptions and declarations of or with any Government Authority, including to the extent required under Environmental Laws.

"Grand Parkway System" or "System" means the portions of the Grand Parkway Project (as defined in the Trust Agreement) designated by the Borrower as the Grand Parkway System, including the Initial Project, Segments H&I and any System Segment or other toll project or facilities added to or grouped with, or otherwise constituted and declared to be part of the System by the Borrower in accordance with State law and applicable agreements and pursuant to an order or orders adopted by the Commission.

"H&I Capital Maintenance Agreement" means the Capital Maintenance Agreement for the SH 99 Grand Parkway Segments H, I-1, and I-2 bearing contract No. 89-7XXDB014-A, dated as of June 30, 2017, as amended from time to time, between TxDOT and the H&I Capital Maintenance Contractor, and assigned by TxDOT to the Borrower.

"H&I Capital Maintenance Contractor" means Grand Parkway Infrastructure, LLC, or its successor or assign, in its capacity as the company with primary responsibility to provide major maintenance for Segments H&I under the H&I Capital Maintenance Agreement.

"H&I Design-Build Contract" means the Design-Build Agreement SH 99 Grand Parkway Segments H, I-1, and I-2 bearing contract No. 89-7XXDB014, dated as of June 30, 2017, as amended from time to time, between TxDOT and the H&I Design-Build Contractor, and assigned by TxDOT to the Borrower.

"H&I Design-Build Contractor" means Grand Parkway Infrastructure, LLC, or its successor or assign, in its capacity as the company with primary responsibility to provide design and construction services under the H&I Design-Build Contract.

"H&I Project" means the developing, financing, refinancing, designing, constructing, reconstructing, expanding, operating and/or maintaining Segments H&I as an additional project of the System consistent with the facilities contemplated in the Project Budget.

"Hazardous Substances" means but is not limited to, any solid, liquid, gas, odor, heat, sound, vibration, radiation or other substance or emission which is at the time of the application of this definition, or could be considered as a public health matter, a contaminant, pollutant, dangerous substance, toxic substance, hazardous waste, solid waste, hazardous material or hazardous substance which is or becomes regulated by applicable Environmental Laws or which is classified as "hazardous" or "toxic," a "pollutant" or a "contaminant" or words of similar import under applicable Environmental Laws (including but not limited to gasoline, diesel fuel or other petroleum hydrocarbons, polychlorinated biphenyls, asbestos and urea formaldehyde foam insulation and naturally asbestos-containing soils or sulfidic geological materials).

"HCTRA" has the meaning set forth in paragraph (2) of the Preliminary Statements hereto.

"Initial Bonds" means the Borrower's Grand Parkway System First Tier Toll Revenue Bonds, Series 2013A, Subordinate Tier Toll Revenue Bonds, Series 2013B (TELA Supported), Subordinate Tier Toll Revenue Bonds, Series 2013C (TELA Supported-Interim Construction Financing), Subordinate Tier Toll Revenue Tender Bonds, Taxable Series 2013D (TELA Supported) and Subordinate Tier Toll Revenue Bonds, Taxable Series 2013E (TELA Supported).

"Initial Capital Maintenance Agreement" means the Capital Maintenance Agreement for the Grand Parkway Project bearing contract No. 86-3XXDB002, with respect to Segments F-1, F-2 and G, dated as of March 22, 2013, as amended from time to time, between TxDOT and the Initial Capital Maintenance Contractor, and assigned by TxDOT to the Borrower.

"Initial Capital Maintenance Contractor" means Zachry-Odebrecht Parkway Builders, or its successor or assign, in its capacity as the company with primary responsibility to provide major maintenance for Segments F-1, F-2 and G under the Initial Capital Maintenance Agreement.

"Initial Closing Date" means the date on which the Initial Bonds were issued, authenticated and delivered in accordance with the Trust Agreement.

"Initial Design-Build Contract" means the Development Agreement Grand Parkway Project bearing contract No. 86-3XXDB002, with respect to Segments F-1, F-2 and G, dated as of March 22, 2016, as amended from time to time, between TxDOT and the Initial Design-Build Contractor, and assigned by TxDOT to the Borrower.

"Initial Design-Build Contractor" means Zachry-Odebrecht Parkway Builders, or its successor or assign, in its capacity as the company with primary responsibility to provide design and construction services under the Initial Design-Build Contract.

"Initial Project" has the meaning set forth in paragraph (4) of the Preliminary Statements hereto.

"Initial Project Debt" means the Initial Bonds, all bonds issued by the Borrower to refund any of the Initial Bonds, the Toll Equity Loan Note, the Initial TIFIA Loan Agreement and the Borrower's Grand Parkway System Second Tier Toll Revenue Promissory Note issued on February 6, 2014 related to the Initial TIFIA Loan Agreement.

"Initial TIFIA Loan Agreement" means the TIFIA Loan Agreement, executed on February 6, 2014, as amended or supplemented from time to time, relating to the Initial Project.

"Insurance Consultant" means any qualified insurance consultant of the Borrower hired in accordance with the Trust Agreement.

"Interest Rate" means for any day, the fixed rate per annum equal to the ten-year "Aaa (pure)" rate provided by Municipal Market Data and published in The Bond Buyer under the caption "Municipal Market Data General Obligation Yields," plus 100 basis points; *provided, however,* if the ten year "Aaa (pure)" rate is no longer provided by Municipal Market Data, the rate to be used in its place shall be that rate which most closely replicates such rate, as agreed to by the Borrower and TxDOT; *provided further, however,* that the Interest Rate shall never exceed the Maximum Rate.

"Major Maintenance Expenses" means the reasonable and necessary expenses (but excluding non-cash expenses such as depreciation, depletion and amortization) of repair and maintenance of the Project that do not occur at annual or shorter periods, as determined by the Borrower, including, without limiting the generality of the foregoing, periodic roadway resurfacing and repair, replacement of toll collection, vehicle identification, toll integration and video enforcement equipment, and all administrative and engineering expenses relating to the repair and maintenance of the Project and any other maintenance expenses for the Project required to be paid by the Borrower, *provided, however,* that Major Maintenance Expenses shall exclude Operating Expenses, Senior Operating Expenses and all Major Maintenance Expenses incurred for Segment I-2A prior to substantial completion of the work to be performed by the H&I Design-Build Contractor under the H&I Design-Build Contract in accordance with its terms. For clarity, upon substantial completion of the work under the H&I Design-Build Contract, all such major maintenance expenses associated with Segment I-2A will constitute Major Maintenance Expenses.

"Market Valuation Waiver Agreement" has the meaning set forth in paragraph (1) of the Preliminary Statements hereto.

"Master Custodial Agreement" has the meaning assigned to such term in the Trust Agreement.

"Material Adverse Effect" means a material adverse effect on (i) the operations or financial condition of the Project, (ii) the authority or ability of the Borrower to perform any of its obligations under this Agreement, any Transaction Document or any Project Document, or (iii) the validity or enforceability against the Borrower of this Agreement, any Transaction Document or any Project Document.

"Maturity Date" means each date on which a principal amount of the TELA Project Debt is due and payable.

"Maximum Available Aggregate Amount" means the maximum amount of funds available to the Borrower in the form of advances under the Toll Equity Loan Commitment in accordance with the terms of this Agreement and as set forth in Section 2.01 hereof.

"Maximum Available Annual Amount" means the maximum amount of funds available to the Borrower in the form of advances under the Toll Equity Loan Commitment in any given Draw Period in accordance with the terms of this Agreement and as set forth in Appendix B attached hereto.

"Maximum Permitted Amount" means debt service payments associated with the TELA Project Debt for the applicable period for which an advance is requested, plus Operating Expenses and Major Maintenance Expenses up to the amounts for the applicable period as set forth in the Annual Budget, but minus balances available in the Trust Agreement Funds for the payment of capitalized interest on any TELA Project Debt for the applicable period to the extent that a portion of a requested advance is to be used to pay interest on such TELA Project Debt, minus any deposit of Revenues into the applicable Debt Service Fund that are available to pay principal of or interest on TELA Project Debt, and minus any amounts in the Junior Operation and Maintenance Fund, Operation and Maintenance Reserve Fund, Major Maintenance Fund, Rate Stabilization Fund and Grand Parkway Enhancement Fund that are available to pay principal of and interest on TELA Project Debt, Operating Expenses and Major Maintenance Expenses, as applicable; *provided however,* that for purposes of calculating the Maximum Permitted Amount, "debt service payments associated with the TELA Project Debt" shall not include (i) the redemption price of any TELA Project Debt due as a result of the Borrower's election to optionally redeem such TELA Project Debt or (ii) the purchase price of any TELA Project Debt due as a result of any optional or mandatory tender of such TELA Project Debt.

"Maximum Rate" means the maximum net effective interest rate permitted by applicable law to be paid on obligations issued or incurred by the Borrower in the exercise of its borrowing powers as prescribed in Chapter 1204, Texas Government Code, or any successor statute, determined on the basis of a weighted average interest cost for all advances.

"Note Issuance Date" means August 1, 2013.

"Note Maturity Date" means for the principal amount of each advance under the Toll Equity Loan Commitment the date which is forty (40) years after the Note Issuance Date.

"Operating Expenses" means all reasonable current expenses incurred and paid or payable by the Borrower in relation to the facilities comprising the Initial Project and, as of the date on which the SH 249 Connector Approvals have been received, the SH 249 Connectors, in each case, that are identified by the Borrower as TELA Supported Junior Operating Expenses under the Trust Agreement to be supported by the Toll Equity Loan Commitment, including without limitation costs for operation, maintenance and repair, consumables, payments under any lease or rental payments properly considered to be operating expenses, payments pursuant to the agreements for the management, operation and maintenance of such facilities, taxes, premiums payable on any insurance, payments for oversight services, all administrative, engineering and policing costs, costs for any security, toll collection and enforcement expenses, fees and expenses of the Trustee, the Paying Agent, the Traffic Consultants, the General Engineering Consultants, the Insurance Consultant, legal and accounting expenses, and any other reasonable expense paid for the operations and maintenance of such facilities; *provided*, *however*, that Operating Expenses shall not include Major Maintenance Expenses, Senior Operating Expenses, Debt Service Requirements, the redemption price of any Obligation, the purchase price of any tendered Obligation, any non-cash charges, such as depreciation, amortization or other bookkeeping entries of a similar nature, and any costs related to pre-development for possible extensions or expansions of the System.

"Original Agreement" has the meaning set forth in paragraph (4) of the Preliminary Statements hereto.

"Original Effective Date" means June 17, 2013, the date the Original Agreement was executed.

"Original Project Agreement" has the meaning set forth in paragraph (4) of the Preliminary Statements hereto.

"Person" means any individual, joint venture, corporation, company, voluntary association, partnership, limited liability company, trust, joint stock company, unincorporated organization, association, government, or any agency, instrumentality, or political subdivision thereof, or any other form of entity.

"Project" means the Initial Project, the H&I Project and, as of the date on which the SH 249 Connector Approvals are received, the SH 249 Connectors.

"Project Agreement" has the meaning set forth in paragraph (7) of the Preliminary Statements hereto.

"Project Budget" means the amounts estimated to be spent in each year for Project Costs, Operating Expenses, and Major Maintenance Expenses, mutually approved by the Borrower and TxDOT as of the Effective Date, including with respect to the SH 249 Connectors, as set forth in Appendix D attached hereto; *provided, however*, that upon receipt of the SH 249 Connector Approvals, the Project Budget may be revised upon mutual agreement of TxDOT and the Borrower to reflect updated amounts for the SH 249 Connectors in accordance with the SH 249 Connector Approvals.

"Project Costs" means Costs for design, development and construction of the Project, including any payments to HCTRA for reimbursement of costs incurred with respect to the Project; *provided, however,* that (i) with respect to Segment D, Project Costs shall be limited to Costs for design, development and construction of Segment D from 0.72 miles north of Kingsland Boulevard to 0.30 miles north of Colonial Parkway and (ii) with respect to Segment I-2A, Project Costs shall be limited to Costs incurred for the design, development and construction of the Segment I-2A facilities contemplated in the Project Budget.

"Project Debt" means the Initial Project Debt, the 2018 Project Debt and any Additional Obligations of the Borrower issued with respect to the Project, including the Toll Equity Loan Supported Obligations supported by the Toll Equity Loan Commitment.

"Project Documents" means the list of contracts set forth in Schedule 1 to this Agreement, which schedule may be amended from time to time upon mutual agreement by the Borrower and TxDOT.

"Refunding Bonds" means any bond issued to redeem or defease, in whole or in part, the outstanding principal amount of any TELA Project Debt where the interest on and principal of such refunding bonds are eligible to be paid from advances under the Toll Equity Loan Commitment.

"Revenues" means all "Revenues of the System" as defined in the Trust Agreement.

"Segment D" means such segment of the Grand Parkway Project as defined in the Market Valuation Waiver Agreement.

"Segment E" means such segment of the Grand Parkway Project as defined in the Market Valuation Waiver Agreement.

"Segment F-1" means such segment of the Grand Parkway Project as defined in the Market Valuation Waiver Agreement.

"Segment F-2" means such segment of the Grand Parkway Project as defined in the Market Valuation Waiver Agreement.

"Segment G" means such segment of the Grand Parkway Project as defined in the Market Valuation Waiver Agreement.

"Segment H" means such segment of the Grand Parkway Project as defined in the Market Valuation Waiver Agreement.

"Segment I-1" means such segment of the Grand Parkway Project as defined in the Market Valuation Waiver Agreement.

"Segment I-2" means such segment of the Grand Parkway Project as defined in the Market Valuation Waiver Agreement, and includes Segment I-2A and Segment I-2B.

"Segment I-2A" means the portion of Segment I-2 between FM 1405 and IH 10 East in Chambers County.

"Segment I-2B" means the portion of Segment I-2 between FM 1405 and SH 146 in Chambers and Harris County.

"Segments H&I" has the meaning set forth in paragraph (6) of the Preliminary Statements hereto.

"Segments" means Segment D, Segment E, Segment F-1, Segment F-2, Segment G, Segment H, Segment I-1 and Segment I-2.

"Service Commencement Date" means, for each of the Segments, the respective date on which such Segment is open for normal and continuous operations and use by the traveling public; *provided,* that for purposes of this Agreement, for any Segment for which such date has occurred prior to the Effective Date, the Service Commencement Date shall be the Effective Date.

"SH 249 Connector Agreement" has the meaning set forth in the definition of SH 249 Connector Approvals herein.

"SH 249 Connector Approvals" means (i) appropriate action has been taken by the Commission and the Borrower to add the SH 249 Connectors to the System, (ii) the Commission has authorized financial assistance under the Toll Equity Loan Commitment for costs of the SH 249 Connectors (including operating expenses and major maintenance expenses) and (iii) the Borrower has entered into an agreement with Harris County (or HCTRA or an entity related thereto) relating to the design, development, construction, operation and/or maintenance of the SH 249 Connectors (the "SH 249 Connector Agreement").

"SH 249 Connectors" means the four direct connectors proposed to be constructed on the south side of the SH 249 and SH 99 interchange—two of which are within the ultimate scope of Segment F-1, and two of which are included to enhance the efficient operation and maintenance of the System.

"Substantial Completion" means, for each Segment, the date on which the Borrower has completed or caused the completion of all acquisition, equipping and construction of such Segment, in accordance with the requirements of the Project Documents or other applicable documents, such that it is in a condition that can be used for normal and safe vehicular travel in all lanes and at all points of entry and exit, and for any tolled Segment or portion of a Segment, with a fully operable electronic toll collection system meeting the technical standards of the Project Documents or other applicable documents.

"System Debt" means the Project Debt and any bond, note or other evidence of indebtedness secured by Revenues and/or amounts held in any fund or account and pledged under the Trust Agreement or the 2018 BAN Documents.

"TELA Project Debt" means as of any date, the Borrower's Toll Equity Loan Supported Obligations issued with respect to the Project and supported by the Toll Equity Loan Commitment, including any Refunding Bonds incurred as of such date and as permitted in this Agreement.

"TELA Supported Junior Operating Expenses" has the meaning assigned to such term in the Trust Agreement.

"Termination Date" means the earlier of (i) the final Maturity Date of the TELA Project Debt or (ii) the date of the defeasance or refunding in whole of the TELA Project Debt, the effect of which is to terminate the Toll Equity Loan Commitment.

"Toll Equity Loan" means the aggregate outstanding amount of all advances drawn under the Toll Equity Loan Commitment, as provided in this Agreement.

"Toll Equity Loan Commitment" means the obligation on the part of TxDOT to make advances of funds available to the Trustee on behalf of the Borrower as provided in Section 2.01 hereof, subject to the requirements of this Agreement.

"Toll Equity Loan Commitment Establishment Date" means the date on which the Toll Equity Loan Commitment was established in favor of the Trustee on behalf of the Borrower as described in Section 2.01 hereof.

"Toll Equity Loan Commitment Period" means the period between the Toll Equity Loan Commitment Establishment Date and the Termination Date.

"Toll Equity Loan Note" means the promissory note executed by the Borrower in favor of TxDOT evidencing the Toll Equity Loan, substantially in the form of Appendix A attached hereto.

"Toll Rate Schedule" has the meaning assigned to such term in the Trust Agreement.

"Transaction Document" means each of (a) the Finance Documents, (b) any Direct Agreement, (c) the Design-Build Contract, (d) the Capital Maintenance Agreement, (e) the Project Agreement and (f) the list of documents mutually approved by the Borrower and TxDOT as of the Effective Date as set forth in Schedule 2 attached hereto.

"Trust Agreement" has the meaning set forth in paragraph (5) of the Preliminary Statements hereto and includes any supplements or amendments thereto.

"Trust Agreement Funds" means the funds and accounts created and established pursuant to the Trust Agreement and as further described in the Trust Agreement.

"Trust Estate" has the meaning assigned to such term in the Trust Agreement.

"Trustee" means a nationally recognized trust company designated by the Borrower as trustee under the Trust Agreement and reasonably acceptable to TxDOT and shall include any successor entity thereto.

"Trustee Request" has the meaning set forth in Section 2.03 hereof.

"TxDOT" has the meaning set forth in the preamble to this Agreement.

Section 1.02 Certain Interpretations.

(a) Computation of Time Periods. In this Agreement, in the computation of a period of time from a specified date to a later specified date, the word "from" means "from and including" and the words "to" and "until" each mean "to but excluding."

(b) Accounting Terms. All accounting terms not specifically defined herein shall be construed in accordance with GAAP consistently applied, except as otherwise stated herein.

(c) Assignments. In this Agreement, where the terms "assignment agreement", "assignment" or "assignee" are used in relation to the obligations of the Borrower or TxDOT under any Transaction Document or Project Document, the term "assignment" or "assignment agreement" shall mean any document evidencing the transfer of certain TxDOT obligations under such Transaction Document or Project Document (as applicable) with respect to the Project to the Borrower, and "assignee" shall mean the applicable role of the Borrower as obligated under each of such documents evidencing such transfer.

ARTICLE II.
AMOUNT AND TERMS OF THE TOLL EQUITY LOAN COMMITMENT

Section 2.01 Establishing the Toll Equity Loan Commitment. Upon the terms, subject to the conditions (including the conditions precedent set forth in Article III of the Original Agreement) and relying upon the representations and warranties set forth in the Original Agreement or incorporated therein by reference, the Toll Equity Loan Commitment was established on August 1, 2013 (the "Toll Equity Loan Commitment Establishment Date").

The Toll Equity Loan Commitment shall not exceed in total principal amount \$9,600,000,000 (the "Maximum Available Aggregate Amount") and no advance thereunder shall cause the aggregate principal amount of all advances: (a) in any of the Draw Periods as set forth in Appendix B attached hereto to exceed the Maximum Available Annual Amount applicable to any of such Draw Periods and (b) taking into account such advance and all prior advances, to exceed the aggregate amount of Eligible Costs. Any advance thereunder shall additionally be subject to the limitations as set forth in Section 2.03 hereof.

Section 2.02 Term of the Toll Equity Loan Commitment. Once established pursuant to Section 2.01 hereof, the Toll Equity Loan Commitment shall remain in effect until the Termination Date. No extension of the Toll Equity Loan Commitment beyond the Termination Date shall be permitted without prior written consent from TxDOT.

Section 2.03 Toll Equity Loan. After TxDOT receives a request from the Trustee as provided in the Trust Agreement in the form of Exhibit C to the Trust Agreement (each, a "Trustee Request"), TxDOT shall make a corresponding advance under the Toll Equity Loan Commitment to the Borrower by 2:00 p.m. on the third Business Day after receipt of the Trustee Request, the proceeds of which shall be deposited with the Trustee in the fund or account held under or as permitted by the Trust Agreement as identified in such Trustee Request; *provided* that in no event shall the amount of the advance exceed (a) the Maximum Permitted Amount, (b) when added to other amounts advanced under the Toll Equity Loan Commitment during the current Draw Period, the Maximum Available Annual Amount for such Draw Period and (c) when taking into account such advance and all prior advances, the aggregate amount of Eligible Costs; *provided further* that in no event shall any advance be made for either (i) the redemption price of any TELA Project Debt due as a result of the Borrower's election to optionally redeem such TELA Project Debt or (ii) the purchase price of any TELA Project Debt due as a result of any optional or mandatory tender of such TELA Project Debt. The Borrower shall deliver to TxDOT a certificate in the form of Appendix C attached hereto on the same day as any such Trustee Request, provided that TxDOT's obligation to make any advance shall not be conditioned on receipt of such Borrower's certificate. Each advance under the Toll Equity Loan Commitment shall be evidenced in the Toll Equity Loan Note which shall set forth the date of the advance, the principal amount and Interest Rate therefor. TxDOT shall make such advances under the Toll Equity Loan Commitment from time to time during the Toll Equity Loan Commitment Period up to the Maximum Available Aggregate Amount, but not to exceed with any advance, taking into account all prior advances, the aggregate amount of Eligible Costs. If the principal amount of advances under the Toll Equity Loan Commitment made in a given Draw Period is less than the Maximum Available Annual Amount for such Draw Period (or if no Toll Equity Loans have been made in such Draw Period), the difference shall not be carried forward and may not be applied to increase the amount available to be advanced in any future Draw Period. In accordance with the immediately preceding sentence, TxDOT and the Borrower hereby acknowledge that as of the Effective Date, the remaining total principal amount available under Toll Equity Loan Commitment is $9,474,759,212. Each advance under the Toll Equity Loan Commitment shall bear interest on the principal amount of such advance from the date of such advance to the date on which such advance and the interest thereon are repaid in full at a rate per annum equal to the Interest Rate in effect on the day such advance is made.

TxDOT may rely on the certificate, in the form of Appendix C attached hereto, as to compliance with the limitations on advances as set forth in this Section 2.03; *provided* that within thirty (30) days of any advance under the Toll Equity Loan Commitment, TxDOT shall have the right to request and the Borrower shall provide written documentation, including copies of invoices, reports or notices from the Trustee, any vendor or supplier of goods or services to the Project or others, in support of the need for the advance and the use of the proceeds of advances.

Any advances under the Toll Equity Loan Commitment relating to amounts anticipated to be expended or incurred by the Borrower must be accompanied by documentation or other evidence demonstrating to the reasonable satisfaction of TxDOT that such amounts are reasonably likely to be expended or incurred; *provided* that, amounts in the Project Budget shall be considered to be amounts reasonably anticipated to be expended or incurred.

Proceeds of advances under the Toll Equity Loan Commitment shall be used to pay or reimburse for Project Costs, Major Maintenance Expenses and Operating Expenses in accordance with applicable state and federal laws, including the cost principles established in OMB Circular A-87 that specify that costs must be allowable, reasonable and allocable to the Project.

Section 2.04 Repayment of Principal of and Interest on Toll Equity Loan; Interest on Excess Advances. The Borrower shall make payments of principal and interest to TxDOT according to the provisions of this Agreement, the Trust Agreement and the Toll Equity Loan Note. Interest on the Toll Equity Loan shall be paid on the first Business Day of each month from amounts available therefore in the TELA/Other Tier Payment Fund.

The Borrower shall, without discretion, return or direct the Trustee to return to TxDOT any amounts included in an advance under the Toll Equity Loan Commitment that are in excess of the Maximum Permitted Amount for an advance, the Maximum Available Annual Amount for a Draw Period or the Maximum Available Aggregate Amount immediately upon becoming aware of such amounts, and any such amount returned to TxDOT shall reduce the amount of principal of the Toll Equity Loan Note. The Borrower shall pay interest on any such amount commencing on the date of the applicable advance under the Toll Equity Loan Commitment at the Interest Rate applicable to such advance until the date on which such amount is returned to TxDOT.

Section 2.05 Prepayment.

(a) Voluntary Prepayment. The Borrower may prepay any amount of principal of the Toll Equity Loan, without premium or penalty, upon at least two (2) Business Days' notice to TxDOT specifying the date and amount of prepayment. If any such notice is given, the amount specified in such notice shall be due and payable on the date specified therein, unless such notice is revoked by the Borrower on or prior to the prepayment date specified therein. Upon such prepayment, unpaid amounts of interest and principal shall continue unaffected and the Toll Equity Loan Note shall be adjusted to reflect the amount of principal prepaid.

(b) Mandatory Prepayment. The principal amount of the Toll Equity Loan shall be prepaid prior to maturity on the first Business Day of each month in the order in which advances under the Toll Equity Loan Commitment were made, but solely from and to the extent of funds available therefor held in the TELA/Other Tier Payment Fund created and maintained pursuant to the Trust Agreement.

Section 2.06 Release of Toll Equity Loan Commitment: Fee. TxDOT's obligation to establish and maintain the Toll Equity Loan Commitment and make any advances thereunder will terminate upon the receipt of notice from the Borrower that a refunding, payment or legal defeasance of all of the outstanding principal amount of and any unpaid interest on the TELA Project Debt has occurred.

On the first day of the Fiscal Year following the 10th anniversary of the Original Effective Date and on the first day of each Fiscal Year thereafter, the Borrower shall pay to TxDOT, from unencumbered amounts on deposit in the Grand Parkway Enhancement Fund, a non-refundable amount equal to three (3) percent of that Fiscal Year's Maximum Available Annual Amount. Failure to pay such amounts shall not constitute a default under this Agreement, unless sufficient unencumbered funds are on deposit in the Grand Parkway Enhancement Fund to make such payment; *provided* that in any event any accrued unpaid amounts shall be due and payable in full on the Termination Date. If payment is not made on the first day of the applicable Fiscal Year, the unpaid amount shall bear interest from such date to the date on which such amount and the interest thereon are repaid in full at a rate per annum equal to the Interest Rate in effect on the first day of the applicable Fiscal Year. To the extent permitted by State law, the amount of interest on any such amount which is not paid as of April 1 and October 1 of each year shall be compounded semi-annually and shall bear interest at the same rate applicable to such amount. Payments received under this paragraph shall be applied in an order of priority based on when the amount payable arose, with amounts payable arising earlier having priority over amounts payable arising later.

TxDOT will apply the payments it receives under the immediately preceding paragraph in accordance with the Market Valuation Waiver Agreement.

Section 2.07 Place and Manner of Payments. All payments by the Borrower to TxDOT under this Agreement shall be made in lawful currency of the United States by wire transfer in immediately available funds on or prior to 2:00 p.m. on the date such payment is due, to the following account:

Texas Comptroller of Public Accounts
ABA Number: 114900164
Account Name: Texas Comptroller of Public Accounts
Account Number: 463600001
Attention: 601-Texas Department of Transportation, Chema Sanchez, Diana Ruiz, and Coleta Dille
Reference: Grand Parkway Transportation Corporation, SH 99

or as TxDOT may otherwise stipulate by notice to the Borrower. Any such payments received after 2:00 p.m. on any day will be *deemed* to have been received on the next succeeding Business Day. If any payment becomes due and payable on a day other than a Business Day, unless sooner paid such payment shall be extended to the next succeeding Business Day and interest thereon shall be payable at the then applicable rate during such extension. TxDOT acknowledges and agrees that any such payments may be made by the Trustee on behalf of the Borrower from funds on deposit under the Trust Agreement.

Section 2.08 Obligations Absolute. Subject to Section 8.11 hereof, the obligations of the Borrower under this Article II shall be absolute, unconditional and irrevocable, shall be performed strictly in accordance with the terms of this Agreement, under all circumstances whatsoever, including without limitation, the following circumstances: (i) any lack of validity or enforceability of any Finance Documents or any other agreement or document relating thereto; (ii) any amendment or waiver of or any consent to or departure from any Finance Documents or any agreement or document relating thereto; or (iii) the existence of any claim, set-off, defense or other right which the Borrower may have at any time against the Trustee (or any Person for whom the Trustee may be acting), TxDOT, or any other Person, whether in connection with this Agreement, the transactions described herein or any unrelated transaction.

Section 2.09 Security.

(a) Security Under the Trust Agreement. Amounts payable under this Agreement and the Toll Equity Loan Note are special obligations of the Borrower payable from and secured solely by the funds pledged therefor pursuant to the Trust Agreement. The Toll Equity Loan Note and all other payment obligations of the Borrower owed to TxDOT under this Agreement constitute TELA/Other Tier Obligations under the Trust Agreement. Revenues shall be transmitted to the Trustee and used along with the other amounts held in the funds and accounts established under the Trust Agreement in accordance with the provisions of the Trust Agreement.

(b) No Termination of the Trust Agreement. The Trust Agreement shall not terminate or be discharged until all sums owing hereunder are paid in full unless and until all such amounts are deemed paid and satisfied and the Toll Equity Loan Note is cancelled by TxDOT in its sole discretion in accordance with Section 2.11 of this Agreement.

Section 2.10 Pledge and Assignment to Trustee.

(a) TxDOT consents to the pledge and assignment to the Trustee of, and the grant to the Trustee of a lien on and security interest in, all of the Borrower's right, title and interest in, to and under this Agreement, pursuant to the terms and conditions of the Trust Agreement, as collateral security for all of the obligations secured or purported to be secured by the Trust Agreement.

(b) TxDOT agrees that as a result of the pledge and assignment referred to in clause (a) above, the Trustee shall have the full right and power, in the exercise of the Trustee's rights and remedies under the Trust Agreement, to enforce directly against TxDOT all obligations of TxDOT under this Agreement, to exercise all other rights and remedies of the Borrower hereunder and to make all demands and requests and give all notices required or permitted to be made by the Borrower or the Trustee hereunder.

Section 2.11 Cancellation of Toll Equity Loan Note by TxDOT. lf, at any time, payment or legal defeasance of all of the outstanding principal amount of and any unpaid interest on the System Debt other than the Toll Equity Loan Note has occurred such that the Toll Equity Loan Note is the only System Debt outstanding under the Trust Agreement, TxDOT shall have the right, in its sole discretion and to the extent permitted by law, including compliance with Texas Transportation Code Section 222.103, to cancel the Toll Equity Loan Note and to deem all obligations of the Borrower under the Toll Equity Loan or otherwise owed by the Borrower to TxDOT under this Agreement to be paid and satisfied in full by providing written notice thereof to the Borrower and the Trustee, which notice shall set forth the date for such cancellation and satisfaction.

ARTICLE III.
CONDITIONS PRECEDENT

Section 3.01 Conditions Precedent. The effectiveness of this Agreement and the obligation of TxDOT to include Segments H&I under the Toll Equity Loan Commitment is subject to the condition precedent that TxDOT shall have received from, or on behalf of, the Borrower, (and with respect to subsection (f), TxDOT shall have provided to the Borrower) on or before the 2018 Closing Date the following, each in form and substance satisfactory to TxDOT, unless waived by TxDOT (and on the 2018 Closing Date TxDOT shall deliver to the Borrower a certificate that all conditions precedent to the effectiveness of this Agreement and the inclusion of Segments H&I under the Toll Equity Loan Commitment have been satisfied or expressly waived):

(a) Documents to Be Delivered. Either an original or a copy of each of the following documents to be delivered on or before the 2018 Closing Date:

(i) this Agreement;

(ii) each other 2018 Finance Document, together with any exhibit or schedule thereto and any document entered into in accordance therewith;

(iii) each of the other Transaction Documents, together with any exhibit or schedule thereto and any document entered into in accordance therewith or in order to support the obligations of any party thereunder or a certificate by an authorized officer of the Borrower certifying as of the 2018 Closing Date that each such document not provided was, when originally provided, a true, complete and correct copy thereof, it has not been amended or supplemented in any way since the Initial Closing Date and it remains in full force and effect as of the 2018 Closing Date;

(iv) additional documentation needed to evidence the obligations of the Borrower to make all payments incurred under agreements between TxDOT and third parties in respect of the Project as requested by TxDOT, if any; and

(v) the 2018 Preliminary Official Statement and the 2018 Official Statement;

each of which shall have been duly authorized, executed and delivered by the parties thereto, and, except for the 2018 Preliminary Official Statement and the 2018 Official Statement shall be in full force and effect as of the required date and, to the extent that a copy is provided, accompanied by a certificate by an authorized officer of the Borrower certifying as of the 2018 Closing Date that each such copy that is delivered to TxDOT is a true, complete and correct copy thereof, as amended as of the 2018 Closing Date.

(b) Financial Model. On the 2018 Pricing Date, an electronic copy of the updated Financial Model, demonstrating, among other matters, that (i) the payment of principal of and interest on the Project Debt (other than interest to be paid from proceeds of the Project Debt), plus the Project Budget amounts for Project Costs, Operating Expenses and Major Maintenance Expenses (other than Project Costs if and to the extent paid from proceeds of the Project Debt), and required deposits into the Junior Operation and Maintenance Fund, any applicable Debt Service Fund, the Operation and Maintenance Reserve Fund, the Grand Parkway Enhancement Fund, the Major Maintenance Fund and the Rate Stabilization Fund, and after adjustment for amounts scheduled to be available to pay any of such costs or expenses held in the Junior Operation and Maintenance Fund, any applicable Debt Service Fund, the Operation and Maintenance Reserve Fund, the Grand Parkway Enhancement Fund, the Major Maintenance Fund and the Rate Stabilization Fund do not exceed 100% of the projected Revenues in any year and (ii) at no time is an advance anticipated to be required under the Toll Equity Loan Commitment.

(c) Insurance Report. On or before the 2018 Closing Date, a report prepared by the Insurance Consultant.

(d) Opinions. On or before the 2018 Closing Date, legal opinions from general counsel for the Borrower, reliance letters regarding legal opinions from general counsel for the H&I Design-Build Contractor, each in form and substance acceptable to

TxDOT, and such additional legal opinions, reliance letters or certificates and other documents as TxDOT may reasonably request.

(e) Authorization and Authority. On or before the 2018 Closing Date, an original or a copy certified by an authorized officer of the Borrower to be true, complete and correct of the authorizing resolution of the Borrower's board of directors authorizing the transactions contemplated hereunder and under the Transaction Documents to which the Borrower is or is intended to be a party and designating the Corporation Representative, together with a certificate that no such authorization has been amended or revoked. In relation to the Borrower, on or before the 2018 Closing Date (i) an incumbency certificate of the Borrower, and (ii) such financial information regarding the Borrower as determined to be acceptable in the sole discretion of TxDOT.

(f) Governmental Approvals. On or before the 2018 Closing Date, TxDOT shall have provided a copy of each Governmental Approval for the H&I Project listed in Schedule 3.01(f) attached hereto, together with a certificate by a TxDOT representative certifying as of the 2018 Closing Date that such schedule of Governmental Approvals for the H&I Project sets forth all Governmental Approvals that are necessary for the work that is to be performed under the H&I Design Build Contract as of the 2018 Closing Date.

(g) Consultant Reports. On or before the 2018 Closing Date, copies of the following, each in form and substance satisfactory to TxDOT:

(i) a final report of the Traffic Consultant with respect to the Project dated not earlier than ninety (90) days before the 2018 Pricing Date;

(ii) a final report of the General Engineering Consulting Report dated not earlier than ninety (90) days before the 2018 Pricing Date concluding, among other things, that the Project Costs applicable to the H&I Project and the time frames to achieve Substantial Completion of Segments H, I-1 and I-2 are reasonable, subject to such conditions that are customary for such reports.

Section 3.02 Additional Conditions Precedent. The effectiveness of this Agreement and the obligation of TxDOT to include Segments H&I under the Toll Equity Loan Commitment shall be subject to the satisfaction or waiver by TxDOT of the following additional conditions precedent; *provided* that, the Borrower shall be deemed to have satisfied the conditions set forth in subclauses (a) through (d) (but only as to the Borrower with respect to subclause (d)) of this Section 3.02 to the extent they have been certified in writing by the Corporation Representative in a certificate in the form attached hereto as Appendix E (such certification with respect to subclause (d) below to be made only as to the Borrower):

(a) 2018 Bond Purchase Contract. All conditions precedent to the occurrence of the "Closing Date" (as defined in the 2018 Bond Purchase Contract) under the 2018 Bond Purchase Contract shall have been satisfied or waived by the initial purchasers, other than any conditions solely requiring the satisfaction of all conditions to the effectiveness of this Agreement and the obligation of TxDOT to include Segments H&I under the Toll Equity Loan Commitment as set forth herein.

(b) Representations and Warranties. The representations and warranties given by the Borrower herein shall be true and correct in all material respects on and as of the 2018 Pricing Date, except to the extent that such representations and warranties specifically refer to an earlier date, in which case they shall be true and correct in all material respects as of such earlier date.

(c) No Default or Event of Default. No Default or Event of Default with respect to the Borrower shall have occurred and be continuing or shall occur as a result of the effectiveness of this Agreement and the inclusion of Segments H&I under the Toll Equity Loan Commitment.

(d) No Material Adverse Effect. No event, development or circumstance shall have occurred or shall have become known to TxDOT or to the Borrower that has had or could reasonably be expected to have a Material Adverse Effect.

ARTICLE IV.
REPRESENTATIONS AND WARRANTIES

Section 4.01 Representations and Warranties of the Borrower. The Borrower represents and warrants as of the date hereof and as of the 2018 Closing Date (except to the extent that any representation and warranty set forth below specifically refers to an earlier or specified date, in which case such representation and warranty shall be as of such earlier or specified date) as follows:

(a) The Borrower has the requisite power and authority; has obtained all Governmental Approvals; and has taken all actions necessary to (i) enter into, deliver and perform its obligations under the Project Agreement, each Finance Document to which it is a party, and the assignment agreements for those Transaction Documents for which it is an assignee and the transactions contemplated hereby and thereby, and (ii) carry out its activities as now conducted and as proposed to be conducted immediately following execution and delivery of this Agreement, the Finance Documents, and the other Transaction Documents.

(b) The Borrower has duly authorized the execution and delivery of each Transaction Document to which it is a party (or the assignment agreement for those Transaction Documents for which it is an assignee), the performance of its obligations hereunder and the incurrence of the debt made available to it under each Finance Document. The authorization has not been repealed, revoked, rescinded or amended and is in full force and effect.

(c) The execution and delivery by the Borrower of each Transaction Document to which it is a party (or the assignment agreement for those Transaction Documents for which it is an assignee), and the compliance with the terms and conditions of the Transaction Documents (or any such assignment agreement) will not, in any material respect, (i) violate any existing law applicable to it or (ii) result in default under the Trust Agreement, or any mortgage, deed of trust, lien, lease, contract, note, order, judgment, decree or other agreement, instrument or restriction of any kind to which any of its assets are subject.

(d) Except as disclosed, there is no litigation at law or in equity or any proceeding before any Government Authority involving the Borrower pending or, to the best knowledge of the Borrower, threatened, that could reasonably be expected to have a material adverse effect on the operations or financial condition of the Borrower.

(e) The execution and delivery by the Borrower of each Transaction Document to which it is a party (or the assignment agreement for those Transaction Documents for which it is an assignee), the performance by the Borrower of its obligations hereunder and under the Transaction Documents and the consummation of the transactions herein and therein contemplated do not and will not in any material respect conflict with, or constitute a material breach or result in a material violation of the Borrower's statutory authority, any agreement or other instrument to which the Borrower is a party or by which it is bound or any constitutional or statutory provision or order, rule, regulation, decree or ordinance of any court, government or Government Authority having jurisdiction over the Borrower or its property and will not result in or require the creation or imposition of any security interest in any of the Borrower's property or the Trust Estate other than the security interests created pursuant to the Trust Agreement.

(f) The Borrower has obtained or caused to be obtained all Governmental Approvals that (i) are required to be obtained by the Borrower as a condition precedent to the execution and delivery of the Project Agreement, each Finance Document to which it is a party, and the assignment agreements for those Transaction Documents for which it is an assignee, or (ii) are required for the operation of the System or the performance by the Borrower of its obligations under the Project Agreement, and any Transaction Document to which it is a party or an assignee or for the grant by the Borrower of the security interest under the Trust Agreement and all such Governmental Approvals are in full force and effect.

(g) The Borrower will fully and faithfully perform all the duties and obligations which it has covenanted and agreed in the Trust Agreement.

(h) Each Transaction Document to which it is a party or assignee, assuming due authorization, execution and delivery thereof by the other parties thereto, constitutes the legal, valid and binding obligation of the Borrower, enforceable against the Borrower in accordance with the terms thereof, except as may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or other similar laws or judicial action affecting the enforcement of creditors' rights generally and the application of general principles of equity (regardless of whether enforceability is considered in a proceeding in equity or at law).

(i) No Default or Event of Default with respect to the Borrower has occurred and is continuing, no "Event of Default" (as defined in the Trust Agreement) has occurred and is continuing, no event has occurred that would be (with the expiry of any applicable grace period, the giving of notice or the making of any determination under the Trust Agreement or any combination of them) a default under the Trust Agreement, and no material default on the part of the Borrower under the Project Agreement has occurred and is continuing.

(j) The Borrower does not have any System Debt other than the Project Debt.

(k) To the actual knowledge of the Borrower without inquiry or investigation, all insurance required to be maintained as of the date hereof by each Design-Build Contractor pursuant to the applicable Design-Build Contract has been obtained and is in full force and effect.

(l) The Trust Agreement including the right of the Trustee to retain Revenues is effective to create and perfect a legally valid and enforceable interest in the Borrower's rights in the Revenues.

(m) Each Project Document to which the Borrower is a party or an assignee is in full force and effect and the Borrower is not in default under any of such agreements or contracts, and to the actual knowledge of the Borrower, no third party to any of such agreements or contracts is in default thereunder, except as, in either case, could not reasonably be expected to have a Material Adverse Effect.

(n) True and complete copies of all Transaction Documents to which the Borrower is a party (and the assignment agreement for those Transaction Documents for which it is an assignee) have been delivered to TxDOT, and the Borrower is not party to any other material Project-related agreements, except for any Project Document to which the Borrower is a party.

(o) None of the information in any agreement, document, certificate, exhibit, financial statement, book, record, material or report or other written information furnished by the Borrower, when taken as a whole, contained any untrue statement of material fact or omitted to state a material fact necessary in order to make the statements contained therein not materially misleading; *provided,* that the Borrower does not represent as to the accuracy of the information provided by TxDOT or the statements made in the reports by the General Engineering Consultant, the Traffic Consultant or any other advisor or consultant providing services to the Project; and *provided further,* that no representation or warranty is made as to any forecasts, projections, opinions or other forward looking statements and the Borrower only makes representations regarding such information to its actual knowledge.

(p) The Borrower has no actual knowledge, without inquiry or investigation, of any builders' liens or analogous claims for payments which are overdue with respect to work or services to be performed or materials supplied in connection with the Project, which claim has not been fully satisfied, and duly discharged or vacated, as applicable, unless there is a bona fide dispute and adequate security as required by law or ruling of a court has been posted.

(q) Since the date of the formation of Borrower, no event, other than transactions contemplated by this Agreement and the Transaction Documents, has occurred that could reasonably be expected to have a Material Adverse Effect or that could reasonably be expected to have a material adverse effect on the operations or financial condition of the Borrower. Since the date of the Project Agreement, there has been no material change to the nature, scope or any other aspect of the Project pursuant to any requirement or instruction of any Government Authority of which the Borrower has received actual notice.

(r) The Borrower has not received any communications from, nor is it aware of any proceeding by, any Government Authority that could reasonably be expected to result in (i) termination or revocation of the Borrower's right and authority to operate the System or (ii) a Material Adverse Effect.

(s) To the actual knowledge of the Borrower without inquiry or investigation, no Bankruptcy Event has occurred or is continuing with respect to any Design-Build Contractor or Capital Maintenance Contractor.

(t) To the actual knowledge of the Borrower without inquiry or investigation, the development and construction of the System is being carried out in compliance in all material respects with all Environmental Laws and there are no Environmental Claims with respect to the System, except to the extent that noncompliance with such claims could not reasonably be expected to give rise to a Material Adverse Effect. To the Borrower's actual knowledge without inquiry or investigation, (i) there are no Hazardous Substances on the System, the presence of which Hazardous Substance would cause the Borrower to be in material violation of any applicable laws and (ii) it has no current liability on its part, whether contingent or otherwise, arising out of or resulting from the release or discharge on or to the System of any Hazardous Substance, except to the extent such liability could not reasonably be expected to give rise to a Material Adverse Effect.

(u) Any insurance (including through self-insurance) required to be maintained by the Borrower as of the date hereof pursuant to the requirements set forth in this Agreement, the Trust Agreement and the Project Agreement, as applicable, has been obtained and is in full force and effect, as applicable. All premiums due and payable (if any) in connection therewith have been paid and such insurance complies in full with the insurance required to be maintained by the Borrower pursuant to Section 5.05(f) of this Agreement, the Trust Agreement and the Project Agreement, as applicable.

(v) There are no disputes under any Transaction Document that could reasonably be expected to have a Material Adverse Effect.

(w) The 2018 Official Statement as of its date and as of the 2018 Closing Date, did not contain any untrue or misleading statement of a material fact or omit to state any material fact necessary to make such statements therein, in the light of the circumstances under which they were made, not misleading, in each case to the extent such statements and facts (i) relate to the Borrower, the Project or the System or (ii) are otherwise known, following reasonably diligent inquiry, to the Borrower; *provided,* that (x) this representation does not apply to any information in the 2018 Official Statement regarding TxDOT, the Traffic Consultant's initial report and the General Engineering Consulting Report, and (y) this representation does not apply to any extent to the section thereof entitled "Tax Matters".

Section 4.02 Representations and Warranties of TxDOT. TxDOT represents and warrants as of the date hereof, the 2018 Closing Date and as of each advance under the Toll Equity Loan Commitment (except to the extent that any representation and warranty set forth below specifically refers to an earlier or specified date, in which case such representation and warranty shall be as of such earlier or specified date) as follows:

(a) TxDOT has all requisite power and authority to establish the Toll Equity Loan Commitment, to make advances to the Borrower under the Toll Equity Loan Commitment and to perform any and all of its obligations under the Transaction Documents to which it is a party.

(b) The Transaction Documents to which TxDOT is a party have been duly authorized, executed and delivered by TxDOT, and, assuming due authorization, execution and delivery thereof by the other parties thereto, constitute legal, valid and binding obligations of TxDOT, enforceable against TxDOT in accordance with their terms except as may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or other similar laws or judicial action affecting the enforcement of creditors' rights generally and the application of general principles of equity (regardless of whether enforceability is considered in a proceeding in equity or at law).

(c) TxDOT has obtained or caused to be obtained all Governmental Approvals that are required in connection with TxDOT's execution and delivery of this Agreement or the performance of TxDOT's obligations under the Transaction Documents to which it is a party (and any assignment agreement with respect thereto between TxDOT and the Borrower) or for the development, construction, operation and maintenance of the System by the Borrower.

(d) Except as disclosed, there is no litigation at law or in equity or any proceeding before any Government Authority involving TxDOT pending, or, to the best knowledge of TxDOT, threatened, that could reasonably be expected to materially affect the performance of its obligations under the Transaction Documents to which it is a party (or any assignment agreement with respect thereto between TxDOT and the Borrower).

(e) The officer of TxDOT executing this Agreement and the Transaction Documents to which TxDOT is a party (or any assignment agreement with respect thereto between TxDOT and the Borrower) is duly and properly in office and fully authorized to execute the same on behalf of TxDOT.

(f) None of the information in any agreement, document, certificate, exhibit, financial statement or other information furnished by TxDOT, when taken as a whole, contained any untrue statement of material fact or omitted to state a material fact necessary in order to make the statements contained therein not materially misleading.

(g) The statements describing TxDOT and its activities in Appendix A—"The Texas Department of Transportation and the State Highway Fund" in the 2018 Official Statement as of its date and as of the 2018 Closing Date, did not contain any untrue or misleading statement of a material fact or omit to state any material fact necessary to make such statements therein, in the light of the circumstances under which they were made, not misleading.

(h) No material default by TxDOT under the Project Agreement has occurred.

(i) TxDOT is not aware of any builders' liens or analogous claims for payments which are overdue with respect to work or services to be performed or materials supplied in connection with the portions of the System for which TxDOT is responsible either under the terms of the Project Agreement, or otherwise, which claim has not been fully satisfied, and duly discharged or vacated, as applicable, unless there is a bona fide dispute and adequate security as required by law or ruling of a court has been posted.

(j) To the best knowledge of TxDOT, all insurance required to be maintained as of the date hereof by each Design-Build Contractor pursuant to the applicable Design-Build Contract has been obtained and is in full force and effect.

(k) Each Transaction Document and Project Document to which TxDOT is a party (and any assignment agreement with respect thereto between TxDOT and the Borrower) is in full force and effect and TxDOT is not in default under any of such agreements or contracts, and to the actual knowledge of TxDOT, no third party to any of such agreements or contracts is in material default thereunder, except as, in either case, could not reasonably be expected to have a material adverse effect on the System.

(l) TxDOT (i) has provided or made available to the Borrower copies of all material environmental due diligence reports or analyses prepared by it or on its behalf and (ii) has obtained all environmental permits required to be obtained by it with respect to the System in accordance with the Project Agreement, and all such permits are in full force and effect, except, in each case, for any environmental permits, (x) where the failure to obtain such environmental permits could not reasonably be expected to have a Material Adverse Effect, or (y) which are not required at the current state of development of the System.

(m) To the actual knowledge of TxDOT, without inquiry or investigation, no Bankruptcy Event has occurred or is continuing with respect to any Design-Build Contractor or any Capital Maintenance Contractor.

(n) To the best knowledge of TxDOT, the development and construction of the System is being carried out in compliance in all material respects with all Environmental Laws and, to the best knowledge of TxDOT, there are no

Environmental Claims with respect to the System, except to the extent that noncompliance with such claims could not reasonably be expected to give rise to a Material Adverse Effect. To TxDOT's actual knowledge (i) there are no Hazardous Substances on the System, the presence of which Hazardous Substance would cause TxDOT to be in material violation of any applicable laws and (ii) it has no current liability on its part, whether contingent or otherwise, arising out of or resulting from the release or discharge on or to the System of any Hazardous Substance, except to the extent such liability could not reasonably be expected to give rise to a Material Adverse Effect.

(o) TxDOT has obtained or caused to be obtained all Governmental Approvals that (i) are required to be obtained by TxDOT as a condition precedent to the execution and delivery of the Project Documents and the Transaction Documents (and any related assignment agreement) to which it is a party, or (ii) are required for the operation of the System or the performance by TxDOT of its obligations under the Project Agreement and any other Transaction Document and Project Document to which it is a party and all such Governmental Approvals are in full force and effect.

ARTICLE V.
COVENANTS OF THE BORROWER

Until the Termination Date, subject to Section 5.08 hereof, the Borrower shall comply with the following:

Section 5.01 Operations.

(a) Operation and Maintenance. The Borrower shall maintain and operate the System in an efficient and economical manner and at all times maintain the same in good repair, working order and in sound operating condition and in accordance with the Project Agreement and any applicable Project Document and in compliance in all material respects with applicable laws and Governmental Approvals and make all necessary repairs, renewals and replacements, in each case, in accordance in all material respects with the Project Agreement, and any applicable Project Document and in compliance in all material respects with applicable laws and the terms of the insurance required under Section 5.05(f) hereof.

(b) Reserved.

(c) Annual Budget. The covenants of the Borrower set forth in Section 505 of the Trust Agreement are incorporated herein as covenants from the Borrower to TxDOT for the sole benefit of TxDOT. TxDOT has relied on such section in executing this Agreement and no amendment to any such covenant in the Trust Agreement shall amend, alter or supplement the covenant set forth in this subsection (c) without prior written approval by TxDOT. The Borrower shall submit to TxDOT for its review and comment a copy of any preliminary budget created by the Borrower and any amendments, supplements or modifications thereto and, promptly upon adoption thereof, the Borrower shall submit to TxDOT the Annual Budget or any amended or supplemented Annual Budget adopted by the Borrower.

(i) At any time during the Fiscal Year TxDOT shall have the right to conduct an audit of the Borrower's compliance with the requirements of this Agreement and the Trust Agreement as they relate to the Annual Budget (or any preliminary budget if an Annual Budget has not been adopted by the Borrower). If the results of the audit conclude that the Borrower is not in compliance with the requirements of this Agreement relating to the operation, maintenance and improvement of the Project, the auditor will provide to TxDOT and Borrower a detailed explanation of why the Borrower is not in compliance and TxDOT shall have a period of forty-five (45) days after receipt of such explanation to notify the Borrower that, in TxDOT's reasonable opinion, the Annual Budget that was the subject of the audit does not substantially comply with the requirements of this Agreement or the Trust Agreement and shall specify in reasonable detail the reasons for such notification; if no such notification in accordance with the foregoing is provided within the time period specified above, then the Annual Budget shall be deemed to substantially comply with the requirements of this Agreement and the Trust Agreement.

(ii) Subject to this Section 5.01(c) and the Trust Agreement, the Borrower shall operate the Project substantially in accordance with the Annual Budget. The Borrower shall have the right to make expenditures in respect of Operating Expenses and Major Maintenance Expenses in accordance with the Trust Agreement without any consent or approval of TxDOT.

Section 5.02 Reporting and Cooperation.

(a) Accounts; Books and Records; Financial Reporting. The covenants of the Borrower set forth in Section 709 of the Trust Agreement are incorporated herein as covenants from the Borrower to TxDOT for the sole benefit of TxDOT. TxDOT has relied on such section in executing this Agreement and no amendment to any such covenant in the Trust Agreement shall amend, alter or supplement the covenant set forth in this subsection (a) without prior written approval by TxDOT.

(i) The Borrower shall provide to TxDOT copies of any reports, financial statements, and any other documents created in accordance with Section 709 of the Trust Agreement and all records maintained pursuant thereto shall be open to inspection by TxDOT. The Borrower further covenants that, upon request, it will provide copies of the current Toll Rate Schedule to TxDOT.

(ii) The Borrower shall provide or cause to be provided to TxDOT copies of any periodic statements regarding Trust Agreement Fund balances and transfers, as well as the investment of any amounts deposited in the Trust Agreement Funds, from the Trustee.

(iii) If required by TxDOT, the Borrower shall employ the Borrower's Accountant to audit its annual financial statements and shall provide copies of any such audited financial statements to TxDOT. In the event that the Borrower's Accountant should at any time cease to be its independent accountant or auditor for any reason, the Borrower shall as soon as practicable appoint, and thereafter maintain, as its accountants, a nationally recognized firm reasonably acceptable to TxDOT. Concurrent with such appointment, the Borrower shall authorize such accountants to communicate directly with TxDOT and to respond within a reasonable period of time to queries of TxDOT regarding the Borrower's accounts and operations in connection with the exercise by TxDOT of its rights to review the books, records and papers of the Borrower as set forth in Section 5.02(e) below and to receive and review the audited financial statements as set forth in this subclause (iii).

(iv) The Borrower shall retain all work papers and reports for a minimum of four (4) years from the date of the audit reports referred to in Sections 5.02(a)(iii) hereof, unless TxDOT notifies the Borrower in writing to extend the retention period for a reasonable additional period. Audit work papers shall be available to TxDOT to the extent available to the Borrower at any time during the retention period. The Borrower shall retain all original System and Project files, records, accounts and supporting documents until the later of the Termination Date or the date all amounts due and payable under the Toll Equity Loan Note and this Agreement have been repaid, or for the period of time required by applicable federal and state law, if longer, unless relieved of this requirement by TxDOT in writing.

(b) Covenants Regarding Toll Rate Schedule, Traffic Consultant, Uniformity of Tolls and Free Passage.

(i) The covenants of the Borrower set forth in Section 501 of the Trust Agreement and in the Toll Rate Agreement are incorporated herein as covenants from the Borrower to TxDOT for the sole benefit of TxDOT. TxDOT has relied on such section and agreement, as applicable, in executing this Agreement and no amendment to any such covenant in the Trust Agreement or the Toll Rate Agreement shall amend, alter or supplement the covenant set forth in this subsection (b) without prior written approval by TxDOT.

(ii) In the event the Traffic Consultant is engaged pursuant to the Toll Rate Agreement or a new traffic and revenue study is delivered for the System, the Borrower shall prepare an updated Financial Model incorporating such updated Revenue projections and indicating the amount, date and use of any expected advances under the Toll Equity Loan Commitment and the dates of payment of principal of and interest on such advances in any Fiscal Year.

(c) Consultant Reports.

(i) The Borrower covenants that it will employ the General Engineering Consultant in accordance with the provisions of Section 704 of the Trust Agreement, and will cause the General Engineering Consultant to do all tasks required to be performed by the General Engineering Consultant pursuant to, Sections 504, 407 and 408 of the Trust Agreement.

(ii) The Borrower shall provide or cause to be provided to TxDOT in a timely manner copies of all reports, recommendations, findings or other documents prepared by the General Engineering Consultant in relation to the System.

(d) Cooperation with Consultants. The Borrower shall (i) cooperate in all reasonable respects with all consultants retained by TxDOT in connection with the transactions contemplated by the Transaction Documents and other Project Documents, (ii) provide each consultant with all information reasonably requested and reasonably required by such consultant in connection with the performance of its obligations under the Transaction Documents and other Project Documents, and (iii) consult with TxDOT regarding the reports of each consultant as reasonably requested by TxDOT.

(e) Access to the System and the Project. The Borrower shall give TxDOT and its consultants and representatives access to the System and the Project and all books, records and accounts related to the Project and the System, at any reasonable time as may be requested, during official business hours and in a manner that cannot reasonably be expected materially to interfere with or disrupt the performance by the Borrower or any other party of its obligations with respect to the construction and operation of the Project or the System, and permit the Trustee and TxDOT and their consultants and representatives to examine and make abstracts from any of its books, accounts and records relating to the Project or the System and to make copies and memoranda thereof, to discuss the Project or the System and the business, accounts, operations, properties and financial and other conditions of the Borrower as, in any case, related to the Project or the System, including, without limitation, the allocation of the costs of the operation, maintenance and improvement of the Project or the System, with officers and employees of the Borrower and with the Borrower's Accountant and to witness the performance and other tests conducted pursuant to any Project Document, as applicable. The Borrower shall have the right to participate in any discussions with the Borrower's Accountant. Notwithstanding anything herein to the contrary, the Borrower shall offer all reasonable assistance to such Persons in connection with any such visit. Upon the occurrence and during the continuance of an Event of Default or a Default with respect to the Borrower, if the Trustee or TxDOT requests that any of its consultants or representatives be permitted to make such visit, the reasonable fees and expenses of the Trustee, TxDOT, and their consultants and representatives in connection with such visit shall be paid for by the Borrower. The Borrower shall not be required to give any of TxDOT's consultants or representatives access to the Project or the System or any books, records or accounts related to the Project or the System unless TxDOT provides to the Borrower a confidentiality and non-disclosure agreement in form and substance reasonably acceptable to the Borrower that is either: (i) executed by such consultant or representative, or (ii) is a requirement of the consultant's engagement agreement with TxDOT that is agreed to by the consultant on behalf of all employees and representatives of the consultant, and TxDOT shall not provide to such consultant or representative any such books, records or accounts until such confidentiality and non-disclosure agreement is executed by such consultant or representative. TxDOT shall ensure that each of its employees is bound to keep all of the books, records and accounts related to the Project or the System (as applicable) confidential and shall enforce any such obligation against its employees. TxDOT shall enforce the provisions of any confidentiality and non-disclosure agreement executed by TxDOT's consultants and representatives in connection with their access to the System or the Project and their inspection of all books and records and other information related to the System or the Project as provided in this Section 5.02(e), and TxDOT and its employees, consultants and representatives shall, except as otherwise permitted under this Section 5.02(e), keep all information obtained through such access and inspection confidential. Nothing contained herein shall preclude TxDOT or one of its employees, consultants or representatives from producing or otherwise disclosing any information obtained through such access and inspection under compulsion of court order or subpoena, as required in connection with a judicial, administrative or regulatory proceeding in which it or an officer, director, employee or affiliate is involved, as required pursuant to inquiry or demand by a regulatory authority having jurisdiction over it or its affiliates or as otherwise required by law, including the Texas Public Information Act, Chapter 552 of the Government Code. TxDOT and/or each consultant or representative shall notify Borrower in the event of receipt of any request, subpoena, court order or other requirement to disclose any part of such information in connection with a legal, regulatory or other proceeding. For purposes of this Section 5.02(e), any information obtained through such access and inspection shall not be considered confidential if such information: (1) is lawfully in the public domain at the time it is transmitted or later becomes part of the public domain without fault of TxDOT or its employees, consultants or representatives; (2) has been independently developed by TxDOT or its employees, consultants or representatives without violation of this Section 5.02(e); (3) is independently known to TxDOT or its employees, consultants or representatives at the time of receipt through no unlawful act of TxDOT or its employees, consultants or representatives; (4) is disclosed by TxDOT or its employees, consultants or representatives with the prior written approval of the Borrower; or (5) becomes known to TxDOT or its employees, consultants or representatives from a source other than the Borrower, which source is (A) not subject to any restriction on disclosure or (B) not known by TxDOT or its employees, consultants or representatives to be bound by a confidentiality obligation directly or indirectly to the Borrower or TxDOT or to otherwise be in breach of any legal or contractual obligation not to disclose such information.

(f) Continuing Disclosure Reports and Notices. The Borrower shall give TxDOT copies of all annual financial reports and reportable events notices submitted by Borrower in connection with its compliance with any continuing disclosure undertaking entered into with respect to the System Debt as may be required under Rule 15c2-12 adopted by the Securities and Exchange Commission.

(g) Replacement of Consultants. If at any time the General Engineering Consultant, the Traffic Consultant, the Insurance Consultant or Borrower's Accountant should resign or the Borrower desires to remove any or all of such consultants, Borrower shall, as soon as practical and in compliance with applicable laws and Borrower's policies, appoint a successor consultant in accordance with this Agreement and the Trust Agreement, as applicable, and TxDOT shall have the right to approve of the successor consultant, which approval shall not be unreasonably withheld.

(h) Biennial Reports. Not less than sixty (60) days prior to each date that is a deadline for submission of any legislative appropriation request for the State (or at such other time as TxDOT may reasonably require) and no later than June 1 immediately prior to each regular legislative session for the State, the Borrower shall provide, or cause to be provided, to TxDOT (i) a report indicating for the next fiscal biennium the amount, date and use of any expected advances under the Toll Equity Loan Commitment and the expected dates of payment of principal of and interest on such advances and (ii) an updated traffic and revenue study for the System covering the next six (6) years prepared by the Traffic Consultant.

Section 5.03 Trust Agreement Funds; BAN Funds.

(a) Establishment and Maintenance.

(i) The Borrower shall not maintain or permit to be maintained any funds or accounts other than the Trust Agreement Funds, any other funds or accounts permitted under the Trust Agreement, and any funds or accounts required or permitted under the 2018 BAN Documents.

(ii) The Borrower shall fund, maintain, and make use of the Trust Agreement Funds and any other funds or accounts permitted under the Trust Agreement in accordance with the terms and conditions set forth in the Trust Agreement.

(iii) The Borrower shall fund, maintain, and make use of the funds or accounts required or permitted under the 2018 BAN Documents in accordance with the terms and conditions set forth in the 2018 BAN Documents.

(b) Payment of Revenues to the Revenue Fund. The Borrower at all times shall maintain arrangements satisfactory to TxDOT, subject to the provisions of the Master Custodial Agreement, the Project Agreement and the Trust Agreement, to ensure that all Revenues are collected and deposited to the Revenue Fund daily, to the extent practicable either directly or indirectly through payment mechanisms reasonably satisfactory to TxDOT.

Section 5.04 Reserved.

Section 5.05 Compliance, Insurance and Other Agreements.

(a) Compliance with Law. The Borrower shall comply with all laws (including, without limitation, Environmental Laws) relating to the System Debt, the System, the organization and operation of the Borrower and the subject matter of any Finance Document.

(b) Approvals: Governmental Authorizations. At all times, the Borrower shall obtain on a timely basis and thereafter maintain in full force and effect all Governmental Approvals necessary (i) for the use, operation and maintenance of the System, and (ii) to comply with its obligations under the Transaction Documents and

Project Documents, except in either case (x) where the failure to obtain or maintain any such Governmental Approval could not reasonably be expected to have a Material Adverse Effect or (y) obtaining and maintaining such Government Approvals is TxDOT's obligation, including, without limitation, the Governmental Approvals set forth in Schedule 3.01(f) hereto and in the Project Agreement.

(c) Transaction Documents: Project Documents.

(i) The Borrower shall (A) perform and observe in all material respects all of its covenants and its other obligations contained in each Transaction Document to which it is a party or an assignee and (B) use reasonable efforts to enforce against any other party thereto each material covenant or obligation of such party in each Transaction Document in accordance with its terms.

(ii) The Borrower shall not terminate, or allow to expire (other than in accordance with its terms), or assign, or amend or modify, or waive timely performance by any other party of material covenants under, any Transaction Document, provided that:

(A) any such termination, amendment, modification or waiver shall be permitted if such termination, amendment, modification or waiver could not reasonably be expected to result in a Material Adverse Effect; and

(B) any such termination, amendment, modification or waiver shall be permitted if it is approved in writing by TxDOT, such approval not to be unreasonably withheld.

(iii) If any Design-Build Contract or any other Project Document, or any counterparty to any Design-Build Contract or any other Project Document, is replaced, to the extent that there was a Direct Agreement related to such other Design-Build Contract or to such other Project Document prior to such replacement, the Borrower shall enter into a new (or amended and restated, as the case may be) Direct Agreement with any third party to such Project Document or Design-Build Contract, as applicable, in form and substance reasonably satisfactory to TxDOT.

(iv) If a Bankruptcy Event with respect to any Design-Build Contractor should occur, Borrower shall take (to the extent such rights are available to it), or shall use its best efforts to cause TxDOT to take, any and all actions provided under the applicable Design-Build Contract and available under the proceedings relating to the Bankruptcy Event that are reasonably required to minimize any suspension or delay in the construction of the Project, including, without limitation, enforcing such Design-Build Contract against the applicable Design-Build Contractor, seeking a replacement design-build contractor that will assume the obligations of such Design-Build Contractor under the applicable

Design-Build Contract, or entering into a new design-build contract with the consent of TxDOT, which consent shall not be unreasonably withheld. Borrower will give TxDOT copies of any notices received or given by Borrower in connection with such Bankruptcy Event, and TxDOT shall have the opportunity to participate in any meetings, proceedings, settlements or other activities relating to such Bankruptcy Event.

(d) Use of Proceeds and Amounts Remaining in the Construction Fund After Completion of the Project. The Borrower shall not cause any proceeds of the TELA Project Debt or any Toll Equity Loan to be expended for any purpose other than pursuant to the Trust Agreement and this Agreement. Any amounts remaining in the Construction Fund held by the Trustee under the Trust Agreement after submission to the Trustee by the Borrower of a completion certificate pursuant to the Trust Agreement with regard to construction of the Segments shall be applied in accordance with the Trust Agreement.

(e) Tolling System. The Borrower shall ensure that, on or prior to the Service Commencement Date for any tolled Segment or portion of a Segment, all electronic tolling system hardware necessary to operate such Segment or portion thereof (if any) in compliance with the requirements of the applicable Project Documents (if any), or any other applicable requirements, will be installed and operational.

(f) Insurance. The covenants of the Borrower set forth in Sections 705 and 706 of the Trust Agreement with respect to insurance and self-insurance for the System are incorporated herein as covenants from the Borrower to TxDOT for the sole benefit of TxDOT. TxDOT has relied on such sections in executing this Agreement and no amendment to any such covenant in the Trust Agreement shall amend, alter or supplement the covenant set forth in this subsection (f) without prior written approval by TxDOT. All records related to such covenants shall be open for inspection by TxDOT and copies of any opinions, certifications, reports, records, filings or other documents prepared by the Insurance Consultant or any other Person in relation to insurance and self-insurance for the System shall be provided to TxDOT in a timely manner.

(g) Further Assurances and Corrective Instruments. The Borrower agrees that it will, from time to time, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such supplements to the Trust Agreement and such further instruments as may reasonably be required for carrying out the expressed intention of the Trust Agreement and this Agreement and as may be necessary or desirable for assuring, conveying, granting, assigning, securing and confirming the security interests (whether now existing or hereafter arising) granted by or on behalf of the Borrower to the Trustee, pursuant to the Trust Agreement, or intended so to be granted pursuant to the Trust Agreement, or which the Borrower may become bound to grant, and the subject of each such security interest is and will be free and clear of any other security interest thereon or with respect thereto prior to, or of equal rank with the security interests created by the Trust Agreement, other than liens entitled to priority as a matter of Law, this Agreement or the Trust Agreement, and all corporate action on the part of the Borrower to that end shall be duly and validly taken at such times. The Borrower shall, at all times, to the extent permitted by Law, defend, preserve and protect the security interests granted pursuant to the Trust Agreement and all the rights of the Trustee under the Trust Agreement against all claims and demands of all Persons whomsoever.

Section 5.06 Project Debt; Refunding of TELA Project Debt; Additional Debt.

(a) Project Debt. The Borrower has issued all of the Initial Project Debt, including the Initial Project Debt under the Initial TIFIA Loan Agreement, and the Borrower has deposited proceeds of the Initial Project Debt with the Trustee in accordance with Trust Agreement. The Borrower shall issue all of the 2018 Project Debt on the 2018 Closing Date in compliance with the terms and conditions of the Trust Agreement and the 2018 BAN Documents, as applicable. The Borrower shall deposit proceeds of the 2018 Project Debt with the Trustee and the BAN Trustee in accordance with the applicable 2018 Finance Documents in an amount sufficient, after taking into account amounts required to be deposited by the Borrower from sources other than 2018 Project Debt, to pay for (i) Project Costs as set forth in the Project Budget and (ii) all amounts required to be deposited in Trust Agreement Funds and all amounts required to be deposited in the funds and accounts established under the 2018 BAN Documents as of the 2018 Closing Date.

(b) Refunding of TELA Project Debt.

(i) All refundings of TELA Project Debt will be subject to the approval of TxDOT, such approval not to be unreasonably withheld, so long as the Toll Equity Loan Commitment will not be terminated in conjunction with such refunding or any amount due and payable under the Toll Equity Loan Note would be outstanding after the issuance of such refunding obligations.

(ii) Unless expressly approved by TxDOT, no refunding transaction involving TELA Project Debt that extends the final maturity of the TELA Project Debt beyond its original final Maturity Date shall be permitted so long as the Toll Equity Loan Commitment will not be terminated in conjunction with such refunding or any amount due and payable under the Toll Equity Loan Note would be outstanding after the issuance of the refunding obligations.

(c) Additional Debt. So long as the Toll Equity Loan Commitment will not be terminated in conjunction with, or any amount due and payable under the Toll Equity Loan Note would be outstanding after, the issuance of Additional Obligations secured by the Trust Agreement or by Revenues (other than Refunding Bonds under the circumstances described in Section 5.06(b) hereof), no such issuance shall be permitted without prior written approval from TxDOT, and all such debt is subject to the requirements set forth in the Trust Agreement.

Section 5.07 Miscellaneous.

(a) Payment of Lawful Claims. The Borrower shall, from moneys available therefor in the Trust Estate or other legally available moneys, pay or cause to be discharged, or make adequate provision to satisfy and discharge, all lawful claims and demands for labor, materials, supplies or other objects which, if unpaid, might by law become a lien upon the Trust Estate; *provided, however,* that nothing in this Section 5.07 shall require the Borrower to pay or cause to be discharged, or make provision for, any such lien or charge the validity of which is being contested in good faith by appropriate legal proceedings.

(b) Corporation Representatives. Whenever under the provisions of this Agreement the approval of the Borrower is required or the Borrower is required to take some action at another party's request, such approval or such request shall be given for the Borrower by a Corporation Representative.

(c) Notices. The Borrower shall promptly, and in any event within ten (10) Business Days after it acquires notice or obtains actual knowledge thereof, give TxDOT notice of any of or, with respect to (vi), (vii), (x) and (xiii) below, copies of, the following, setting forth reasonable details of any event under (i) to (v), (viii), (ix), (xi) or (xii) below (and the Borrower shall concurrently provide to the General Engineering Consultant a copy of any such notice or copy, to the extent the applicable event occurs during the period that the Project is under construction):

(i) any "Event of Default" as defined in the Trust Agreement or any event which, given notice or the passage of time or both, would constitute an "Event of Default" as defined in the Trust Agreement;

(ii) the filing of any actual litigation, suit or action, or the delivery to the Borrower of any written claim against the Revenues, the Project or the System and which could reasonably be expected to have a Material Adverse Effect;

(iii) any proposal to suspend or abandon the Project by, or on behalf of, the Borrower,

(iv) any material default or event of default under any Transaction Document;

(v) any material default or event of default under any Project Document;

(vi) if at any time commercial insurance is required to be obtained pursuant to the Trust Agreement, thereafter, the unavailability of any required insurance on commercially available terms;

(vii) any material notices given under the Trust Agreement or a Project Document by the Borrower or received by the Borrower under the Trust Agreement or a Project Document from any party thereto;

(viii) copies of construction progress reports to the extent such reports are received by the Borrower pursuant to any Project Document and to the extent such reports are required to be delivered under the applicable Project Document;

(ix) any (A) written notice to the Borrower indicating that any material Governmental Approval with respect to the System will not be granted or renewed, or will not be granted or renewed in time to allow continued operation of the System in compliance with all material laws, or will be granted or renewed on terms materially more burdensome than proposed, or will be terminated, revoked or suspended and (B) casualty, damage or loss to the System, whether or not insured, through fire, theft, other hazard or casualty insurance in excess of $5,000,000 (as such amount has been adjusted annually starting in 2014 in accordance with the Original Agreement in proportion to any increase or decrease in the CPI over the Base Price Index, and as such amount shall be further adjusted annually hereafter, in proportion to any increase or decrease in the CPI over the Base Price Index) for any one casualty or loss;

(x) any cancellation, notice of threatened or potential cancellation or material change in the terms, coverage or amounts of any insurance (including any self-insurance program) required to be maintained under the Trust Agreement or any claim in excess of $5,000,000 under any insurance policy or self-insurance program, as applicable;

(xi) any written notice of the occurrence of any event giving rise (or that could reasonably be expected to give rise) to a material claim under any insurance required to be maintained under the Trust Agreement, with copies of any material documents relating thereto (including copies of any such claim) in the possession or control of the Borrower,

(xii) any notice of any event of default or termination or cancellation given by or received by the Borrower under any Project Document, or any request received by the Borrower for any material amendment of, supplement to or other modification of any Project Document, or any event, circumstance or occurrence actually known to the Borrower that might lead the Borrower or any other party thereto to terminate the Project Document;

(xiii) any event of force majeure (howsoever described) under a Project Document or any other event entitling the contractor under such Project Document to suspend performance of any obligation thereunder, but solely to the extent the Borrower has actual knowledge of any such event; or

(xiv) any notice of the occurrence of Substantial Completion with respect to any Segment.

(d) Calculation of CPI Changes. Annually, within thirty (30) days after each October 1, the Borrower shall calculate the increase or decrease in the CPI over the Base Price Index as of such October 1, and shall notify TxDOT of the amount of such increase or decrease. Such calculation shall be binding absent manifest error.

(e) Eligible Costs Obligations of the Borrower. The Borrower hereby agrees and acknowledges that Eligible Costs must be obligations of the Borrower and the Borrower shall, from time to time, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such agreements or other instruments (including amendments or supplements to the Project Agreement) as may reasonably be required for carrying out the expressed intention of this Agreement that the payment of all Eligible Costs be obligations of the Borrower and as may be necessary or desirable for assuring, conveying, granting, assigning, securing and confirming that all obligations to pay Eligible Costs (whether now existing or hereafter arising) will be legal, valid and binding obligations of the Borrower, and all corporate action on the part of the Borrower to that end shall be duly and validly taken at such times.

Section 5.08 Covenants to Remain In Effect. If at the Note Maturity Date of the Toll Equity Loan Note, amounts due thereunder remain unpaid, the provisions of this Article V as applicable, shall remain in effect until such time as all amounts owing have been paid.

ARTICLE VI.
EVENTS OF DEFAULT BY THE BORROWER

Section 6.01 Events of Default. The occurrence of any of the following events shall be an "Event of Default" hereunder:

(a) Failure by the Borrower to pay, from funds available therefor under the Trust Agreement, when due any amount payable under the Toll Equity Loan Note.

(b) Failure by the Borrower to make (i) any payment, to the extent funds are available under the Trust Agreement, to TxDOT or as otherwise required to be paid from funds available under the Trust Agreement or any other legally available source of funds of the Borrower as required under this Agreement, except as set forth in Section 6.01(a) hereof, within ten (10) Business Days from the date on which it was due, or (ii) any payment required to be paid under any TELA Project Debt of the Borrower; *provided, however,* that any failure pursuant to this subclause (ii) shall not constitute an Event of Default if the failure to make such payment results from a failure by TxDOT to advance funds in accordance with the provisions of this Agreement.

(c) Failure by the Borrower to observe and perform any covenant, condition or agreement on its part to be observed or performed under this Agreement or under any TELA Project Debt, other than as referred to in Section 6.01(a), (b) or (m) hereof, for a period of ninety (90) days after the earlier of (i) the Borrower acquiring actual knowledge of such occurrence or (ii) notice specifying such failure and requesting that it be remedied shall have been given to the Borrower by TxDOT, unless TxDOT shall agree in writing to an extension of such time prior to its expiration; *provided, however,* if the failure stated in the notice is capable of cure but cannot reasonably be cured within the applicable period, the Borrower shall be entitled to a further extension of time reasonably necessary to remedy such failure so long as corrective action is instituted by the Borrower within the applicable period and is diligently pursued until such failure is corrected.

(d) Any of the representations, warranties or certifications of the Borrower made in or delivered pursuant to this Agreement or any other Finance Documents shall prove to have been false or misleading in any material respect when made and, if such misrepresentation is capable of being cured, such misrepresentation has not been cured within ninety (90) days after the earlier of (i) the Borrower acquiring actual knowledge of such failure and (ii) the Borrower receiving notice from TxDOT of such failure.

(e) the Borrower shall fail to perform or observe any material covenant, agreement or obligation under any Project Document to which it is a party or an assignee (unless such failure could not reasonably be expected to have a Material Adverse Effect), and the Borrower shall have failed to cure such failure or to obtain an effective written waiver thereof within the earlier of (i) ninety (90) days after receipt of notice thereof from TxDOT and (ii) any applicable grace period relating to such covenant, agreement or obligation; *provided, however,* that with respect to this <u>subsection (e)</u>, if such cure or waiver cannot reasonably be obtained within the applicable period, the Borrower shall be entitled to an extension of such time if corrective action is instituted by the Borrower within the applicable period and diligently pursued until such failure is corrected.

(f) One or more judgments for the payment of money in an aggregate amount in excess of $10,000,000 (as such amount has been adjusted annually starting in 2014 in accordance with the Original Agreement in proportion to any increase or decrease in the CPI over the Base Price Index, and as such amount shall be further adjusted annually hereafter, in proportion to any increase or decrease in the CPI over the Base Price Index) shall be rendered against (i) the Revenues, the Project or the System and the same shall remain undischarged for a period of ninety (90) consecutive days during which execution shall not be effectively stayed, or any action shall be legally taken by a judgment creditor to attach or levy upon the Revenues, the Project or the System to enforce any such judgment or the amount of such judgment is not adequately covered by insurance or a performance bond, or (ii) the Borrower and the same shall remain undischarged for a period of ninety (90) consecutive days during which execution shall not be effectively stayed, to the extent that it is reasonably likely to have a Material Adverse Effect or any action shall be legally taken by a judgment creditor to attach or levy upon any assets of the Borrower to enforce any such judgment or the amount of such judgment is not adequately covered by insurance or a performance bond, to the extent that it is reasonably likely to have a Material Adverse Effect.

(g) The Project Agreement shall expire or be terminated (whether by reason of a default thereunder or by mutual agreement of the parties thereto or otherwise), or for any reason shall cease to be in full force and effect.

(h) The Borrower fails to obtain, renew, maintain, or comply with all material Governmental Approvals, as and when required by it, in connection with the

System in accordance with the Project Agreement or the entering into of any Finance Document, any Transaction Document or any Project Document to which the Borrower is a party, and such failure could reasonably be expected to have a Material Adverse Effect; unless such failure is remedied within ninety (90) days after TxDOT gives notice thereof to the Borrower, or such longer period as TxDOT may allow. For the avoidance of doubt, Governmental Approvals as used in this subsection (h) shall not include the Governmental Approvals set forth in Schedule 3.01(f) hereto or any other Governmental Approvals that are TxDOT's obligation hereunder or pursuant to the Project Agreement.

(i) The Trust Agreement ceases, except in accordance with its terms, to be effective to grant a perfected security interest on the collateral described therein (other than on an immaterial portion thereof).

(j) The Borrower fails to operate and maintain the System in accordance with the Project Agreement and such failure could reasonably be expected to have a Material Adverse Effect; unless such failure is remedied within ninety (90) days after TxDOT gives notice thereof to the Borrower, *provided, however,* that if said default is such that it cannot by its nature with due diligence be cured within the said 90-day period but can be cured, it shall not constitute an Event of Default if curative action is commenced by the Borrower within said 90-day period and diligently pursued until the default is cured.

(k) With respect to any Segment for which Substantial Completion has not occurred as of the Effective Date, Substantial Completion for any of such Segments has not occurred by the date that is twelve (12) months after the Estimated Date of Completion (taking into account force majeure) for such Segment.

(l) Any insurance (including through self-insurance) required under Section 5.05(f) hereof is not, or ceases to be maintained as required or such insurance is avoided or any insurer avoids, suspends or otherwise reduces its liability under any policy (if any) relating to any such insurance or any insurer of any insurance is not bound, or ceases to be bound, to meet its obligations in full under any such insurance, and any such event could reasonably be expected to have a Material Adverse Effect, unless (i) such insurance is (prior to its cessation) replaced by insurance on substantially similar terms (including self-insurance), and in form and substance and with insurers (if applicable) as recommended by the Insurance Consultant, or (ii) the risks covered by such insurance are uninsurable or such insurance is reasonably determined by the Insurance Consultant to be not commercially available in the insurance market at reasonable rates, and the Borrower has agreed to the means by which the risk should be managed as recommended by the Insurance Consultant (including through self-insurance).

(m) After the start of construction and prior to Substantial Completion of a Segment, the construction of that Segment is abandoned, which could reasonably be expected to have a Material Adverse Effect; *provided* that, for the purposes of this Section 6.01(m), abandonment of the construction of a Segment is deemed to have occurred if no significant construction (taking into account the construction schedule and permitted delay as a result of force majeure) is carried out without reasonable cause, for a continuous period of ninety (90) days.

(n) The operation or maintenance of the System or any material part thereof is suspended or abandoned; *provided* that, for the purposes of this Section 6.01(n), suspension or abandonment of the System is deemed to have occurred after the first Service Commencement Date for any Segment, if the Borrower fails, without reasonable cause, to operate the System (taking into account force majeure) for a continuous period of ninety (90) days.

(o) The occurrence of an "Event of Default" under and as defined in the Trust Agreement.

Section 6.02 Remedies upon an Event of Default. Upon or after the occurrence of an Event of Default under Section 6.01 hereof, TxDOT may, without prior notice, unless otherwise specified in this Section 6.02, demand or presentment, and to the extent permitted by applicable law, do any or all of the following:

(a) have reasonable access to and inspect, examine and make copies of the books and records and any and all accounts, data and income and other records of the Borrower relating to the Project or the System, including, without limitation, any such accounts, data and income and other records concerning the costs of operating and maintaining the Borrower's system which are allocated to the operation and maintenance of the Project or the System or payable from Revenues or other amounts held in the Trust Agreement Funds, during regular working hours of the Borrower if necessary in the opinion of TxDOT;

(b) by suit, action or proceeding in equity, enjoin any acts or things that are unlawful or the violation of any rights of TxDOT and the Trustee;

(c) seek an action in mandamus against the Borrower and/or seek the appointment of a receiver; and

(d) exercise, or cause to be exercised, any and all such remedies as it may have under this Agreement, the other Finance Documents or any other document or at law or in equity.

Section 6.03 Waiver of Event of Default. Subject to Section 6.04 hereof, either party may at any time in its discretion waive any Event of Default by the other party hereunder and its consequences, and in case of any such waiver or in case any proceeding taken by the non-defaulting party on account of any such Event of Default shall have been discontinued or abandoned or determined adversely, then and in every such case the Borrower and TxDOT shall, subject to any determination in such proceeding, be restored to their former positions and rights hereunder respectively, but no such waiver shall extend to any subsequent or other Event of Default, or impair any right consequent thereon.

Section 6.04 Waivers; Consents. No waiver of, or consent with respect to, any provision of this Agreement or the other Finance Documents by TxDOT shall in any event be effective unless the same shall be in writing and signed by TxDOT, and then such waiver or consent shall be effective only in the specific instance and for the specific purpose for which it was given.

Section 6.05 No Waiver; Remedies Cumulative. No failure on the part of TxDOT to exercise, and no delay in exercising, any right hereunder or under the other Finance Documents shall operate as a waiver thereof; and no single or partial exercise by TxDOT of any right hereunder or under the other Finance Documents shall preclude any other or further exercise thereof or the exercise of any other right. To the extent permitted by applicable law, the remedies herein and in the other Finance Documents provided are cumulative and not exclusive of any remedies available under any other document or at law or in equity.

Section 6.06 No Set-Off. Neither party shall set off or apply any balances, credits, deposits (general or special, time or demand, provisional or final), accounts or moneys at any time held against indebtedness at any time owing by the other party.

ARTICLE VII. COVENANTS AND EVENTS OF DEFAULT BY TXDOT

Section 7.01 Legal Opinions. On or before the 2018 Closing Date, TxDOT shall deliver to the Borrower a legal opinion from TxDOT's counsel in form and substance reasonably satisfactory to the initial purchaser(s) under the 2018 Bond Purchase Contracts.

Section 7.02 Advance Funds. Upon the delivery of a Trustee Request, TxDOT shall, from money appropriated by the Texas State Legislature in a manner that would allow its use for this purpose, advance the funds specified in the Trustee Request within three Business Days of the delivery of such request; *provided, however,* that no such advance shall (i) exceed the Maximum Permitted Amount, (ii) cause the aggregate amount of the advances made for such Draw Period to exceed the Maximum Available Annual Amount, (iii) cause the aggregate amount of all advances to exceed the Maximum Available Aggregate Amount, or (iv) cause the aggregate amount of all advances to exceed the aggregate amount of Eligible Costs. TxDOT covenants that it will submit a request in accordance with applicable law to obtain an appropriation from the Texas Legislature to fulfill its obligation to make advances under the Toll Equity Loan Commitment as provided in this Agreement, but not to exceed the Maximum Available Annual Amount for the Draw Periods included in the legislative request.

Section 7.03 Continuing Disclosure. Prior to or concurrently with the issuance of the Project Debt and any Refunding Bonds, TxDOT shall execute a continuing disclosure undertaking in a form reasonably acceptable to TxDOT, the Borrower and the purchasers of such debt in order to enable the Borrower to comply with its continuing disclosure undertaking relating to such debt as may be required under Rule 15c2-12 of the Securities Exchange Commission.

Section 7.04 Builders' Liens. TxDOT shall use commercially reasonable efforts to cause all contractors to comply with all applicable builders' lien legislation and to pay or cause to be paid when due all claims and demands of contractors, subcontractors, laborers, suppliers of material, builders, workmen and others which, if unpaid, might result in the creation of a builders' lien, prior claim, legal pledge or analogous claim against the Project or any part thereof or on the revenue, income or profits arising therefrom, unless there is a bona fide dispute and adequate security has been posted.

Section 7.05 Remedies Upon An Event of Default by TxDOT. Upon TxDOT's failure (i) to honor a request by the Trustee for an advance under the Toll Equity Loan Commitment which complies with all the requirements of this Agreement if funds have been appropriated to TxDOT by the Texas State Legislature in a manner that would allow its use for such purpose, (ii) to satisfy its obligations under the continuing disclosure undertaking described in Section 7.03 hereof, or (iii) to observe and perform its covenant in Section 7.04 hereof (each of (i), (ii) and (iii) constituting an "Event of Default" with respect to TxDOT), Borrower may, without prior notice, demand or presentment, and to the extent permitted by applicable law, do any or all of the following:

(a) by suit, action or proceeding in equity, enjoin any acts or things which are unlawful or the violation of any rights of Borrower and the Trustee; and

(b) seek an action in mandamus against TxDOT.

Section 7.06 Failure to Fund Advances Due to Non-Appropriation.

(a) Failure to honor a request by the Trustee for an advance under the Toll Equity Loan Commitment due solely to the fact that funds have not been appropriated to TxDOT by the Texas State Legislature in a manner that would allow its use for such purpose shall not constitute an Event of Default with respect to TxDOT under this Agreement.

(b) In the event that TxDOT has failed to honor a request by the Trustee for an advance under the Toll Equity Loan Commitment due solely to the fact that funds had not been appropriated to TxDOT by the Texas State Legislature in a manner that would allow its use for such purpose, TxDOT shall have no obligation to fund such request on any date subsequent to such failure.

Section 7.07 Obligations Not a Debt of TxDOT. The obligations of TxDOT under this Agreement do not create a debt of TxDOT, the Commission, the State of Texas, or any other agency or political subdivision of the State of Texas under any provision of the Texas State Constitution.

ARTICLE VIII.
MISCELLANEOUS

Section 8.01 Notices. All notices and other communications provided for hereunder shall be in writing and sent by United States certified or registered mail, return receipt requested, private delivery service, or by email or facsimile (provided that the sender receives confirmation of receipt of the email or facsimile by email or facsimile or confirms the email or facsimile by sending an original copy by certified or registered mail or private delivery service within two (2) Business Days after transmission) addressed as follows:

If to the Borrower:	Grand Parkway Transportation Corporation 125 E. 11th Street Austin, Texas 78701 Attn: President, Board of Directors Email: brian.ragland@txdot.gov
With a copy to:	Grand Parkway Transportation Corporation c/o Texas Department of Transportation 125 E. 11th Street Austin, Texas 78701 Attn: Director of Project Finance, Debt & Strategic Contracts Division Email: benjamin.asher@txdot.gov
If to the Trustee:	As provided in the Trust Agreement
If to TxDOT:	Texas Department of Transportation 125 E. 11th Street Austin, Texas 78701-2483 Attn: Executive Director Email: james.bass@txdot.gov
With a copy to:	Texas Department of Transportation 125 E. 11th Street Austin, Texas 78701-2483 Attn: Director of Project Finance, Debt & Strategic Contracts Email: benjamin.asher@txdot.gov
	Texas Department of Transportation 125 E. 11th Street Austin, Texas 78701-2483 Attn: General Counsel Division Email: jim.bateman@txdot.gov
	Texas Department of Transportation Major Projects Office 7721 Washington Ave. Houston, Texas 77007 Attn: Varuna Singh Email: varuna.singh@txdot.gov

The Borrower, the Trustee or TxDOT may change the address to which notices to it are to be sent by notice given to the other persons listed in this Section 8.01.

All notices shall, when mailed or given by private delivery service, be effective on the date indicated on the return or delivery receipt, respectively, and all notices given by email or facsimile shall be effective when received if confirmation of receipt, by email or facsimile, is received by the sender the same business day. If confirmation of receipt of email or facsimile notices is not received the same business day, the notices shall be effective when confirmation is received, or on the date indicated on the return or delivery receipt if the facsimile or email notices have been confirmed by mailing or private delivery service, whichever is earlier. Whenever in this Agreement the giving of notice is required, the giving of such notice may be waived in writing by the Person entitled to receive such notice and in any such case the giving or receipt of such notice shall not be a condition precedent to the validity of any action taken in reliance upon such waiver.

Section 8.02 Binding Effect; Successors and Assigns. This Agreement shall become effective when it shall have been executed by the Borrower and TxDOT and thereafter shall be binding upon and inure to the benefit of the Borrower and TxDOT and their respective successors and assigns. The Borrower shall not have the right to assign its rights hereunder or any interest herein other than to the Trustee, without the prior written consent of TxDOT. TxDOT shall not have the right to assign its rights or obligations hereunder or any interest herein without the prior written consent of the Borrower and confirmation from each rating agency then rating the TELA Project Debt that any such assignment will not negatively affect the then current ratings on the TELA Project Debt.

Section 8.03 Survival of Representations, Warranties and Covenants. All representations, warranties and covenants made by the Borrower herein and in any document delivered pursuant hereto shall survive the delivery of this Agreement and any advances under the Toll Equity Loan Commitment.

Section 8.04 Counterparts. The execution and delivery hereof by the parties hereto shall constitute a contract between them for the uses and purposes herein set forth, and this Agreement may be executed in any number of counterparts, with each executed counterpart constituting an original and all counterparts together constituting one agreement.

Section 8.05 Costs and Expenses.

(a) The Borrower agrees to pay on demand all reasonable, documented out-of-pocket costs and expenses of TxDOT in connection with the enforcement of this Agreement, the other Finance Documents and such other documents.

(b) Subject to Section 8.11 hereof, all sums due hereunder shall be an obligation of the Borrower, due and payable immediately without demand.

Section 8.06 Amendments.

(a) Subject to TxDOT's rights under Section 2.11 of this Agreement, no amendment to or waiver of any provision of this Agreement, nor consent to any departure by the Borrower therefrom, shall be effective unless the same shall be in writing and signed and delivered by TxDOT and the Borrower, with the prior written consent of the Trustee pursuant to the Trust Agreement.

(b) No amendment to or waiver of any defined term in any other Transaction Document which is incorporated by reference herein shall be effective in the context of this Agreement unless the same shall have been consented to in advance by TxDOT and the Trustee pursuant to the Trust Agreement.

(c) It is understood and agreed by the Parties hereto that any consent, amendment or change to this Agreement (including without limitation any change or amendment to the Maximum Available Annual Amount, the Maximum Permitted Amount or the Project Budget for purposes of increasing the Maximum Available Aggregate Amount hereunder) to be executed and delivered by TxDOT shall be subject to prior approval thereof by the Commission; *provided, however,* that any such change or amendment that merely clarifies or corrects a scrivener's error or other similar defect herein may be executed and delivered by an authorized representative of TxDOT without Commission approval.

Section 8.07 No Waiver. No failure on the part of TxDOT to exercise, and no delay in exercising, any right or power hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right or power hereunder preclude any other or further exercise thereof or the exercise of any other right or power. The rights and remedies of TxDOT hereunder are cumulative and are not exclusive of any rights or remedies that they would otherwise have. No waiver of any provision of this Agreement or consent to any departure by the Borrower therefrom shall in any event be effective unless the same shall have been provided in accordance with Section 8.06 hereof, and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given.

Section 8.08 Severability; Interest Limitation. If any provision hereof is found by a court of competent jurisdiction to be prohibited or unenforceable in any jurisdiction, it shall be ineffective as to such jurisdiction only to the extent of such prohibition or unenforceability, and such prohibition or unenforceability shall not invalidate the balance of such provision as to such jurisdiction to the extent it is not prohibited or unenforceable, nor invalidate such provision in any other jurisdiction, nor invalidate the other provisions hereof, all of which shall be liberally construed in order to effect the provisions of this Agreement. Notwithstanding anything to the contrary herein contained, the total liability of the Borrower for payment of interest pursuant hereto shall not exceed the maximum amount, if any, of such interest permitted by applicable law to be contracted for, charged or received, and if any payments by the Borrower to TxDOT include interest in excess of such a maximum amount, TxDOT shall apply such excess to the reduction of the unpaid principal amount or other sums due from the Borrower pursuant hereto, or if none is due, such excess shall be refunded to the Borrower; *provided* that, to the extent permitted by applicable law, in the event the interest is not collected, is applied to principal or is refunded pursuant to this sentence and interest thereafter payable pursuant hereto shall be less than such maximum amount, then such interest thereafter so payable shall be increased up to such maximum amount to the extent necessary to recover the amount of interest, if any, theretofore uncollected, applied to principal or refunded pursuant to this sentence. Any such application or refund shall not cure or waive any Event of Default. In determining whether or not any interest payable under this Agreement exceeds the highest rate permitted by law, any non-principal payment (except payments specifically stated in this Agreement to be "interest") shall be deemed, to the extent permitted by applicable law, to be an expense, fee, premium or penalty rather than interest.

Section 8.09 Conflicts. Subject to the first paragraph of Section 1.01 hereof, insofar as possible the provisions of this Agreement shall be deemed complementary to the terms of the Trust Agreement, but in the event of conflict the terms hereof shall control to the extent such are enforceable under applicable law; *provided* that if such terms relate to the terms or amount of payment of principal of or interest on the System Debt or the pledge of Revenues or other security provided to the holders of the System Debt, the terms of the Trust Agreement shall control.

Section 8.10 Governing Law; Jurisdiction; Waivers. THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF TEXAS, WITHOUT REFERENCE TO CHOICE OF LAW DOCTRINE. WITH RESPECT TO ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTION CONTEMPLATED HEREBY OR THE PERFORMANCE OF ANY OF THE PARTIES HEREUNDER, THE BORROWER AND TXDOT HEREBY IRREVOCABLY (A) SUBMIT TO THE NON-EXCLUSIVE JURISDICTION OF ANY STATE OR FEDERAL COURT SITTING IN TEXAS; (B) AGREE THAT ALL CLAIMS WITH RESPECT TO SUCH ACTION OR PROCEEDING MAY BE HEARD AND DETERMINED IN SUCH TEXAS STATE OR FEDERAL COURT; (C) WAIVE THE DEFENSE OF ANY INCONVENIENT FORUM; (D) AGREE THAT A FINAL JUDGMENT IN ANY SUCH ACTION OR PROCEEDING SHALL BE CONCLUSIVE AND MAY BE ENFORCED IN ANOTHER JURISDICTION BY SUIT ON THE JUDGMENT OR IN ANY OTHER MANNER PROVIDED BY LAW; AND (E) CONSENT TO SERVICE OF PROCESS BY MAILING OR DELIVERING A COPY OF SUCH PROCESS TO THE BORROWER OR TXDOT, AS APPLICABLE, AT ITS ADDRESS SET FORTH HEREIN AND AGREE THAT SUCH SERVICE SHALL BE EFFECTIVE WHEN SENT OR DELIVERED. THE BORROWER AND TXDOT EACH REPRESENTS AND WARRANTS THAT IT HAS CONSULTED WITH COUNSEL AND UNDERSTANDS THE RAMIFICATIONS OF THE FOREGOING.

Section 8.11 Limited Obligation; No Personal Liability. The obligations and liabilities of the Borrower under the Toll Equity Loan, the Toll Equity Loan Note and this Agreement shall be non-recourse to the Borrower. Subject to the provisions of the following sentence, in no event shall any officer, agent, employee, or director of the Borrower (a "Non-Recourse Party") be personally liable or obligated for such liabilities and obligations of the Borrower or be subject to any personal liability or accountability by reason of the execution and delivery hereof. Nothing herein contained shall limit or be construed to (a) release any Non-Recourse Party from liability for its fraudulent actions, bad faith or misappropriation of funds or willful misconduct, (b) limit or impair the exercise of remedies with respect to any collateral, or (c) require TxDOT to indemnify the Non-Recourse Parties for liabilities or claims that may be independently asserted by third parties against them.

Section 8.12 Offering Documents for Additional Debt. The Borrower and TxDOT agree to work cooperatively in the preparation and distribution of any Future Offering Document which shall be in a form reasonably satisfactory to TxDOT. The Borrower and TxDOT shall be deemed to make, as of the date of the issuance of any Refunding Bonds, the same representations and warranties with respect to any such Future Offering Document as the parties have made hereunder with respect to the 2018 Official Statement.

Section 8.13 Benefit. This Agreement is entered into for the benefit of TxDOT, the Borrower, and, pursuant to the Trust Agreement, the Owners of any TELA Project Debt and the Trustee and their respective successors and permitted assigns. TxDOT and the Corporation expressly acknowledge that the Owners of TELA Project Debt and the Trustee, on behalf of such Owners of TELA Project Debt, are intended third party beneficiaries of this Agreement and that the Owners of TELA Project Debt and the Trustee may enforce this Agreement pursuant to the terms of the Trust Agreement. Nothing in this Agreement or in any approval subsequently provided by either party hereto shall be construed as giving any benefits, rights, remedies, or claims to any other persons, firm, corporation or other entity, including, without limitation, the public in general.

(Remainder of page intentionally left blank)

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered by their respective officers thereunto duly authorized as of the date first above written.

GRAND PARKWAY TRANSPORTATION CORPORATION

By: ______________________________
Brian D. Ragland, CPA
President, Board of Directors

TEXAS DEPARTMENT OF TRANSPORTATION

By: James M Bass
James M. Bass
Executive Director

ATTEST:

By: ______________________________
Benjamin H. Asher
Secretary/Treasurer

[Signature page to Amended & Restated Toll Equity Loan Agreement]

<u>**SCHEDULE 1**</u>

TO TOLL EQUITY LOAN AGREEMENT

PROJECT DOCUMENTS

- The Project Agreement
- Each Design-Build Contract
- Each Capital Maintenance Agreement
- As of the date on which the SH 249 Connector Approvals are received, the SH 249 Connector Agreement

<u>SCHEDULE 2</u>
TO TOLL EQUITY LOAN AGREEMENT

ADDITIONAL TRANSACTION DOCUMENTS

- The Toll Rate Agreement (as defined in the Trust Agreement)

SCHEDULE 3.01(f) TO TOLL EQUITY LOAN AGREEMENT

CERTAIN GOVERNMENTAL APPROVALS

I. Environmental Approvals for the Initial Project

State Environmental Assessment (EA) Re-evaluation FONSI

- Segment D (September 2008)

FHWA — Categorical Exclusion (CE) Concurrence

- Segment D/E Interchange (November 2009)

FHWA — Environmental Impact Statement (EIS) Record of Decision (ROD)

- Segment E (June 2008/June 2009)
- Segment F-1 (November 2008/June 2009)
- Segment F-2 (December 2009)
- Segment G (December 2010) FHWA — EIS Re-evaluation
- Segment E (June 2009)
- Segment F-1 (May 2012)
- Segment F-2 (May 2012)
- Segment G (May 2012)

USACE Section 404 Individual Permit (IP)

- Segment E (June 2011)
- Segment F-1 (April 2013)
- Segment F-2 (May 2013)
- Segment G (June 2013)

II. Environmental Approvals for the H&I Project

8/13/1998	Seg I-2 Record of Decision (ROD) by Federal Highway Administration on August 13, 1998
2002	Seg I-2 Re-Evaluation Approved for Nine-mile section from IH 10€ to BS 146, redesign of U-turn at Cedar Bayou and Alternation of drainage Channel B
2006	Seg I-2 Categorical Exclusion Approved Design change (proposed bridge) at FM 565
2007	Seg I-2 Re-Evaluation Approved for Proposed tolling of Seg I-2 from IH 10€ to Fisher Road
2008	Seg I-2 Categorical Exclusion Approved for Bridge replace, BS 146 westbound at Goose Lake
10/9/2012	Seg I-2 Re-Evaluation Approval for redesign at UPRR Crossing in Baytown on October 9, 2012
12/13/2013	Seg I-2 Approved Jurisdictional Determination issued by USACE for full limits of Segment I-2 on December 13, 2013
2/6/2014	Seg I-2 – USACE Nationwide Permit (NWP) 14 Pre-construction Notification ("PCN") dated February 6, 2014 (Permit No. SWG-1992-01589) for Cedar Bayou.
5/2/2014	Seg I-2 USCG Bridge Permit (83c-71-8) - Cedar Bayou WB Bridge dated May 2, 2014
6/14/2014	Seg H & I-1 Record of Decision by Federal Highway Administration on June 24, 2014
12/16/2014	Segment I-2 – USACE Nationwide Permit (NWP) 14 Pre-construction Notification ("PCN") and NWP 33 Temporary Construction dated December 16, 2014 (Permit No. SWG-1992-01589) for Goose Lake.
3/1/2015	Seg I-2 Port Authority Marine Construction File No. 2014-0242 for Construction of WB bridge over Cedar Bayou, dated March 1, 2015
8/10/2015	Seg I-2 USCG Bridge Permit (147b-69-8) - Goose Creek Bridge Modifications dated August 10, 2015
1/25/2016	Seg H & I-1 Re-Evaluation Approved for realignment from SH 146 to FM 565
3/24/2016	Seg H & I-1 Re-Evaluation Approved for realignment from SH 146 to FM 565
5/7/2016	Seg I-2 Re-Evaluation Approved for redesign at UPRR Crossing back to original ROD configuration
10/27/2017	Seg H & I-1 Section 404 Individual Permit requested from USACE for full limits of Segments H and I-1 for wetland and stream impact mitigation

APPENDIX A

FORM OF TOLL EQUITY LOAN NOTE

THIS NOTE MAY NOT BE ASSIGNED OR TRANSFERRED

UNITED STATES OF AMERICA
STATE OF TEXAS
GRAND PARKWAY TRANSPORTATION CORPORATION
GRAND PARKWAY SYSTEM TELA/OTHER TIER REVENUE NOTE
SERIES 2013
(TOLL EQUITY LOAN AGREEMENT)

MAXIMUM PRINCIPAL AMOUNT	INTEREST RATE	MATURITY DATE	ISSUANCE DATE
$9,600,000,000	As Described Below	As Described Below	August 1, 2013

On the maturity date specified below, the Grand Parkway Transportation Corporation (the "Corporation"), a public nonprofit corporation of the State of Texas, hereby promises to pay to the Texas Department of Transportation ("TxDOT") the lesser of (a) principal amount specified above (the "Maximum Principal Amount") and (b) the aggregate unpaid principal amount of any advances made by TxDOT (the "Outstanding Principal Sum") pursuant to the Toll Equity Loan Agreement dated as of July 17, 2013 (as amended and supplemented, the "Toll Equity Loan Agreement") between the Corporation and TxDOT and to pay interest thereon, from the date of such advance, to the maturity date specified for such advance, or the date of prepayment of such advance. The final maturity date for each advance and any accrued and unpaid interest thereon shall be 40 years from the Issuance Date of this note.

Advances made by TxDOT to the Corporation in accordance with the Toll Equity Loan Agreement and each payment made on account of such advance shall be recorded by or on behalf of TxDOT and endorsed on separate grids in the form attached hereto as Appendix A, with a copy to the Corporation and the Trustee.

Advances made pursuant to the Toll Equity Loan Agreement evidenced by this note shall bear interest at a per annum rate of interest equal to the ten year "Aaa (pure)" rate provided by Municipal Market Data and published in The Bond Buyer under the caption "Municipal Market Data General Obligation Yields" plus 100 basis points, provided, however, that if the ten year "Aaa (pure)" rate is no longer provided by Municipal Market Data, the rate to be used in its place shall be that rate which most closely replicates such rate, as agreed to by the Corporation and TxDOT; provided further however, that the rate of interest shall never exceed the Maximum Rate (as defined in the Toll Equity Loan Agreement). Such rate shall be established using the rate most recently published prior to the time of each advance. Interest on this note shall be calculated on the basis of a 365 or 366-day year, as applicable.

All accrued and unpaid interest shall be payable on the first Business Day of each calendar month, but only to the extent that funds are available for such purpose within the TELA/Other Tier Payment Fund established pursuant to the Master Trust Agreement between the Corporation and the designated trustee bank (the "Trustee") (the "Master Trust Agreement").

Interest payments made by the Corporation on account of each advance shall be recorded by or on behalf of TxDOT and endorsed on separate grids in the form attached hereto as Appendix B with a copy to the Corporation and the Trustee.

Accrued but unpaid interest for each advance shall be compounded semiannually on April 1 and October 1 of each year commencing on the first such date after the date of each advance, and such compounded amounts shall bear interest at the same rate applicable to such advance. The amount of compounded interest shall be endorsed on the grids for each such advance.

It is specifically provided, that the above principal and interest are payable solely from the sources and in the manner provided in the Master Trust Agreement, as supplemented. As so supplemented, the Master Trust Agreement is referred to herein as the "Trust Agreement."

This note is issued under and pursuant to a Resolution duly adopted by the Board of Directors of the Corporation (the "Bond Resolution") and pursuant to the Trust Agreement, executed counterparts of which Bond Resolution and Trust Agreement are on file at the designated payment office of the Trustee. Reference is hereby made to the Bond Resolution and the Trust Agreement for provisions thereof relating to this note, including the custody and application of the proceeds of Obligations issued under the Trust Agreement, the collection and disposition of revenues, the funds and accounts charged with and pledged to the payment of the interest on and the principal of this note, the nature and extent of the security, the terms and conditions on which this note is issued, the rights, duties, and obligations of the Corporation, and the Trustee, and the rights of TxDOT, and, by the acceptance of this note, the owner hereof assents to all of the provisions of the Trust Agreement.

The principal of and interest on this note are payable in lawful money of the United States of America, without exchange or collection charges. The payment of principal of and interest on this note shall be made by the Trustee to TxDOT on each payment date by, if requested by TxDOT, wire transfer to an account designated by TxDOT in the United States of America in an institution which has the wire services facilities of the Federal Reserve Bank, or, if not so requested, by check, dated as of such payment date, drawn by the Trustee on, in each case payable solely from, funds of the Corporation on deposit in the TELA/Other Tier Payment Fund created and maintained under the Trust Agreement with the Trustee for such purpose as hereinafter provided. If payment is made by check, such check shall be sent by the Trustee by United States mail, first-class postage prepaid, on each such payment date, to TxDOT.

All advances made that are evidenced by this note are subject to mandatory repayment prior to maturity on the first Business Day of each calendar month, but solely from and to the extent of funds available therefor held in the TELA/Other Tier Payment Fund created and maintained pursuant to the Trust Agreement. This note is subject to optional prepayment, in whole or in part, by the Corporation on any Business Day at a price of par plus accrued interest to the date of prepayment, upon at least two Business Days' notice to TxDOT specifying the date and amount of repayment. If any such notice is given, the amount specified in such notice shall be due and payable on the date specified therein, unless such notice is revoked by the Corporation on or prior to the prepayment date specified therein.

It is hereby certified, recited, and covenanted that this note has been duly and validly authorized, issued, and delivered; that all acts, conditions, and things required or proper to be performed, exist, and be done precedent to or in the authorization, issuance, and delivery of this note have been performed, existed, and been done in accordance with law; and that this note, is a special TELA/Other Tier Debt Obligation of the Corporation, payable solely from the sources and in the priority as is provided in the Trust Agreement.

TxDOT shall have no right to enforce the provisions of the Bond Resolution or the Trust Agreement or to institute action or enforce the covenants therein, or to take any action with respect to any Event of Default under the Trust Agreement, or to institute, appear in, or defend any suit or other proceeding with respect thereto, except as provided in the Trust Agreement and the Toll Equity Loan Agreement.

Modifications or alterations of the Trust Agreement or of any Supplemental Agreement may be made by the Corporation and the Trustee only to the extent and in the circumstances permitted by the Trust Agreement.

This note is a special limited obligation of the Corporation, payable from and secured by a lien on and pledge of the Trust Estate granted in the Trust Agreement, on a basis subordinate to that securing all First Tier Obligations, Second Tier Obligations and Subordinate Tier Obligations issued under the Trust Agreement, and on an equal and ratable basis with any TELA/Other Tier Obligations issued in accordance with the provisions of the Trust Agreement.

THIS NOTE AND THE INTEREST HEREON ARE SPECIAL OBLIGATIONS OF THE CORPORATION, DO NOT CONSTITUTE A DEBT OF THE STATE OF TEXAS, THE COMMISSION OR TXDOT OR A PLEDGE OF THE FAITH AND CREDIT OF THE STATE OF TEXAS, THE COMMISSION OR TXDOT. NONE OF THE STATE OF TEXAS, THE COMMISSION OR TXDOT IS OBLIGATED TO PAY THIS NOTE OR THE INTEREST ON THIS NOTE. THE CORPORATION IS NOT OBLIGATED TO PAY THIS NOTE OR INTEREST ON THIS NOTE FROM A SOURCE OTHER THAN THE AMOUNT PLEDGED TO PAY THE NOTE AND INTEREST ON THIS NOTE, AND NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE STATE OF TEXAS, THE COMMISSION OR TXDOT ARE PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF OR THE INTEREST ON THIS NOTE. THIS NOTE IS PAYABLE ONLY FROM THE SOURCES AS PROVIDED IN THE TRUST AGREEMENT.

TxDOT acknowledges all of the terms and provisions of the Bond Resolution and the Trust Agreement, agrees to be bound by such terms and provisions, acknowledges that the Bond Resolution and the Trust Agreement are duly recorded and available for inspection in the official minutes and records of the Board, and on file with the Trustee, and agrees that the terms and provisions of this note, the Bond Resolution, and the Trust Agreement constitute a contract between TxDOT, the Corporation, and the Trustee.

Pursuant to the requirements set forth in the Toll Equity Loan Agreement and as permitted by law, TxDOT shall have the right, in its sole discretion, to cancel this note by providing written notice thereof to the Borrower and the Trustee, which notice shall set forth the date for such cancellation.

Terms used in this note and not otherwise defined herein have the meanings given them in the Trust Agreement.

In witness whereof, the Corporation has caused this note to be signed with the manual or facsimile signature of the President of the Corporation and countersigned with the manual or facsimile signature of the Secretary of the Corporation and has caused the official seal of the Corporation to be duly impressed or placed in facsimile on this note.

______________________________	______________________________
Secretary/Treasurer	President
Grand Parkway Transportation Corporation	Grand Parkway Transportation Corporation

(GPTC SEAL)

<u>FORM OF TRUSTEE'S AUTHENTICATION CERTIFICATE</u>
TRUSTEE'S AUTHENTICATION CERTIFICATE

It is hereby certified that this note has been issued under the provisions of the Bond Resolution and the Trust Agreement described in this note.

U.S. Bank National Association,
Trustee

Dated:

By:______________________________
Authorized Representative

Appendix A

DISBURSEMENTS AND PAYMENTS OF PRINCIPAL[5]
ADVANCE NO.

Date	Amount of Advance	Compounded Interest Amount	Interest Rate	Amount of Principal Paid	Unpaid Principal Sum	Notation Made By

[5] This grid may be extended if the number of payments so requires. Each advance shall be recorded in a separate grid

Appendix B

INTEREST PAYMENTS[1]
ADVANCE NO.

Date	Outstanding Principal Sum	Accrued Interest	Interest Repayment	Compounded Interest	Ending Balance of Accrued Interest

[END OF FORM OF NOTE]

[1] Interest on each advance shall be recorded in a separate grid.

APPENDIX B

SCHEDULE OF MAXIMUM AVAILABLE ANNUAL AMOUNTS

Fiscal Year End (Aug 31)	Toll Equity Loan Maximum Available Annual Amount
2014	$ 3,109,364.00
2015	17,632,286.00
2016	35,370,268.00
2017	69,128,873.00
2018	115,361,530.00
2019	116,881,530.00
2020	118,667,530.00
2021	120,147,530.00
2022	120,981,530.00
2023	166,027,780.00
2024	269,511,479.00
2025	199,855,318.00
2026	201,487,632.00
2027	203,331,150.00
2028	205,363,747.00
2029	207,206,260.00
2030	211,097,735.00
2031	226,468,940.00
2032	236,491,556.00
2033	244,249,037.00
2034	257,142,974.00
2035	270,303,810.00
2036	281,436,738.00
2037	289,387,258.00
2038	298,980,719.00
2039	304,461,056.00
2040	307,224,020.00
2041	309,008,225.00
2042	308,072,519.00
2043	287,509,340.00
2044	243,463,612.00
2045	309,508,410.00
2046	307,070,585.00
2047	301,161,395.00
2048	299,492,190.00
2049	292,563,770.00

Fiscal Year End (Aug 31)	Toll Equity Loan Maximum Available Annual Amount
2050	280,400,710.00
2051	457,303,300.00
2052	557,252,667.00
2053	549,885,627.00
Total	**$ 9,600,000,000.00**

APPENDIX C

CERTIFICATE OF BORROWER RE ADVANCES

The undersigned, a Corporation Representative as such term is defined in that certain Amended and Restated Toll Equity Loan Agreement (the "Agreement") dated as of May 16, 2018, by and between the Texas Department of Transportation ("TxDOT") and the Grand Parkway Transportation Corporation ("Borrower"), hereby certifies on behalf of the Borrower with respect to the advance requested by the Trustee pursuant to Section 2.03 of the Agreement, as follows:

(a) The Trustee has no amounts or insufficient amounts on deposit that are available for payment of capitalized interest on the [________][1] for the period for which an advance is hereby requested to the extent that any portion of the advance will be used to pay interest on such bonds.

(b) Borrower has accessed and depleted all funds held in the Revenue Fund, the applicable Debt Service Funds, the Junior Operation and Maintenance Fund, the Operation and Maintenance Reserve Fund, the Major Maintenance Fund, the Rate Stabilization Fund and the Grand Parkway Enhancement Fund for the purposes permitted therefor under the Trust Agreement and the Agreement.

(c) The requested advance under the Toll Equity Loan Commitment will not be used to pay (i) the redemption price of any TELA Project Debt due as a result of the Borrower's election to optionally redeem such TELA Project Debt or (ii) the purchase price of any TELA Project Debt due as a result of any optional or mandatory tender of such TELA Project Debt.

(d) The requested advance under the Toll Equity Loan Commitment is no greater than the Maximum Permitted Amount.

(e) The requested advance under the Toll Equity Loan Commitment when added to other amounts advanced under the Toll Equity Loan Commitment during the current Draw Period will not exceed the Maximum Available Annual Amount for such Draw Period.

(f) The requested advance, when added to the amount of all prior advances under the Toll Equity Loan Commitment will not exceed the aggregate amount of Eligible Costs.

(g) Documentation required by Section 2.03 of the Agreement is attached hereto if the requested advance, when added to the amount of all prior advances under the Toll Equity Loan Commitment, exceeds the aggregate of amounts expended or incurred by the Borrower for Major Maintenance Expenses and Operating Expenses, and for Project Costs (and therefore relates to amounts anticipated to *be* expended).

[1] (Insert the name of the applicable series of bonds, as applicable.)

(h) The aggregate amount of Major Maintenance Expenses and Operating Expenses expended or incurred, and Project Costs expended or incurred, by the Borrower as of the date of the requested advance under the Toll Equity Loan Commitment is $

Capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to such terms in the Agreement.

Dated: _________, ____.

GRAND PARKWAY TRANSPORTATION CORPORATION

By: _______________________________________

Its: _______________________________________

APPENDIX D

PROJECT BUDGET

GRAND PARKWAY TRANSPORTATION CORPORATION
Capital Construction Budget - Segments D through G

$ Thousands

Total Project Costs (Nominal)		Amount $000s
Segments D and E	$	387,517
Segments F1, F2, and G		
Construction - ZOPB		1,103,493
Management, Oversight & Mtl Testing		41,447
Right-of-Way Acquisition		565,939
Toll Integration Costs		37,910
Total Segments F1, F2, and G	$	1,748,789
Total Segments D-G	$	2,136,306
Segments H&I Pre-Development2		
H&I Pre-Development		150,000
Total Segments H&I	$	150,000
SH 249 Direct Connects (GPTC Portion)	$	30,000
Total Construction Costs	$	2,316,306
Other Costs		
HCTRA - ROW/Constr/Other3		102,772
Project Contingency		58,456
Total Other Costs	$	161,228
Total Project Costs, before Financing Costs	$	2,477,534

GRAND PARKWAY TRANSPORTATION CORPORATION
Capital Construction Budget - Segments H&I

$ Thousands

Total Project Costs (Nominal)			Amount $000s
Segments H, I-1 & I-21			
	Design-Build Agreement Costs	$	894,702
	Right-of-Way Acquisition		330,000
	Toll Equipment & Integration		32,000
	Environmental Mitigation		24,000
	TxDOT Agency Costs		53,742
	Other TxDOT Costs		110,000
Total Project Costs, before Financing Costs		$	**1,444,444**

GRAND PARKWAY TRANSPORTATION CORPORATION

Draft Project Budget Summary (All Projects)

$ Thousands

Total Project Costs (Nominal)	
Total Construction	$ 3,921,978
O&M and Tolling	4,373,050
Major Maintenance and Rehabilitation	2,138,148
Total Project Budget	$ 10,433,175

GRAND PARKWAY TRANSPORTATION CORPORATION

Total Jr. Operations and Maintenance and Major Maintenance Expenses

$ Thousands

Year	Junior O&M (D-G)	Junior O&M (249 DC)	Major Maintenance (D-G)	Major Maintenance (249 DC)	Major Maintenance (H and I)
2014	3,109	-	-	-	-
2015	5,547	-	-	-	-
2016	14,403	-	-	-	-
2017	26,716	-	-	-	-
2018	36,428	-	7,564	-	-
2019	37,948	-	11,491	-	-
2020	39,734	-	5,001	-	-
2021	41,214	-	5,001	-	-
2022	42,048	-	-	-	-
2023	43,163	-	0	-	4,852
2024	43,731	60	11,447	-	-
2025	44,879	61	1,685	-	408
2026	46,498	65	35,965	2,503	1,635
2027	48,330	66	24,142	-	18,215
2028	50,349	68	(0)	-	6,272
2029	52,180	69	11,466	-	1,983
2030	54,009	71	1	-	1,505
2031	56,027	75	19,072	196	1,067
2032	57,679	77	2,036	-	11,002
2033	60,099	79	4,181	-	5,680
2034	62,609	80	16,759	-	79
2035	64,815	82	0	-	279
2036	67,055	87	45,953	3,283	447
2037	69,092	89	31,665	-	24,146
2038	71,617	91	(0)	-	70,163
2039	73,504	93	2,463	-	361
2040	75,563	95	5,056	-	739
2041	78,149	101	16,226	-	-
2042	80,246	103	(0)	-	35,342
2043	82,905	105	-	-	-
2044	85,226	108	153,142	-	-
2045	87,252	110	-	-	-
2046	89,007	116	356,202	5,506	437
2047	91,002	119	47,640	-	29,589
2048	93,897	122	(0)	-	9,256
2049	95,971	124	-	-	-
2050	97,812	127	-	-	-
2051	99,857	134	34,094	-	-
2052	101,703	137	(1)	-	295,387
2053	103,690	140	3,600	-	11,474
2054	105,734	144	45,729	-	1,080
2055	108,004	147	-	-	-
2056	109,965	155	70,096	7,210	-
2057	111,708	158	54,479	-	37,647
2058	114,157	162	(0)	-	11,304
2059	116,124	165	25,874	-	-
2060	117,428	169	4,354	-	639
2061	119,658	178	76,840	-	1,306
2062	116,125	182	-	-	71,730
2063	118,789	186	-	-	-
2064	120,968	191	46,354	-	-
2065	123,072	195	-	-	-
2066	125,549	199	86,745	9,457	-
2067	127,059	204	76,711	-	104,516
2068	128,327	208	10,679	-	1,739
2069	129,608	213	-	-	-
Totals	**4,367,339**	**5,711**	**1,349,710**	**28,156**	**760,282**

APPENDIX E

FORM OF CERTIFICATE OF BORROWER RE SATISFACTION OF SECTION 3.02 CONDITIONS

The undersigned, a Corporation Representative, as such term is defined in that certain Amended and Restated Toll Equity Loan Agreement (the "Agreement") dated as of May 16, 2018, by and between the Texas Department of Transportation and the Grand Parkway Transportation Corporation (the "Borrower"), hereby certifies for and on behalf of the Borrower that (i) the conditions set forth in Section 3.02(a) of the Agreement have been satisfied or waived, (ii) the representations and warranties given by the Borrower in the Agreement are true and correct in all materials respects on and as of the dates specified in Section 3.02(b) of the Agreement, (iii) there has been no default or event of default described in Section 3.02(c) of the Agreement such that the condition precedent in such Section is not satisfied, and (iv) no event, development, or circumstance as to the Borrower described in Section 3.02(d) of the Agreement has occurred or become known to the Borrower.

Dated: ______________________, 20__

GRAND PARKWAY TRANSPORTATION CORPORATION

By: ____
Its: ____

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APPENDIX F

2017 TRAFFIC AND REVENUE STUDY

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GRAND PARKWAY TRANSPORTATION CORPORATION'S GRAND PARKWAY SYSTEM (SH99) SEGMENTS D THROUGH I COMPREHENSIVE TRAFFIC & REVENUE STUDY

September 2017

PREPARED FOR:

Grand Parkway Transportation Corporation

Texas Department of Transportation

CDM Smith

9430 Research Boulevard, Suite 1-200
Austin, TX 78759
tel: 512 346.1100

September 8, 2017

Ms. Kristi Flagg, P.E.
Procurement Section Lead
Project Finance, Debt & Strategic Contracts Division
Texas Department of Transportation
7745 Chevy Chase Drive
Building 5 Suite 300
Austin, TX 78752

Re: Grand Parkway System Segments D through I Comprehensive Traffic and Revenue Study

Dear Ms. Flagg:

CDM Smith is pleased to submit this report of our update to the Comprehensive traffic and toll revenue (T&R) study for the Grand Parkway System Segments D through I. This report provides an update to the T&R for Grand Parkway Transportation Corporation (GPTC)'s existing Grand Parkway System including Segments D (Harris County), E, F-1, F-2 and G and the contemplated addition of Segments H, I-1, I-2A and I-2B. The report summarizes the results of the study, which included development of traffic and toll revenue estimates for the entire expanded Grand Parkway System (Segments D through I) from 2016 through 2064. As part of this study, CDM Smith updated the June 2013 Comprehensive T&R estimates for GPTC's existing Grand Parkway System (Segments D through G). This update included the incorporation of the recent observed socioeconomic trends within the Houston region and the revisions to T&R estimates based on observed traffic along the existing open segments of the project.

Our project team, including Yagnesh Jarmarwala, Phani Jammalamadaka, Ruoyu Liu, Naveen Mokkapati, Parth Patel, Rohan Shah, Ajay Jadhav and others gratefully acknowledge the assistance and cooperation received from TxDOT staff, as well as others contacted during the course of the study. CDM Smith sincerely appreciates the opportunity to have participated in this important project.

Respectfully submitted,

Christopher E. Mwalwanda
Vice President
CDM Smith Inc.

cc: Brian Ragland, President, GPTC

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Disclaimer

CDM Smith used currently accepted professional practices and procedures in the development of these traffic and revenue estimates. However, as with any forecast, it should be understood that differences between forecasted and actual results may occur, as caused by events and circumstances beyond the control of the forecasters. In formulating the estimates, CDM Smith reasonably relied upon the accuracy and completeness of information provided (both written and oral) by the Texas Department of Transportation (TxDOT). CDM Smith also relied upon the reasonable assurances of independent parties and is not aware of any material facts that would make such information misleading.

CDM Smith made qualitative judgments related to several key variables in the development and analysis of the traffic and revenue estimates that must be considered as a whole; therefore, selecting portions of any individual result without consideration of the intent of the whole may create a misleading or incomplete view of the results and the underlying methodologies used to obtain the results. CDM Smith gives no opinion as to the value or merit of partial information extracted from this report.

All estimates and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple agencies, including TxDOT. These estimates and projections may not be indicative of actual or future values, and are therefore subject to substantial uncertainty. Future developments cannot be predicted with certainty, and may affect the estimates or projections expressed in this report, such that CDM Smith does not specifically guarantee or warrant any estimate or projection contained within this report.

While CDM Smith believes that the projections or other forward-looking statements contained within the report are based on reasonable assumptions as of the date of the report, such forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this report, CDM Smith will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to socioeconomic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transportation network.

CDM Smith is not, and has not been, a municipal advisor as defined in federal law (the Dodd Frank Bill) to TxDOT and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to TxDOT with respect to the information and material contained in this report. CDM Smith is not recommending and has not recommended any action to TxDOT. TxDOT should discuss the information and material contained in this report with any and all internal and external advisors that it deems appropriate before acting on this information.

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Appendices

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Chapter 1

Introduction

CDM Smith was requested to undertake a comprehensive traffic and revenue update (Level 3 T&R Update Study) of the Grand Parkway Transportation Corporation's (GPTC) expanded Grand Parkway System (Segments D through I[1]) between IH 10 in the western greater Houston region and SH 146 west of Baytown. This study includes updates to the travel demand models from the June 2013 Grand Parkway Segments D through G Comprehensive T&R Study and also assumes the opening of the new proposed Segments H and I. The study also incorporated most recent observed T&R trends along open sections of the existing Grand Parkway System (Segments D through G) and reflects the most recent regional planned networks and socioeconomic datasets developed for the Houston region. Construction of the new Grand Parkway Segments H and I traversing Liberty and Chambers counties is expected to improve mobility in the greater Houston region and serve as a critical part of the overall Grand Parkway outer loop providing connectivity between US 59, US 90, IH 10 and SH 146. The study provides T&R estimates for the proposed Segments H and I and updated forecasts along the existing Segments D through G to reflect the additional regional connectivity from the new proposed segments.

The current T&R study utilized a combination of the comprehensive traffic count and travel time data collected along Segments H and I corridor in late 2014, and the traffic count collection efforts undertaken in May/June 2016 within the Segments D through G corridor and along Segments H and I. Additionally historical traffic data for several locations near the Segments H and I corridors were also used for estimating growth rates and screenline volumes for 2016. The socioeconomic growth potential of the region and study corridor were updated in 2016 by an independent local economist (Community Development Strategies, CDS), and inflation adjustments were made to the value of time (VOT) parameters and other factors affecting toll road utilization sensitivity. CDM Smith also examined project-specific toll sensitivity and the estimated sensitivity of T&R to changes in future variables and key assumptions.

CDM Smith has undertaken numerous feasibility T&R studies for the proposed Grand Parkway Segments D and G included several prior T&R studies for various segments of the Grand Parkway project performed on behalf of the Texas Department of Transportation (TxDOT). These studies were followed by a comprehensive T&R study that was completed in June 2013 to support the financing of the Segments D through G in August 2013 on behalf of the GPTC.

The current study is a Level 3 Update of the Grand Parkway Segments D through I T&R to support the financial evaluation of the project. Segment I-2 is comprised of Segments I-2A and I-2B, and Segment I-2A is already open. The study assumed commencement of operation of Segments H, I-1 and I-2B by May 9, 2022 with toll collection starting on the same date.

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[1] All references to Segment I in this report refer to Segments I-1 and I-2, collectively. Segment I-2 is comprised of Segments I-2A and I-2B.

1.1 Study Objectives

The objective of this study is to develop revised baseline comprehensive long-range revenue forecasts for the existing Grand Parkway System (Segment D through G) and estimates for the proposed Grand Parkway System expansion (Segments H and I) to the existing Grand Parkway System. The study includes the development of the model platforms to enable the generation of traffic and revenue (T&R) forecasts for the entire expanded Grand Parkway System (Segments D through I). The forecasts reflect the latest socioeconomic growth assumptions, updated assumptions on future highway improvements for the Houston region, current performance along the opened Grand Parkway System segments, and updated assumptions regarding future toll levels and other key influential variables.

1.2 The Grand Parkway Project

The eight-county region surrounding Houston has historically seen significant population growth over a sustained period. The region added almost 1 million people between 1970 and 1980 and although the rate of growth was substantially reduced by a major economic recession and restructuring which followed in the mid-1980's, the greater Houston region emerged as a much more diverse economy. Strong growth resumed in the 1990's and through the beginning years of the 21st century. According to the US Census Bureau, about 4.0 million people lived in Harris County in 2010, and over 4.5 million people were estimated to live in the county by 2015. Overall, the Houston-Galveston Area Council (H-GAC) estimated nearly 6.7 million residents in the total eight-county region by 2016 (6.5 million residents estimated in 2015). The Grand Parkway is planned to be Houston's third circumferential highway, extending approximately 180 miles in length around the metropolitan area. The roadway begins at SH 146 in Baytown proceeding west, north, east and south around the city. It is divided into nine segments for purposes of analysis with several segments subdivided into sub-segments. The entire Grand Parkway Project will, upon completion, traverse seven of the eight counties in the region, i.e. Galveston, Brazoria, Fort Bend, Harris, Montgomery, Liberty and Chambers.

1.3 Background and Needs

In recent years, the most rapidly growing counties have been Montgomery and Fort Bend near Segments D through G, recently averaging growth of approximately 4 to 6 percent per year. Both of these counties, which had populations in the range of 50,000 residents in 1970, have now grown by nine to tenfold. Similarly, Liberty and Chambers counties near Segments H and I, are anticipated to experience significant population growth in households at average annual rates of 4.2 percent and 3.4 percent respectively between 2015 and 2035. Historically these have both experienced annual growth rates of 2.1 percent and 2.7 percent respectively from 1970 to 2010.

This growth has resulted in ever-increasing traffic demands and the need for additional capacity and highway improvement projects particularly outside the City of Houston. Several of these projects have been identified for implementation by TxDOT, including a possible extension of the IH 10 Katy Tollway Managed Lanes to the west, an extension of the existing SH 249 Freeway in the northwestern part of the region, a new toll facility along the SH 35 corridor between Hobby Airport and Alvin and future managed toll lanes along IH 45 between downtown Houston and Montgomery County. According to Forbes, the Port of Houston, at the southern termini of the

Segment I, ranks first in international waterborne tonnage and second in domestic total cargo tonnage.

Figure 1-1 illustrates the current study corridor to reflect the limits and tolling commencement dates of the existing open Segments D through G and the proposed new Segments H and I.

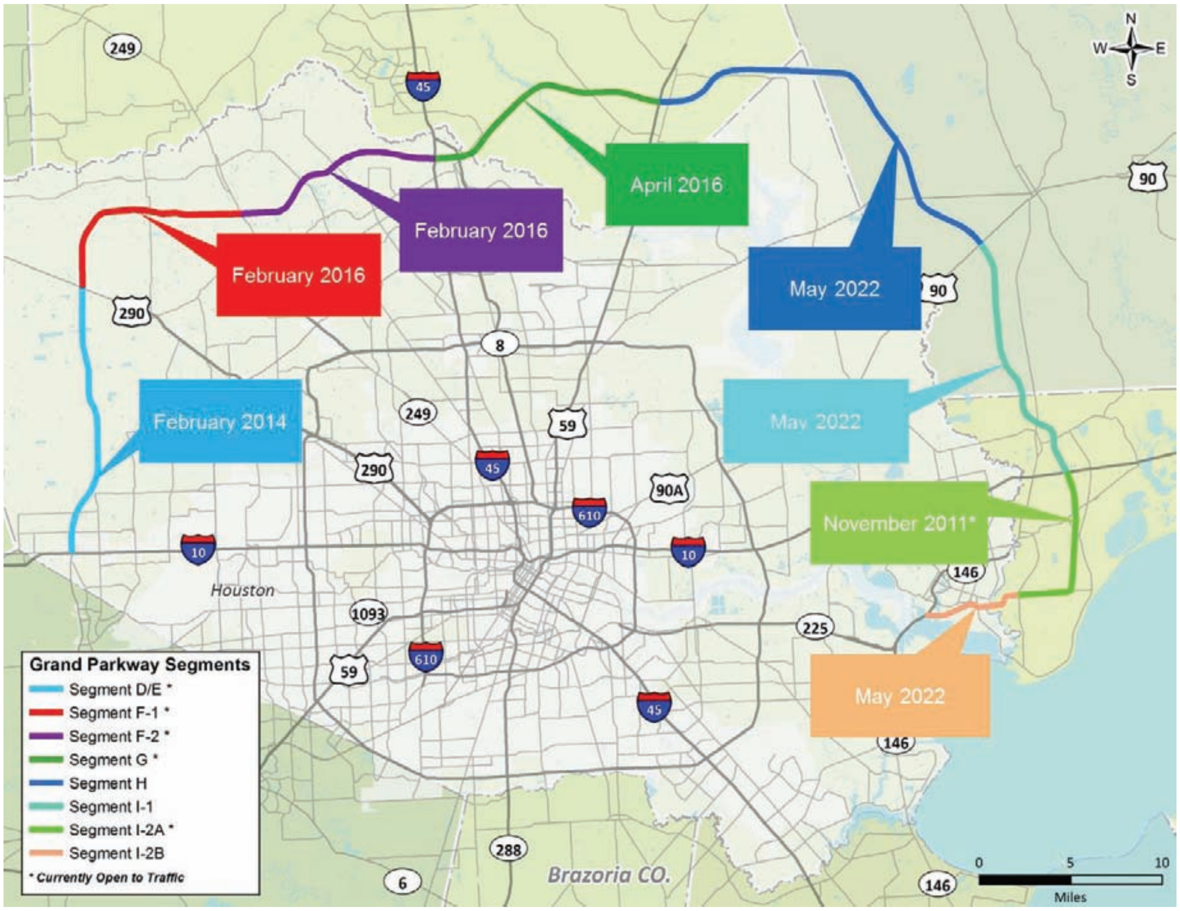


Figure 1-1
Grand Parkway Segments D through I Project Location Map

The Houston region has become a toll road success story; Harris County and more recently Fort Bend County have very successfully used toll road financing in the construction of new highway capacity to significantly enhance regional mobility. A review of the historical performance of these toll facilities illustrates the widespread acceptance of toll roads by the local population through the high ownership of toll transponders and rapid observed growth that has and continues to materialize along each of the respective facility corridors. Almost all of the regional tolled facilities/segments experienced a doubling of full first-year traffic within about ten years, and in some cases almost a tripling of the full first-year traffic. This significant ramp-up of toll-paying traffic has been driven by the socioeconomic growth outside the Sam Houston Beltway and the growing understanding of the travel time saving benefits that these toll facilities provide. **Figure 1-2** summarizes the existing and currently proposed future toll facilities in the Houston area in relation to the Grand Parkway corridor.

The Harris County Toll Road Authority (HCTRA), Fort Bend County Toll Road Authority (FBCTRA) and Fort Bend Grand Parkway Toll Road Authority (FBGPTRA) operate several other toll roads within the Houston region. HCTRA operates Beltway 8, Hardy Toll Roads and Tomball Tollway. FBCTRA built and financed the Fort Bend Parkway, the Westpark Tollway and the existing Westpark Extension and FBGPTRA operates the Grand Parkway Segment D (Fort Bend County portion). Several other potential toll roads are at various planning stages in Fort Bend County including part of Grand Parkway Segment C.

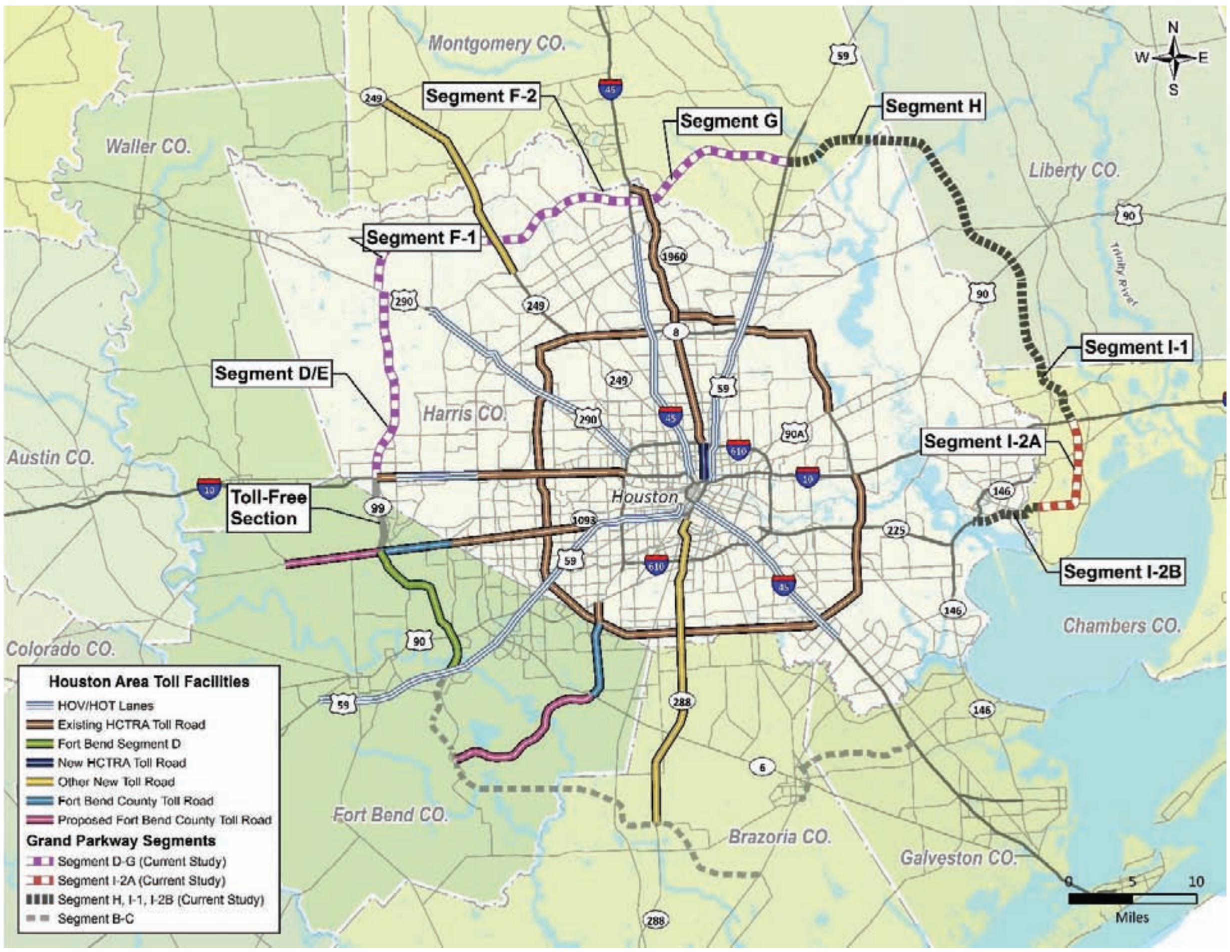


Figure 1-2
Houston Area Toll Facilities – Existing and Proposed

Most recently, the economic growth along the western edges of the Houston metropolitan area has been accommodated through the construction of additional capacity with the Westpark Tollway extension and the Katy Tollway. The original Westpark Tollway, however, began reaching capacity during peak hours within a few years of opening due to the economic growth that continues to occur within the region. The Katy Tollway managed lanes are a part of the upgraded Katy Freeway system that has provided significant additional toll and toll-free capacity to the I-10 Katy corridor. The demand for the managed lanes, particularly outside the Beltway, has exceeded all expectations and the region now has six operating tolled managed lanes along several key radials within the Houston region.

1.3.1 New Proposed Segments Description

The proposed Segments H, I-1 and I-2 traverse Montgomery, Harris, Liberty and Chambers counties over a distance of approximately 52 miles. These three segments, which will become an extension of GPTC's existing Grand Parkway System, lie to the north and east of downtown Houston, providing connectivity between US 59, US 90, IH 10 and SH 146. The Segments H and I-1 will be constructed as a two-lane controlled access toll road with infrequent, discontinuous frontage roads along its alignment. The engineering design accommodates the eventual future expansion to four lanes, subject to further approval and as warranted. The proposed Segment I-2 will be constructed as a four-lane controlled access toll road. This study also evaluated sensitivity test scenario where Segment H-West (from US 59N to Huffman/Cleveland Road) is operational with four mainlanes from 2022 onwards.

For the purposes of this T&R study, tolls were assumed to be collected by electronic toll collection (ETC) across the entire Grand Parkway corridor. Full details of project configuration, phasing, assumed toll rates and rates of escalation are provided in Chapter 4. The T&R analysis was undertaken in this study based on the actual transactions and revenue information from Segments D, E, F and G through November 2016. It is worth noting that the Segments A, B and C were not included as part of any build option being considered for this analysis. The following provides some additional details on each proposed segment to be added to the existing Grand Parkway System:

- Segment H of the Grand Parkway is approximately 22.9 miles in length and lies between US 59 and US 90 in Montgomery, Harris and Liberty counties. It connects to Segment G at its western terminus and to Segment I-1 at its eastern terminus. Cross-street access to the mainlanes will be provided at US 59, Galaxy Boulevard (future), Huffman/Cleveland Road, Miller Wilson Road (future), Community Dr. (future), Wolf Trot Road (future), Kingwood Dr. (future), FM 686, FM 1960 and US 90.

- Segment I-1 of the Grand Parkway is approximately 14.7 miles long and operates between US 90 and IH 10 in Liberty and Chambers counties. It connects to Segment H at its northern terminus and to Segment I-2 at its southern terminus. Cross-street access to the mainlanes will be provided at US 90, FM 1413, SH 146, FM 565 and IH 10.

- Segment I-2 of the Grand Parkway is approximately 14.4 miles long and operates between IH 10 and SH 146 in Chambers and Harris counties. It connects to Segment I-1 at its northern terminus and terminates at SH 146 at its southern end. Cross-street access to the mainlanes will be provided at IH 10, Kilgore Road, FM 565, Fisher Road, FM 1405, Tri-City Beach Road, Lee Drive, Wyoming Street and SH 146. Currently, a section of Segment I-2 from IH 10 to FM 1405 (referred herein as Segment I-2A) is operational as a four-lane controlled access toll facility (currently operated by TxDOT as a separate stand-alone facility). The frontage roads between FM 1405 and SH 146 are also currently operational and expected to remain in place.

1.4 Report Overview

The subsequent chapters of this report will present the methodologies, analyses, and results of this Level 3 T&R study update. The efforts of this study included an extensive data collection program consisting of traffic counts, speed and delay studies, market research on willingness-to-pay, local values-of-time (VOT) and an independent socio-economic analysis. Calibration of base traffic profiles to match existing conditions was completed using an update of the travel demand model, and the resulting model was used to generate the traffic and revenue forecasts.

Results from a toll sensitivity analysis are presented to display the estimated transactions and toll revenue for the Grand Parkway (Segments H and I) and the overall system for a range of toll rates.

This is followed by several sensitivity analyses that identify the impacts of changes in various key assumptions on the traffic and revenue forecasts and other scenarios related to reduced growth in the region. A scenario was also evaluated where the proposed Segment H-West (between US 59N and Huffman/Cleveland Road) is constructed with four mainlanes rather than the configuration with two lanes with passing lanes that was assumed in the base case scenario.

This Comprehensive Level 3 T&R Update Study is documented in the following chapters:

- Chapter 1: Introduction
- Chapter 2: Existing Traffic Characteristics
- Chapter 3: Economics and Growth
- Chapter 4: Traffic and Toll Revenue Estimates
- Chapter 5: Sensitivity Tests

Three appendices are also provided, detailing updated work undertaken by the independent economist, the results of the stated preference survey and additional information:

- Appendix A: Independent Economic Review, by CDS Market Research
- Appendix B: Stated Preference Survey Report, by RSG
- Appendix C: Additional Information

Chapter 2

Existing Traffic Characteristics

Understanding the current traffic conditions and traffic patterns along the existing Grand Parkway System (Segments D through G) and the proposed Segments H and I corridor and the roadway system within the surrounding study area is an important component of the study. An extensive data collection effort previously undertaken in 2012/2013 was updated with an additional series of data collection initiatives conducted at the request of GPTC in 2014 and 2016. Included in the data collection and update was the collection of automatic traffic recording (ATR) counts for seasonality and travel time studies to evaluate the congestion characteristics along key routes. The current study utilized the results of origin/destination and stated preference surveys previously collected along the Grand Parkway System corridor.

A series of spot traffic counts were conducted in order to obtain the most recent profiles of the traffic pattern information within the expanded Grand Parkway System (Segments D through G and proposed Segments H and I) study area. The full historical count data sample was reviewed and analyzed for use in the travel demand model calibration process. In addition, the toll transaction and revenue trends along the currently open sections of the Grand Parkway Segments D, E, F-1, F-2, G and I-2A were analyzed and incorporated in the base year travel demand model calibration as existing reveal preference data for these tolled segments.

The travel time data was collected during several time periods throughout the day were also used as part of the model calibration process. This chapter describes the data collection activities undertaken and presents the results of the update data collection efforts within the following key sections:

- Vehicle Miles Traveled
- Region-wide Annual Transaction and Revenue Trends
- Current Trends in Electronic Toll Collection (ETC) Utilization
- Historical Ramp-up for Houston Toll Roads
- Historical Traffic Volumes
- Traffic Counts Data Collection
- TxDOT Permanent Count Data
- Observed Traffic Trends along the Grand Parkway Existing Segment D, E, F-1, F-2, G and I-2A
- Travel Time Information
- Stated Preference Survey
- Origin-Destination Data

2.1 Vehicle Miles Traveled (VMT)

To effectively evaluate highway system usage, it is important to determine how many miles are driven within the overall geographic area each year and to develop year-over-year comparisons. An effective measure known as vehicle miles traveled or VMT is typically used to provide this overall summary. **Figure 2-1** shows the U.S. nationwide VMT from January 2006 to May 2016. **Figure 2-2** shows the State of Texas VMT over a similar decade period, which shows a relatively higher positive VMT growth than the US VMT.

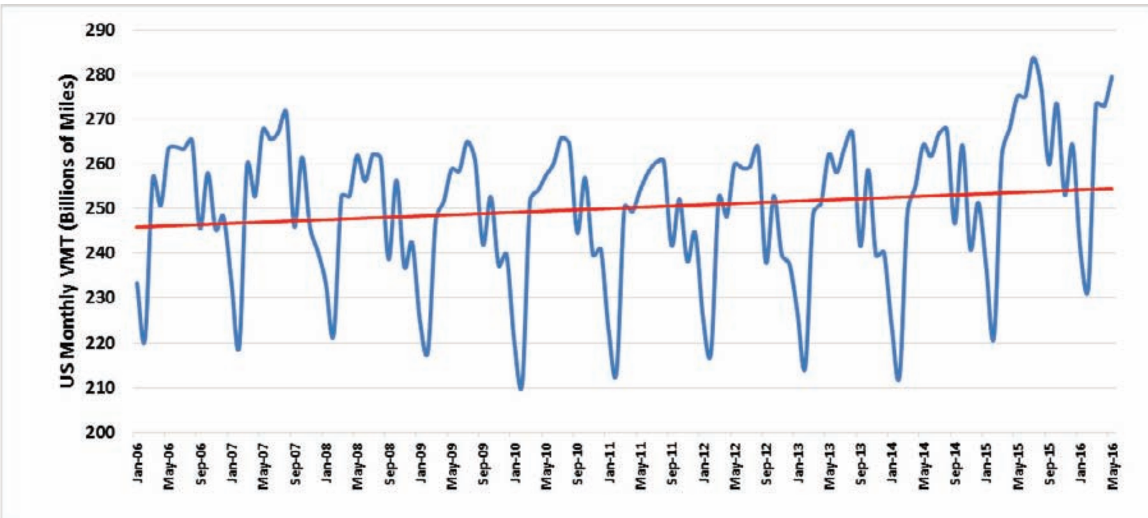


Figure 2-1
U.S. Nationwide VMT Trends

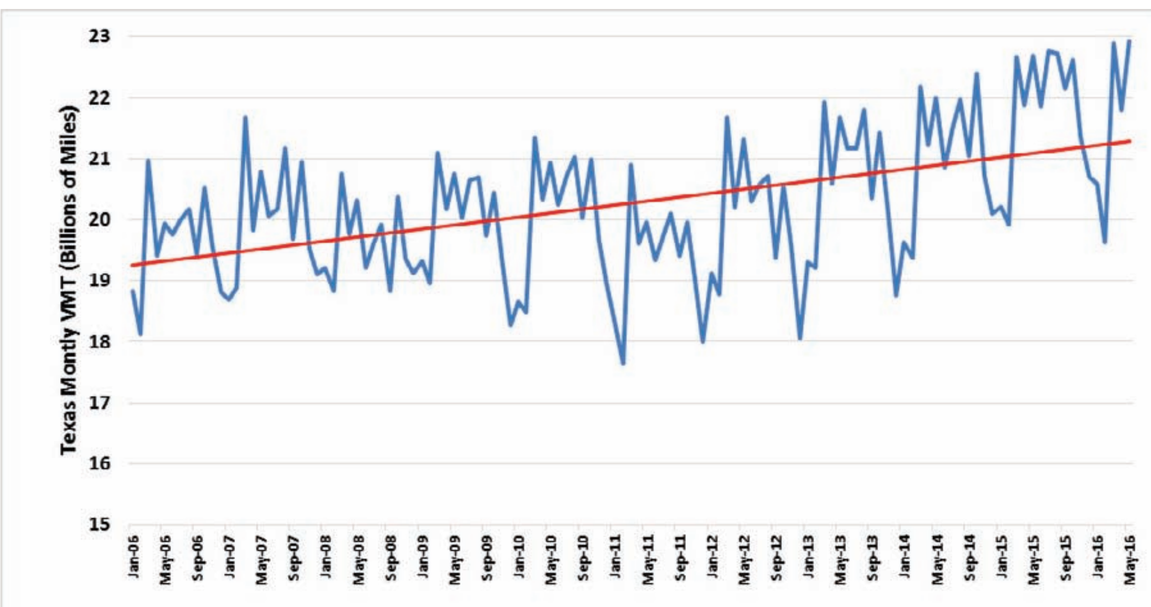


Figure 2-2
Texas VMT Trends

2.2 HCTRA Systemwide Annual Transactions and Revenue Trends

The following section provides a summary of the historical performance of the toll facilities operated by Harris County Toll Road Authority (HCTRA) for a perspective on the utilization and acceptance of tolled facilities within the region. These are comprised of the Sam Houston Toll Road, Hardy Toll Road, Westpark Tollway, Fort Bend Parkway and Katy managed lanes and their combined transactions and revenues that are currently part of the HCTRA system. **Figure 2-3** illustrates the annual growth trends of the HCTRA system from fiscal year 1989 to fiscal year 2015. It is important to note that the HCTRA fiscal year runs between March and February (i.e. FY 2014 is March 2013 through February 2014). As seen in the figure, both transactions and revenue steadily increased from approximately 38 million transactions and $29 million in revenue in 1990 to almost 480 million transactions and more than $680 million in toll revenue in 2015. This is an average annual growth rate of nearly 11.0 percent for transactions and 13.0 percent for revenue during that 25-year period. In 2009, transactions dropped by almost six percent, due to the recession and hurricane Ike but have since increased.

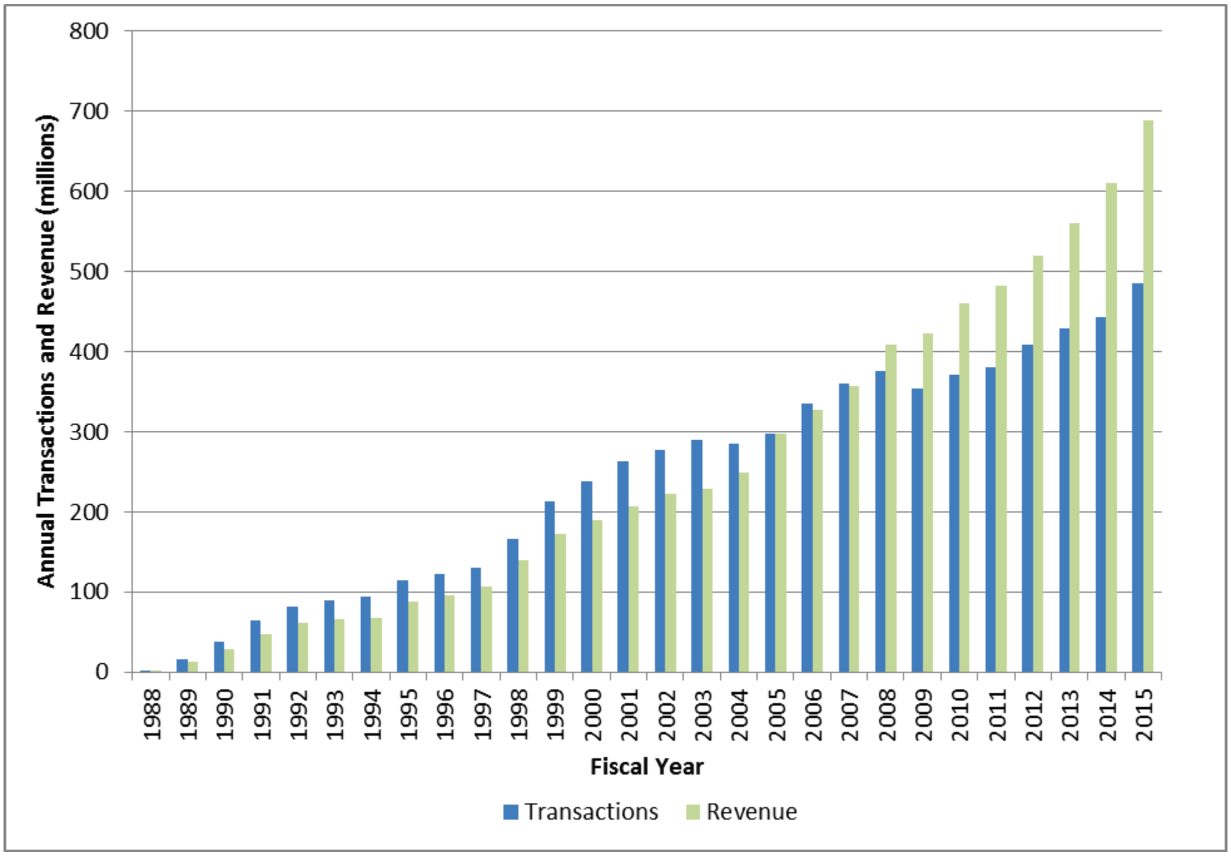


Figure 2-3
Region wide Annual Transaction and Revenue Trends (HCTRA)

2.3 Trends in ETC Utilization

Usage of ETC has been steadily increasing over the years along HCTRA facilities. The HCTRA transactions and revenues were 46 percent ETC in 2003 and by 2006 had grown to over 63 percent. As of 2015, the ETC share has continued to grow to 73 percent of the transactions and 78 percent of revenue collected as shown in **Figure 2-4.**

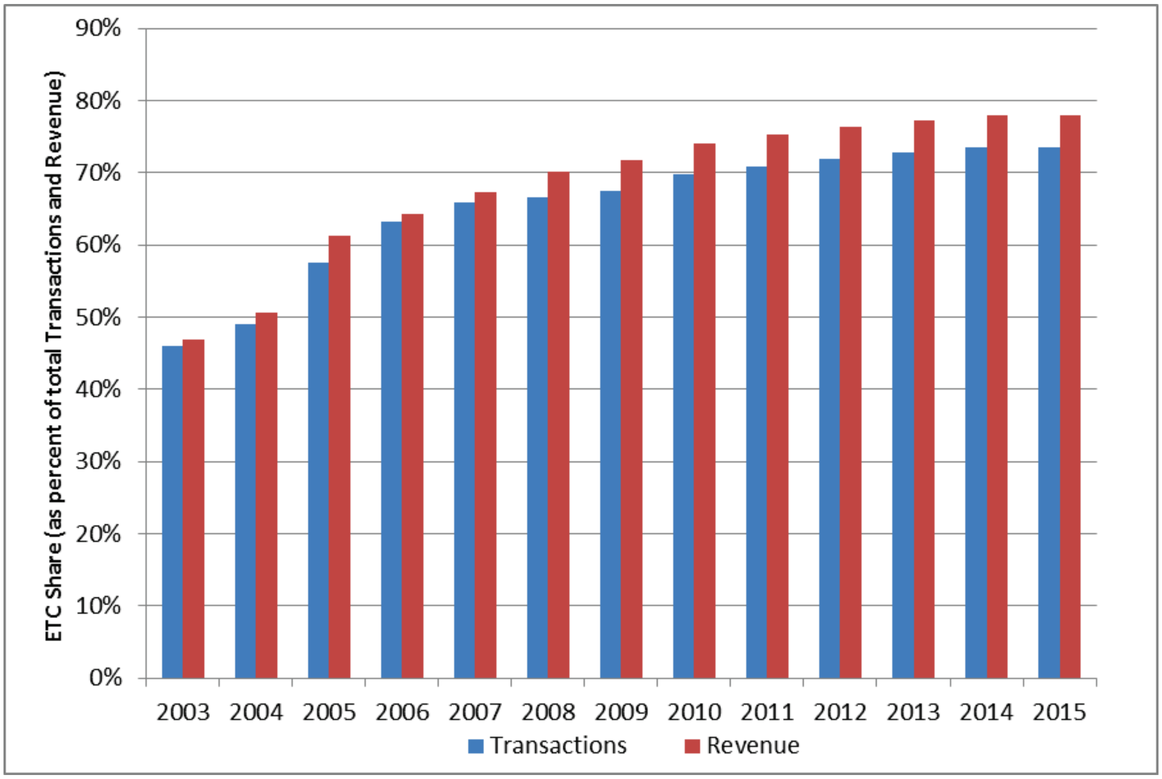


Figure 2-4
Trends in ETC Utilization

2.4 Historical Ramp-Up for Houston Toll Roads

When a new toll facility first opens, potential users are not immediately aware of the facility or the benefit from its use. Gradually over time drivers become aware of the new roadway and its benefits thus resulting in more pronounced usage increases towards the modeled/forecasts trends. **Figure 2-5** illustrates, the historical revealed traffic “ramp-up” that occurred along eight Houston Area toll facility sections.

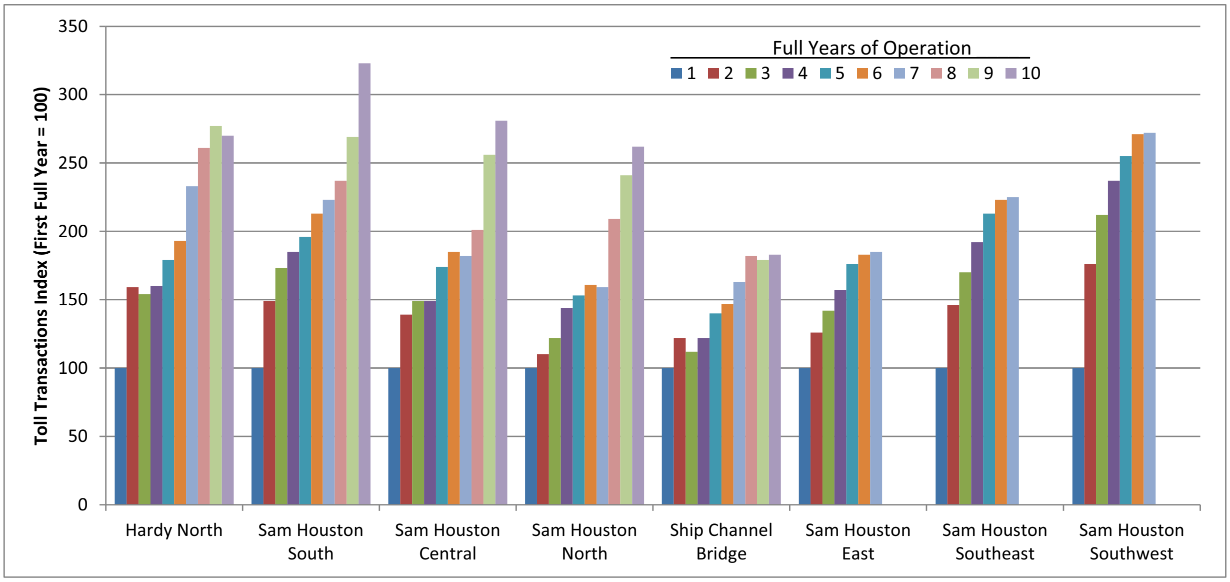


Figure 2-5
Ramp-Up of Houston Region Toll Transactions

Significant growth was observed during the first five years of operation, as people become familiar with the facility, before normal growth occurs (from new development, population increases, heavier congestion on free-road alternatives, etc.).

Figure 2-6 shows the captured initial years transactions as a percentage of the fifth year transactions for the existing Houston Area toll facilities. In most cases, the transactions in the first year ranged between 50 and 70 percent of the fifth year transactions. By the second year, transactions increased to between 70 percent and nearly 90 percent of the fifth year levels. The increases tapered off in the fourth year whereby the transactions on almost all of the facilities approached or exceeded 90 percent of fifth year levels indicating a normal growth profile beyond the ramp-up period.

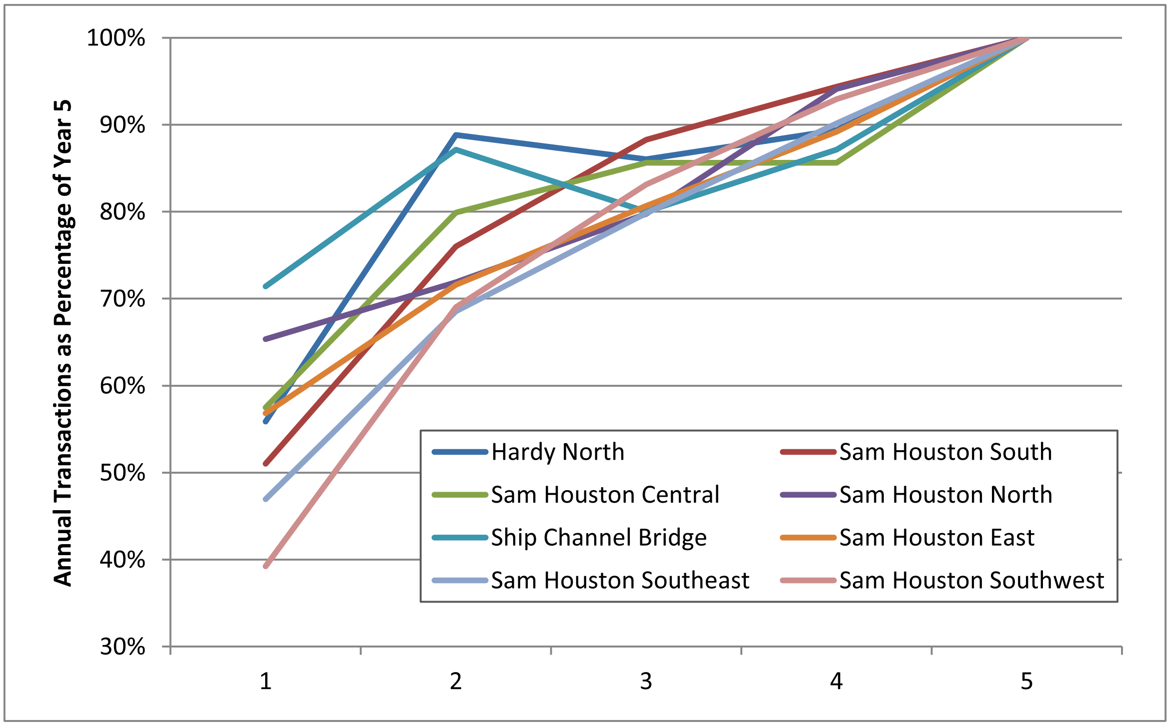


Figure 2-6
Ramp-Up Trends as a Percentage of Fifth Year Transactions

Based on the experience of toll road authorities with toll facilities that had been open for more than five years, the growth in usage of the Houston Area toll roads has been historically very high during the first five years of operation (and beyond). Two of the roadways, Sam Houston Southeast and Sam Houston Southwest, both more than doubled their toll transactions over the first five years of operation. Transactions along Sam Houston South increased by 96 percent in the first five years. For three other facilities (Hardy North, Sam Houston Central, and Sam Houston East), the transactions increased by over 70 percent during this period, while transactions along Sam Houston North grew by over 50 percent during the first five years.

2.5 Historical Traffic Volumes

The Texas Department of Transportation (TxDOT) records the Average Annual Daily Traffic (AADT) volumes at several locations along many of the state roadways. CDM Smith obtained AADTs for 2001 to 2014 at several locations within the Grand Parkway Segment D through G corridor. The count locations and their respective growth trends over the last seven years are summarized in **Table 2-1** (included in a descending order of the count magnitude). As shown in the table, over the six years from 2008 to 2014, most of the locations within the Grand Parkway study area had low though positive growth in AADT. The traffic count trends from 2002 to 2014 at selected locations (that are shown in bold in **Table 2-1**) are further illustrated in **Figure 2-7**.

Table 2-1 Historical Traffic Count Locations (Segments D through G) 2008-2014 AADT

Count Location No.	Location	2008 ADT	2009 ADT	2010 ADT	2011 ADT	2012 ADT	2013 ADT	2014 ADT	2008-2014 Annual Growth
115	I-45 b/w Rayford Road and Hardy Toll N	219,000	228,000	224,000	257,000	253,000	257,700	240,000	1.5%
411	**I-10 b/w Katy Mills Boulevard and Katy Fort Bend Road**	**91,000**	**76,000**	**96,000**	**90,000**	**99,000**	**110,800**	**106,700**	**2.7%**
502	US 290 b/w Fairfield Place Drive and Mueschke Road	65,000	75,000	84,000	108,000	81,000	80,100	84,300	4.4%
312	SH 6 north of Briar Forest Drive	51,000	57,000	58,000	65,000	62,000	61,200	64,000	3.9%
305	**Grand Parkway South of Kingsland Blvd**	**65,000**	**68,000**	**70,000**	**68,000**	**69,000**	**51,300**	**60,700**	**-1.1%**
206	**SH 6 south of FM 529**	**48,000**	**45,000**	**45,000**	**53,000**	**52,000**	**51,000**	**38,000**	**-3.8%**
705	**FM 1960 east of Steubner Airline Road**	**46,000**	**37,000**	**45,000**	**46,000**	**49,000**	**48,000**	**45,000**	**-0.4%**
605	FM 1960 east of Jones Rd	47,000	43,000	46,000	44,000	47,000	45,700	45,100	-0.7%
403	**US 290 b/w Katy Hockley Road and Bauer Road**	**45,000**	**48,000**	**51,000**	**47,000**	**45,000**	**45,200**	**45,300**	**0.1%**
110	**FM 2920 b/w Dowdell Road and Boudreaux Road**	**21,000**	**19,800**	**21,000**	**23,000**	**25,000**	**26,000**	**28,400**	**5.2%**
702	FM 2920 east of Boudreaux Road	23,000	20,000	22,000	22,000	25,000	25,500	26,100	2.1%
601	FM 2920 east of Telge Road	21,000	21,000	21,000	23,000	24,000	24,900	23,500	1.9%
701	FM 1488 west of FM 2978	15,200	20,000	21,000	23,000	22,000	22,400	27,300	10.3%
119	FM 1314 b/w Gene Campbell Road and Rolling Hills Drive	16,600	15,300	14,400	16,100	17,000	19,300	18,900	2.2%
302	**FM 1463 north of Morgan Parkway**	**6,800**	**7,400**	**11,900**	**13,900**	**14,600**	**15,900**	**17,500**	**17.1%**
401	FM 2920 b/w Roberts Cemetary Road and Mueschke Road	8,200	10,000	8,300	9,400	9,400	9,400	9,700	2.8%

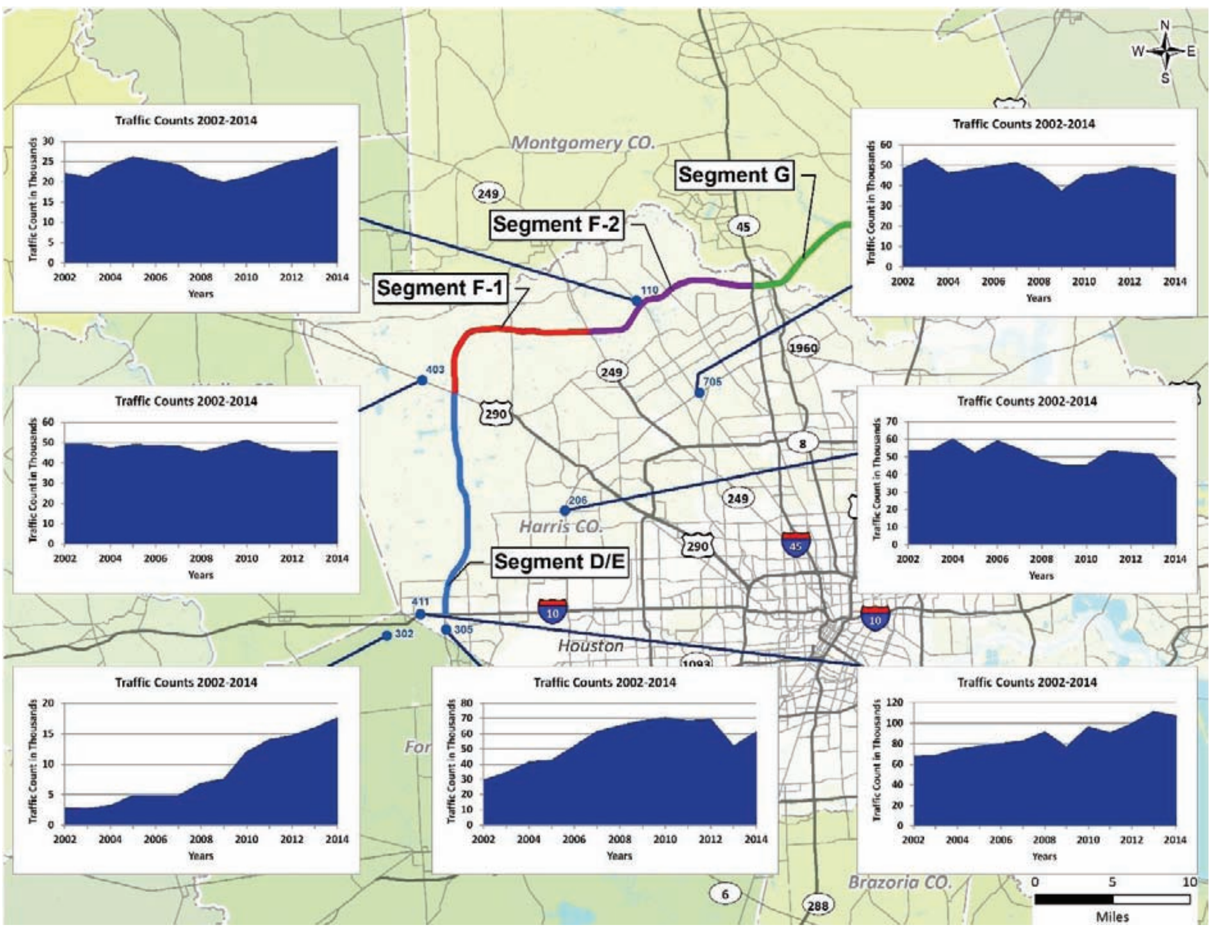


Figure 2-7
TxDOT Historical AADT Count Locations in Segments D through G

CDM Smith also obtained AADTs for several locations within the proposed Grand Parkway Segments H and I corridor for 2008 to 2014. The AADT growth trends for several key count locations over the last seven years are summarized in **Table 2-2**. Several additional locations were particularly chosen along SH 146 given its close proximity to Segment I. Over the six years from 2008 to 2014, most of the locations within the Grand Parkway corridor had low positive growth in AADT.

Table 2-2 Historical Traffic Count Locations (Segments H and I) 2008-2014 AADT

Count Location No.	Location	2007 ADT	2008 ADT	2009 ADT	2010 ADT	2011 ADT	2012 ADT	2013 ADT	2014 ADT	2008-2014 Annual Growth
10	**I-69/US 59 (Mainline/HOV) north of San Jacinto River**	**126,000**	**115,000**	**107,000**	**121,000**	**127,000**	**125,000**	**148,200**	**113,751**	**-0.2%**
3	**I-10 (East Fwy.) west of San Jacinto River**	**110,000**	**104,000**	**92,000**	**99,000**	**101,000**	**110,000**	**111,800**	**103,814**	**0.0%**
1	**SH 146 at San Jacinto River (Fred Hartman Bridge)**	**63,000**	**63,000**	**66,000**	**65,000**	**64,000**	**65,000**	**65,800**	**65,620**	**0.7%**
29	**I-69/US 59 north of SH 242**	**53,000**	**50,000**	**43,000**	**48,000**	**49,000**	**48,000**	**48,900**	**48,148**	**-0.6%**
39	**SH 330 north of Rollingwood Rd.**	**40,000**	**41,000**	**33,000**	**39,000**	**39,000**	**37,000**	**41,600**	**41,283**	0.1%
48	**SH 146 south of I-10/East Fwy.**	**34,000**	**32,000**	**33,000**	**29,000**	**29,000**	**30,000**	**38,900**	**26,893**	**-2.9%**
115	FM 1314 west of I-69/US 59	23,000	21,000	24,000	27,000	30,000	33,000	35,500	34,779	8.8%
6	**FM 1960 (Humble Huffman Rd.) west of Lake Houston**	**32,000**	**33,000**	**30,000**	**31,000**	**34,000**	**33,000**	**32,400**	**29,737**	**-1.7%**
4	**US 90 (Crosby Fwy.) east of San Jacinto River**	**29,000**	**28,000**	**32,000**	**26,000**	**32,000**	**31,000**	**30,600**	**30,660**	**1.5%**
60	**SH 146 north of I-10/East Fwy.**	**23,000**	**20,000**	**19,200**	**20,000**	**22,000**	**22,000**	**25,700**	**24,861**	3.7%
118	FM 1485 west of I-69/US 59	23,000	17,900	16,000	21,000	19,100	21,000	23,700	20,896	2.6%
74	FM 2100 (Crosby Landing Rd.) north of US 90	29,000	28,000	29,000	27,000	28,000	23,000	23,500	26,745	-0.8%
63	Crosby Landing Rd. south of US 90	19,600	19,600	22,000	19,100	21,000	20,000	19,000	18,940	-0.6%
90	SH 321 (N Cleveland St.) north of US 90	18,900	16,100	17,800	18,400	17,500	16,500	16,100	14,386	-1.9%
93	Crosby Huffman Rd. north of FM 1960	13,800	13,800	14,000	12,800	13,400	14,200	15,600	12,035	-2.3%
21	**US 90 west of Route 146**	**16,000**	**12,800**	**13,600**	**14,000**	**14,400**	**14,100**	**14,800**	**12,789**	**0.0%**
61	FM 3180 north of I-10/East Fwy.	12,000	11,900	10,200	10,500	15,000	12,400	13,000	11,895	0.0%
100	SH 321 (N Cleveland St.) north of FM 1960/W Clayton St.	15,600	14,100	13,700	13,000	13,500	13,000	12,500	11,892	-2.8%
107	FM 1485 east of SH 494	11,200	10,500	11,300	11,300	12,000	11,700	11,900	13,002	3.6%
20	**SH 146 south of W Houston St.**	**12,900**	**11,400**	**10,600**	**10,800**	**11,000**	**11,200**	**11,300**	**11,957**	0.8%
51	FM 3180 south of I-10/East Fwy.	11,100	8,500	8,300	9,700	10,700	10,300	11,300	11,173	4.7%
22	FM 1960 (W Clayton St.) east of Waco St.	10,100	10,400	9,900	9,500	9,700	10,900	11,200	10,272	-0.2%
119	SH 242 west of I-69/US 59	7,100	7,000	8,400	7,700	7,800	8,000	8,500	8,427	3.1%
73	S Winfree St. south of W Houston St.	5,900	6,200	6,600	6,900	6,800	5,000	5,200	5,374	-2.4%
5	US 90 Business (Beaumont Hwy.) at San Jacinto River	4,800	4,800	5,500	5,200	5,400	4,200	4,200	3,627	-4.6%
13	FM 565 east of FM 3246 Gou Hole Rd.	3,400	2,500	2,800	2,700	2,900	3,100	3,400	3,121	3.8%
70	FM 1413 south of US 90	2,500	2,400	2,600	2,600	2,100	1,900	2,900	2,966	3.6%
24	FM 686 west of SH 321/N Cleveland St.	3,000	3,100	3,000	2,600	2,100	2,000	1,600	1,541	-11.0%
52	FM 3246 south of I-10/East Fwy.	520	430	400	450	470	450	470	609	6.0%
97	FM 686 north of FM 1960	280	350	250	340	390	400	380	391	1.9%
501	SH 146 west of loop 197 South	10,800	13,000	13,300	13,000	13,100	13500	12,523	11,913	-1.4%
502	SH 146 south of FM 519	8,800	9,800	10,000	9,900	9,900	10300	10,098	9,178	-1.1%
503	SH 146 north of FM 519	15,000	14,400	15,000	13,800	13,300	14500	14,030	13,027	-1.7%
504	SH 146 south of FM 1764	33,000	28,000	28,000	28,000	26,000	27000	11,861	30,144	1.2%
505	SH 146 north of FM 1764	22,000	22,000	22,000	22,000	19,800	24000	12,051	24,748	2.0%
506	SH 146 between loop 197 North/ N 25th Ave and Moses La	19,200	19,400	17,700	18,700	17,600	18100	18,858	18,939	-0.4%
507	SH 146 north of FM 646	25,000	25,000	25,000	25,000	21,000	23000	23,652	24,639	-0.2%
508	SH 146 south of FM 518	33,000	31,000	31,000	30,000	29,000	30000	30,938	28,186	-1.6%
509	SH 146 at Bath Avenue (near Clear Lake)	40,000	49,000	39,000	38,000	40,000	43000	43,215	36,041	-5.0%
510	SH 146 between W Farimont Pkwy and Wharton Weems Bl	41,000	38,000	43,000	48,000	47,000	45000	45,486	45,495	3.0%
511	SH 146 south of SH 225 (Pasadena Fwy)	67,000	70,000	73,000	74,000	78,000	76000	77,092	76,006	1.4%
512	SH 146 north of SH 225 (Pasadena Fwy)	63,000	63,000	66,000	65,000	64,000	65000	65,777	65,620	0.7%
513	SH 146 south of Missouri St	51,000	51,000	53,000	50,000	48,000	54000	55,893	52,020	0.3%
514	SH 146 south of W Main St	51,000	51,000	53,000	51,000	49,000	53000	54,804	54,352	1.1%
515	SH 146 south of Spur 330	55,000	55,000	63,000	56,000	54,000	60000	61,757	60,796	1.7%
516	SH 146 south of FM 3360	11,100	10,000	8,900	10,200	10,100	10000	12,403	11,560	2.4%
517	SH 146 north of FM 1413 near county road 4922	11,000	9,800	8,900	9,700	9,700	9800	10,174	10,555	1.2%
518	FM1942 west of SH 146	6,100	5,900	6,600	6,600	6,700	8000	10,714	10,939	10.8%
519	FM1942 west of Garth Road	8,400	8,100	10,100	8,400	8,800	9400	9,905	9,122	2.0%

The traffic count trends from 2002 to 2014 at selected locations (also shown in bold in **Table 2-2**) are further illustrated in **Figure 2-8**.

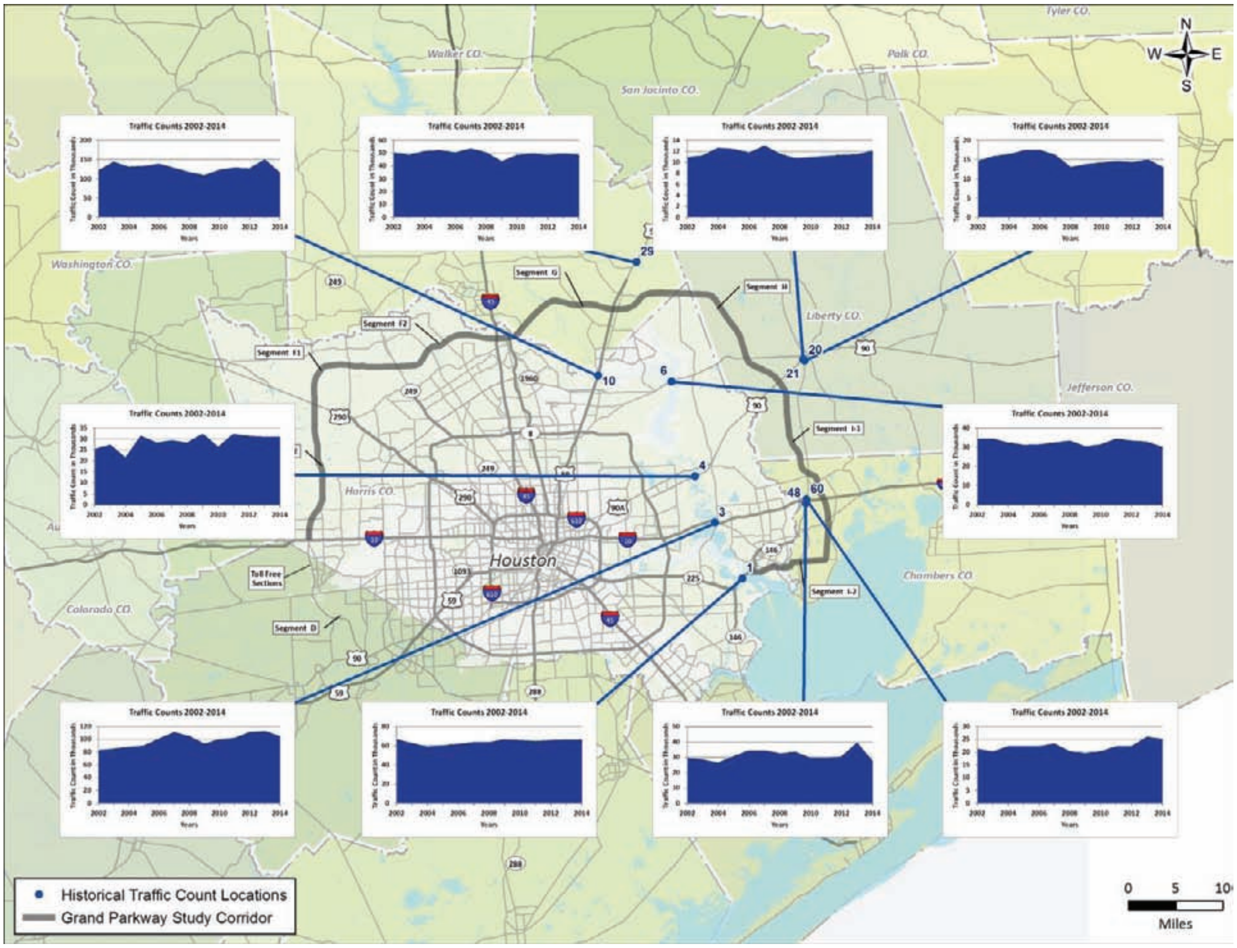


Figure 2-8
TxDOT Historical AADT Counts at Selected Locations near Segments H and I

2.6 Traffic Counts Data Collection

CDM Smith conducted a comprehensive traffic count program in 2014 that included seven screenlines within the Segments D through G corridor, as shown in **Figure 2-9**, and eight additional screenlines within the Segments H and I corridor, as shown in **Figure 2-10**. The following provides a brief summary of each screenline.

- Screenline D-G-1 is generally to the north of Segments F and G;
- Screenline D-G-2 is north of FM 529;
- Screenline D-G-3 is to the south of IH 10;
- Screenlines D-G-4 and D-G-5 were along the west and east of Segment D and E of the Grand Parkway;
- Screenline D-G-6 is between the US 290 and SH 249 corridors;
- Screenline D-G-7 is between the SH 249 and IH 45 corridors;

- Screenline H-I-1 follows the San Jacinto River;
- Screenlines H-I-4 and H-I-5 are along IH 10;
- Screenline H-I-6 is south of US 90;
- Screenline H-I-8 is north of FM 1960;
- Screenline H-I-10 is to the west of the I-69/US 59 corridor;
- Screenline H-I-11 is defined to capture all the other crossings of the Houston Ship Channel; and Screenline H-I-12 follows the Trinity River, which is generally the eastern boundary of the Segments H and I corridor.

The location of the traffic counts along each screenline as well as the first date of the data collection are listed in **Tables 2-3 through 2-17**. Specialized traffic counting firms conducted the traffic counts whereby GRAM Traffic collected all the counts in the Segments D through G, while C.J. Hensch and Associates Inc., collected the counts in the Segments H and I. The majority of the counts were done for a 48-hour duration and a few of the counts were undertaken for a 24-hour period, and one location was counted over seven days (168 hours) to capture the variation over a week. All the 48-hour traffic counts started on interior weekdays (Tuesday, Wednesday and Thursday).

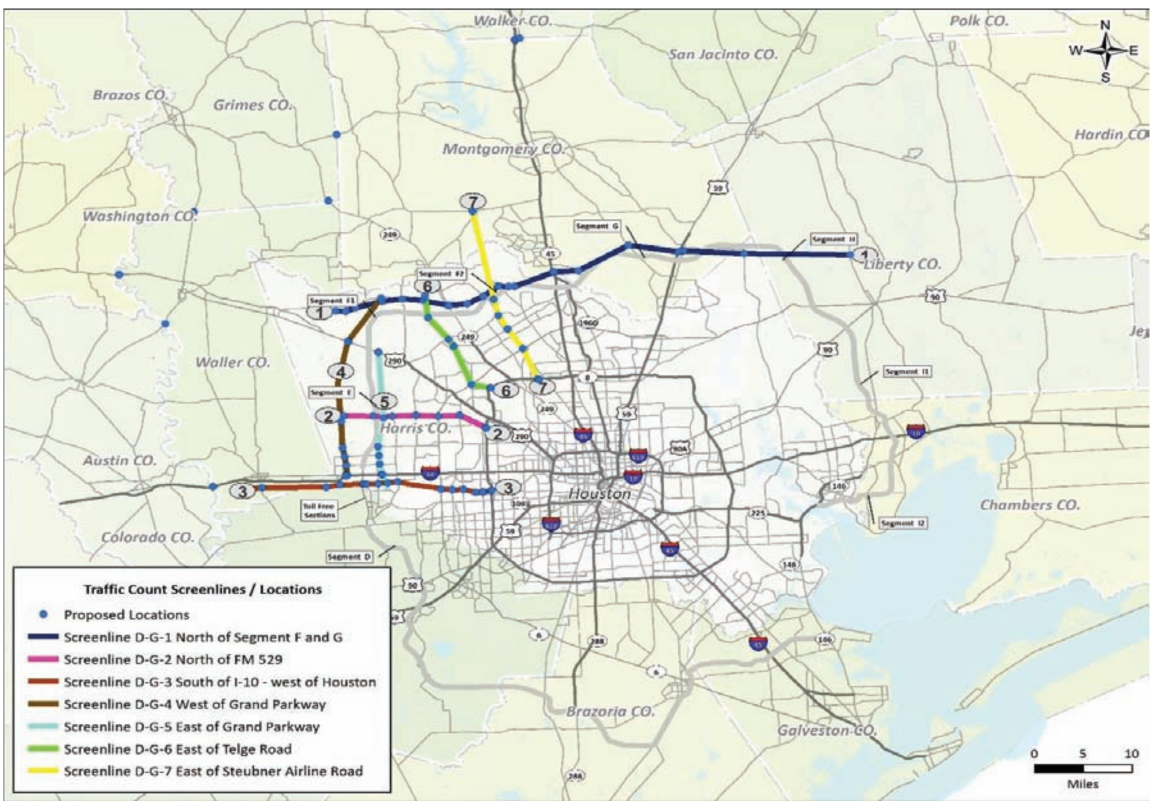


Figure 2-9
2014 Traffic Count Locations and Screenlines for Segment D through G

A majority of the counts were conducted in September of 2014, with the recounts undertaken in October and November of 2014. Additional counts were made at external count stations and at locations where Bluetooth readers were deployed that were otherwise not part of one of the screenlines. Turning movement counts were also undertaken at locations along the IH 10 frontage road to capture the directional movements of traffic along the existing Grand Parkway Segment I-2A.

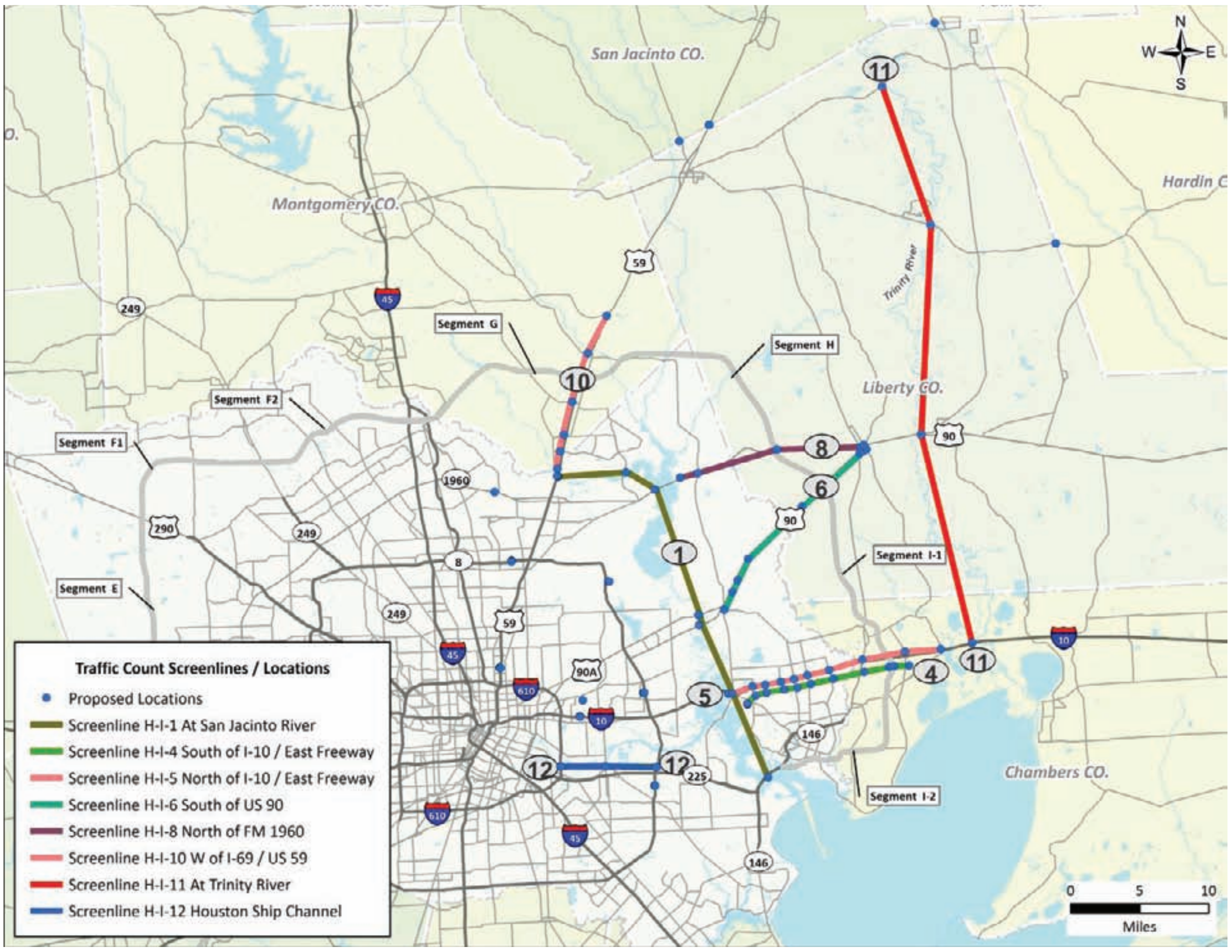


Figure 2-10
2014 Traffic Count Locations and Screenlines for Segments H and I

Table 2-3 Screenline D-G-1 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
101	Arterial	Roberts Road b/w Botkins Road and FM 2920	48	9/23/2014
102	Arterial	Becker Road b/w FM 2920 and Botkins Road	48	9/23/2014
103	Arterial	Bauer Road b/w FM 2920 and Hopfe Road	48	9/23/2014
104	Arterial	Mueschke Road south of FM 2920	48	9/23/2014
105	Arterial	Cypress Rosehill Road south of FM 2920	48	9/23/2014
106	Arterial	Telge Rd b/w Humble Road and Cypress Garden Drive	48	9/23/2014
107	Mainlane	SB SH 249 south of Holderrieth Road	48	10/1/2014
108	Mainlane	NB SH 249 south of Holderrieth Road	48	10/1/2014
109	Arterial	Hufsmith-Kohrville Road south of Holderrieth Road	48	9/23/2014
110	Arterial	FM 2920 b/w Dowdell Road and Boudreaux Road	48	9/23/2014
111	Arterial	Kuykendahl Road south of Dowdell Road	48	9/23/2014
112	Arterial	Northcrest Drive b/w Root Road and Spring Stuebner Road	48	9/23/2014
113	Arterial	Gosling Road b/w Root Road and Spring Stuebner Road	48	9/23/2014
114	Frontage Rd	SB Frontage Road of IH 45 b/w Rayford Road and Hardy Toll N	48	9/23/2014
115	Mainlane	SB IH 45 b/w Rayford Road and Hardy Toll N	48	9/30/2014
116	Mainlane	NB IH 45 b/w Rayford Road and Hardy Toll N	48	9/30/2014
117	Frontage Rd	NB Frontage Road of IH 45 b/w Rayford Road and Hardy Toll N	48	9/23/2014
118	Arterial	Rayford Road b/w Legends Run Drive and Fox Run Boulevard	48	9/23/2014
119	Arterial	FM 1314 b/w Gene Campbell Road and Rolling Hills Drive	48	9/23/2014
120	Frontage Rd	SB Frontage Road of US 59 b/w FM 1485 and McClesky Road	48	9/23/2014
121	Mainlane	SB US 59 b/w FM 1485 and McClesky Road	48	9/23/2014
122	Mainlane	NB US 59 b/w FM 1485 and McClesky Road	48	9/23/2014
123	Frontage Rd	NB Frontage Road of US 59 b/w FM 1485 and McClesky Road	48	9/23/2014
124	Arterial	SH 494 b/w FM 1485 and Cuttler Road	48	9/23/2014
125	Arterial	FM 2100 south of Plum Grove Road	48	9/23/2014
126	Arterial	SH 321 south of Old Cleveland Road	48	9/23/2014

Table 2-4 Screenline D-G-2 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
201	Arterial	Katy Hockley Cutoff Road north of FM 529	48	9/23/2014
202	Mainlane	SB SH 99 north of FM 529	48	9/23/2014
203	Mainlane	NB SH 99 north of FM 529	48	9/23/2014
204	Arterial	N. Fry Road north of FM 529	48	9/23/2014
205	Arterial	Barker Cypress Road north of FM 529	48	9/23/2014
206	Arterial	SH 6 north of FM 529	48	9/23/2014
207	Arterial	Eldridge Parkway N north of FM 529	48	9/23/2014
208	Frontage Rd	SB Sam Houston Frontage Road north of Tanner Road	48	9/23/2014
211	Frontage Rd	NB Sam Houston Frontage Road north of Tanner Road	48	9/23/2014

Table 2-5 Screenline D-G-3 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
301	Arterial	Waller Avenue north of Hovas Lane	48	9/23/2014
302	Arterial	FM 1463 north of Morgan Parkway	48	9/23/2014
303	Arterial	Old Katy Road north of Katy Flewellen Road	48	9/23/2014
304	Frontage Rd	SB Grand Parkway Frontage Road south of Kingsland Boulevard	48	9/23/2014
305	Mainlane	SB Grand Parkway south of Kingsland Boulevard	48	9/23/2014
306	Mainlane	NB Grand Parkway south of Kingsland Boulevard	48	9/23/2014
307	Frontage Rd	NB Grand Parkway Frontage Road south of Kingsland Boulevard	48	9/23/2014
308	Arterial	Peek Road north of Cimmaron Place Drive	48	9/23/2014
309	Arterial	Mason Road north of Cimmaron Parkway	48	9/23/2014
310	Arterial	Westgreen Boulevard north of Park Pine Drive	48	9/23/2014
311	Arterial	S Fry Road north of Emerald Leak Drive	48	9/23/2014
312	Arterial	SH 6 north of Briar Forest Drive	48	9/23/2014
313	Arterial	N Eldrigde Parkway north of Briar Forest Drive	48	9/23/2014
314	Arterial	S Dairy Ashford Street north of Briar Forest Drive	48	9/23/2014
315	Arterial	N Kirkwood Road north of Briar Forest Drive	48	9/23/2014
316	Arterial	N Wilcrest Drive north of Briar Forest Drive	48	9/23/2014
317	Frontage Rd	SB Sam Houston Frontage Road north of Briar Forest Drive	48	9/23/2014
320	Frontage Rd	NB Sam Houston Frontage Road north of Briar Forest Drive	48	9/23/2014

Table 2-6 Screenline D-G-4 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
401	Arterial	FM 2920 b/w Roberts Cemetary Road and Mueschke Road	48	9/23/2014
402	Frontage Rd	EB FR of US 290 b/w Katy Hockley Rd and Bauer Road	48	9/23/2014
403	Mainlane	EB US 290 b/w Katy Hockley Road and Bauer Road	48	9/23/2014
404	Mainlane	WB US 290 b/w Katy Hockley Road and Bauer Road	48	9/23/2014
405	Frontage Rd	WB FR of US 290 b/w Katy Hockley Road and Bauer Road	48	9/23/2014
406	Arterial	FM 529 east of Katy Hockley Road	48	9/23/2014
407	Arterial	Clay Road east of Katy Hockley Road	48	9/23/2014
408	Arterial	Morton Road east of Katy Hockley Road	48	9/23/2014
409	Arterial	Franz Road east of Katy Hockley Cut off Road	48	9/23/2014
410	Frontage Rd	WB FR of IH 10 b/w Katy Mills and Katy Fort Bend Road	48	9/23/2014
411	Mainlane	EB IH 10 b/w Katy Mills and Katy Fort Bend Road	48	9/30/2014
412	Mainlane	WB IH 10 b/w Katy Mills and Katy Fort Bend Road	48	9/30/2014
413	Frontage Rd	EB FR of IH 10 b/w Katy Mills and Katy Fort Bend Road	48	9/23/2014

Table 2-7 Screenline D-G-5 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
501	Frontage Rd	WB FR of US 290 b/w Fairfield Place Drive and Mueschke Road	48	9/23/2014
502	Mainlane	EB US 290 b/w Fairfield Place Drive and Mueschke Road	48	10/1/2014
503	Mainlane	WB US 290 b/w Fairfield Place Drive and Mueschke Road	48	9/23/2014
504	Frontage Rd	EB FR of US 290 b/w Fairfield Place Drive and Mueschke Road	48	9/23/2014
505	Arterial	FM 529 b/w Grand Parkway and Fry Road	48	9/23/2014
506	Arterial	Clay Road east of Mason Road	48	9/23/2014
507	Arterial	Morton Road east of Mason Road	48	9/23/2014
508	Arterial	Franz Road east of Mason Road	48	9/23/2014
509	Frontage Rd	WB FR IH 10 b/w N. Mason Road and Westgreen Boulevard	48	9/23/2014
510	Mainlane	EB IH 10 b/w N. Mason Road and Westgreen Boulevard	48	9/23/2014
511	Mainlane	WB IH 10 b/w N. Mason Road and Westgreen Boulevard	48	9/23/2014
512	Frontage Rd	EB FR IH 10 b/w N. Mason Road and Westgreen Boulevard	48	9/23/2014

Table 2-8 Screenline D-G-6 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
601	Arterial	FM 2920 east of Telge Road	48	9/23/2014
602	Arterial	Boudreaux Road east of Telge Road	48	9/23/2014
603	Arterial	Spring Cypress Road west of N. Eldridge Parkway	48	9/23/2014
604	Arterial	Louetta Road west of N. Eldridge Parkway	48	9/23/2014
605	Arterial	FM 1960 b/w Steepletop Drive and Jones Road	48	9/23/2014
606	Frontage Rd	WB Sam Houston Frontage Road east of Fallbrook Drive	48	9/23/2014
607	Mainlane	WB Sam Houston Tollway east of Fallbrook Drive	48	10/1/2014
608	Mainlane	EB Sam Houston Tollway east of Fallbrook Drive	48	10/1/2014
609	Frontage Rd	EB Sam Houston Frontage Road east of Fallbrook Drive	48	9/30/2014

Table 2-9 Screenline D-G-7 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
701	Arterial	FM 1488 west of FM 2978	48	9/23/2014
702	Arterial	FM 2920 east of Steubner Airline Road	48	10/7/2014
703	Arterial	Spring Cypress Road east of Steubner Airline Road	48	9/23/2014
704	Arterial	Louetta Road east of Steubner Airline Road	48	10/7/2014
705	Arterial	FM 1960 east of Steubner Airline Road	48	9/23/2014
706	Frontage Rd	WB Sam Houston Frontage Road east of Antoine Drive	48	9/23/2014
709	Frontage Rd	EB Sam Houston Frontage Road east of Antoine Drive	48	9/23/2014

Table 2-10 Screenline H-I-1 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
001	Mainlane	SH 146 (Fred Hartman Bridge) - Classification	48	11/19/2014
003	Mainlane	IH 10 East Freeway at San Jacinto River - Classification	48	9/24/2014
004	Mainlane	US 90 Crosby Freeway at San Jacinto River	48	9/24/2014
005	Arterial	US 90 Business Beaumont Hwy. at San Jacinto River	48	9/24/2014
006	Arterial	FM 1960 Humble Huffman Road at Lake Houston	48	9/24/2014
007	Arterial	W Lake Houston Pkwy at San Jacinto River	48	11/12/2014
008	Frontage Rd	NB Eastex Freeway Service Road at San Jacinto River	48	10/8/2014
009	Mainlane	NB IH 69 / US 59 - Classification at San Jacinto River	48	9/24/2014
010	Mainlane	NB IH 69 / US 59 HOV Lanes at San Jacinto River	48	9/24/2014
011	Mainlane	SB IH 69 / US 59 - Classification at San Jacinto River	48	9/24/2014
012	Frontage Rd	SB Eastex Freeway Service Road at San Jacinto River	48	9/24/2014

Table 2-11 Screenline H-I-4 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
038	Frontage Rd	EB Decker Drive N of Rollingwood Road	48	9/24/2014
039	Mainlane	EB SH 330 N of Rollingwood Road - Classification	48	9/24/2014
040	Mainlane	WB SH 330 N of Rollingwood Road - Classification	48	9/24/2014
041	Frontage Rd	WB Decker Drive N of Rollingwood Road	48	9/24/2014
042	Arterial	Thompson Road south of IH 10	48	9/24/2014
043	Arterial	Wade Road south of IH 10	48	9/24/2014
044	Arterial	John Martin Road south of IH 10	48	9/24/2014
045	Arterial	Garth Road south of IH 10	48	11/12/2014
046	Arterial	N Main Street south of IH 10	48	11/12/2014
047	Arterial	Sjolander Drive south of IH 10	48	9/24/2014
048	Arterial	SH 146 south of IH 10 - Classification Count	48	11/12/2014
049	Frontage Rd	SB Grand Parkway south of IH 10 - Classification Count	48	2/4/2015
050	Frontage Rd	NB Grand Parkway south of IH 10 - Classification Count	48	2/4/2015
051	Arterial	FM 3180 south of IH 10	48	10/28/2014

Table 2-12 Screenline H-I-5 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
053	Arterial	S Main Street north of IH 10	48	11/11/2014
054	Arterial	Thompson Road north of IH 10	48	11/11/2014
055	Arterial	Wade Road north of IH 10	48	11/19/2014
056	Arterial	John Martin Road north of IH 10	48	11/19/2014
057	Arterial	Garth Road north of IH 10	48	10/28/2014
058	Arterial	N Main Street north of IH 10	48	11/12/2014
059	Arterial	Sjolander Drive north of IH 10	48	11/12/2014
060	Arterial	SH 146 north of IH 10 - Classification Count	168	12/5/2014
061	Arterial	FM 3180 north of IH 10	48	9/23/2014
062	Arterial	FM 565 Cove Road north of IH 10	48	11/12/2014

Table 2-13 Screenline H-I-6 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
063	Arterial	Crosby Landing Road south of US 90	48	9/24/2014
065	Arterial	Krenek Road south of US 90	48	9/24/2014
066	Arterial	Runneburg Road south of US 90	48	9/24/2014
068	Arterial	Bohemian Hall Road south of US 90	48	10/28/2014
070	Arterial	FM 1413 south of US 90	48	9/24/2014
020	Arterial	SH 146 south of W Houston Street	48	9/24/2014
072	Arterial	S Cleveland Street south of W Houston Street	48	11/12/2014
073	Arterial	S Winfree Street south of W Houston Street	48	9/24/2014

Table 2-14 Screenline H-I-8 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
092	Arterial	E Lake Houston Parkway north of FM 1960	48	10/8/2014
093	Arterial	Crosby Huffman Road north of FM 1960	48	9/24/2014
097	Arterial	FM 686 north of FM 1960	48	9/24/2014
100	Arterial	SH 321 N Cleveland Street north of W Clayton Street	48	10/8/2014
101	Arterial	N Winfree Street north of E Clayton Street	48	9/24/2014

Table 2-15 Screenline H-I-10 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
111	Arterial	Sorters McClellan Road west of IH 69/US 59	48	11/12/2014
112	Arterial	Kingwood Drive west of IH 69/US 59	48	9/24/2014
113	Arterial	Northpark Drive west of IH 69/US 59	48	9/24/2014
115	Arterial	FM 1314 west of IH 69/US 59	48	9/24/2014
118	Arterial	FM 1485 west of IH 69/US 59	48	9/24/2014
119	Arterial	SH 242 west of IH 69/US 59	48	9/24/2014

Table 2-16 Screenline H-I-11 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
T01	Mainlane	EB IH 10 East Freeway at Trinity River Bridge	48	9/25/2014
T02	Mainlane	WB IH 10 East Freeway W at Trinity River Bridge	48	9/24/2014
T03	Mainlane	EB US 90 at Trinity River Bridge	48	9/24/2014
T04	Mainlane	WB US 90 at Trinity River Bridge	48	9/24/2014
T05	Arterial	SH 105 at Trinity River Bridge	48	9/24/2014
T06	Arterial	FM 787 at Trinity River Bridge	48	9/24/2014

Table 2-17 Screenline H-I-12 Traffic Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
S01	Mainlane	SB IH 610 at Houston Ship Channel	48	9/24/2014
S02	Mainlane	NB IH 610 at Houston Ship Channel	48	9/24/2014
S03	Arterial	N Shaver St/Washburn Tunnel at Houston Ship Channel	48	9/24/2014
032	Mainlane	NB Sam Houston Tollway/Beltway 8 at Houston Ship Channel	48	9/24/2014
032	Mainlane	SB Sam Houston Tollway/Beltway 8 at Houston Ship Channel	48	9/24/2014

Screenline count estimates for 2016 along the H and I corridor were estimated by extrapolating the historical growth rates from previous years. The traffic count data (AADT) at several locations in the vicinity of Segments H and I were extrapolated from the 2008 through 2014 trends using the TxDOT Statewide Planning Map tool. Based on the growth from these locations, estimated average annual growth rates of 1.5, 0.9 and 2.5 percent were derived for freeways, state highways and local roads respectively to grow the traffic counts volumes from 2014 to 2016 for those count locations not recollected as part of the 2016 efforts.

Table 2-18 Assumed Growth Rates for Screenline Count Locations for the Segments H and I Corridor

Roadway Type	Assumed Average Annual Growth Rate
Freeway	1.5%
State Highways	0.9
FM and Local Roads	2.5

2.6.1 2014 External Station Counts

A series of counts were made along roadways at the edge of the travel demand modeling area for the Houston and Galveston MPO. These external station counts were captured on major roadways along the western edge of Fort Bend County, the western and northern edge of Waller and Montgomery counties, the northern and eastern edge of Liberty County, and the eastern edge of Chambers County. The location of the external station counts are shown in **Figure 2-9** and **Figure 2-10**. The location of the external station traffic counts by county as well as the first date of the data collection are listed in **Tables 2-19 through 2-23**.

Table 2-19 External Station Counts for Fort Bend County

Location Number	Location Type	Description	Number of Hours	Date Collected
X07	Mainlane	EB US 59 at Wharton County Line	48	9/23/2014
X08	Mainlane	WB US 59 at Wharton County Line	48	9/23/2014
X10	Arterial	Alt US 90 at Wharton County Line	48	9/23/2014
X12	Arterial	SH 36 at Austin County Line	48	9/23/2014

Table 2-20 External Station Counts for Waller County

Location Number	Location Type	Description	Number of Hours	Date Collected
X14	Mainlane	EB IH 10 at Austin County Line / Brazos River	48	9/23/2014
X15	Mainlane	WB IH 10 at Austin County Line / Brazos River	48	9/23/2014
X18	Arterial	SH 159 at Austin County Line / Brazos River	48	9/30/2014
X19	Mainlane	EB US 290 at Washington County Line / Brazos River	48	9/23/2014
X20	Mainlane	WB US 290 at Washington County Line / Brazos River	48	9/23/2014
X21	Mainlane	SB SH 6 at Grimes County Line	48	9/23/2014
X22	Mainlane	NB SH 6 at Grimes County Line	48	9/23/2014
X24	Arterial	FM 1774 at Grimes County Line	48	9/23/2014

Table 2-21 External Station Counts for Montgomery County

Location Number	Location Type	Description	Number of Hours	Date Collected
X25	Arterial	SH 105 at Grimes County Line	48	9/23/2014
X30	Frontage Rd	SB Frontage Road of IH 45 at Walker County Line	48	9/23/2014
X31	Mainlane	SB IH 45 at Walker County Line	48	9/23/2014
X32	Mainlane	NB IH 45 at Walker County Line	48	9/23/2014
X33	Frontage Rd	NB Frontage Road of IH 45 at Walker County Line	48	9/23/2014
X34	Arterial	SH 75 at Walker County Line	48	9/23/2014

Table 2-22 External Station Counts for Liberty County

Location Number	Location Type	Description	Number of Hours	Date Collected
X38	Arterial	FM 2025 at San Jacinto County Line	48	11/13/2014
X39	Mainlane	SB US 59 at San Jacinto County Line	48	10/29/2014
X40	Mainlane	NB US 59 at San Jacinto County Line	48	9/24/2014
X43	Arterial	SH 146 at Polk County Line	48	10/28/2014
X45	Arterial	SH 105 at Hardin County Line	48	9/24/2014
X47	Mainlane	WB US 90 at Jefferson County Line	48	9/24/2014
X48	Mainlane	EB US 90 at Jefferson County Line	48	9/24/2014

Table 2-23 External Station Counts for Chambers County

Location Number	Location Type	Description	Number of Hours	Date Collected
X50	Frontage Rd	WB Frontage Road of IH 10 at Jefferson County Line	48	11/11/2014
X51	Mainlane	WB IH 10 at Jefferson County Line	48	10/28/2014
X52	Mainlane	EB IH 10 at Jefferson County Line	48	9/24/2014
X53	Frontage Rd	EB Frontage Road of IH 10 at Jefferson County Line	48	10/28/2014
X54	Frontage Rd	WB Frontage Road SH 73/Willis Road at Jefferson County Line	48	9/24/2014
X55	Mainlane	WB SH 73 at Jefferson County Line	48	9/24/2014
X56	Mainlane	EB SH 73 at Jefferson County Line	48	10/28/2014
X57	Arterial	FM 1406 (east of Winnie) at Jefferson County Line	48	11/12/2014

2.6.2 2014 Counts at Bluetooth Reader Locations

CDM Smith completed an Origin and Destination (OD) study using Bluetooth readers in the Segments H and I study corridor. The OD study is discussed in more detail in a subsequent section of this report. The majority of the Bluetooth readers were deployed at locations where counts were made as part of one of the screenlines shown previously. At locations where Bluetooth readers were deployed that were otherwise not part of a screenline, additional traffic counts were undertaken for use in validating the reader capture data. The location of these additional traffic counts as well as the date of the data collection are listed in **Table 2-24**.

Table 2-24 Traffic Counts made at Bluetooth Reader Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
BT05a	Frontage Rd	WB IH 10 Frontage b/w Mercury Drive and Holland Avenue	24	11/11/2014
BT05b	Mainlane	WB IH 10 b/w Mercury Drive and Holland Avenue	24	9/25/2014
BT05c	Mainlane	EB IH 10 b/w Mercury Drive and Holland Avenue	24	11/12/2014
BT05d	Frontage Rd	EB IH 10 Frontage b/w Mercury Drive and Holland Avenue	24	11/11/2014
BT06a	Mainlane	WB US 90 b/w Mercury Drive and Wallisville Road	24	9/24/2014
BT06b	Mainlane	EB US 90 b/w Mercury Drive and Wallisville Road	24	9/24/2014
BT07a	Frontage Rd	SB IH 69 Frontage south of Crosstimbers Street	24	9/25/2014
BT07b	Mainlane	SB IH 69 south of Crosstimbers Street	24	9/25/2014
BT07c	Mainlane	IH 69 HOV Lane south of Crosstimbers Street	24	9/25/2014
BT07d	Mainlane	NB IH 69 south of Crosstimbers Street	24	9/25/2014
BT07e	Frontage Rd	NB IH 69 Frontage south of Crosstimbers Street	24	9/25/2014
BT08	Arterial	FM 1960 east of Cypresswood Drive	24	9/24/2014
BT10a	Frontage Rd	WB Frontage of Beltway 8 west of Vickery Road	24	9/24/2014
BT10b	Mainlane	WB Beltway 8 west of Vickery Road	24	9/24/2014
BT10c	Mainlane	EB Beltway 8 west of Vickery Road	24	9/24/2014
BT10d	Frontage Rd	EB Frontage of Beltway 8 west of Vickery Road	24	9/24/2014
BT11a	Frontage Rd	SB Frontage of Beltway 8 north of Winfield Road	24	9/24/2014
BT11d	Frontage Rd	NB Frontage of Beltway 8 north of Winfield Road	24	9/24/2014
BT12a	Frontage Rd	SB Frontage of Beltway 8 north of Woodforest Boulevard	24	9/24/2014
BT12b	Mainlane	SB Beltway 8 north of Woodforest Boulevard	24	9/24/2014
BT12c	Mainlane	NB Beltway 8 north of Woodforest Boulevard	24	9/24/2014
BT12d	Frontage Rd	NB Frontage of Beltway 8 north of Woodforest Boulevard	24	9/24/2014
BT14a	Frontage Rd	SB Frontage of Beltway 8 south of Greenshadow Drive	24	9/24/2014
BT14b	Mainlane	SB Beltway 8 south of Greenshadow Drive	24	9/24/2014
BT14c	Mainlane	NB Beltway 8 south of Greenshadow Drive	24	9/24/2014
BT14d	Frontage Rd	NB Frontage of Beltway 8 south of Greenshadow Drive	24	9/24/2014

2.6.3 2014 Turning Movement Counts

CDM Smith also had some turning movement counts captured along the IH 10 corridor to gain a better understanding of where vehicles were going/coming from near the existing end of the Grand Parkway just to the south of IH 10. Six turning movement counts were made at locations along the IH 10 frontage road. The location of the turning movement counts are listed in **Table 2-25**, along with the date of the data collection.

Table 2-25 Turning Movement Count Locations

Location Number	Location Type	Description	Number of Hours	Date Collected
TMC1	TMC	SH 146 at Westbound IH 10 Frontage Road	24	10/8/2014
TMC2	TMC	SH 146 at Eastbound IH 10 Frontage Road	24	10/8/2014
TMC3	TMC	SB SH 99 Frontage Road at Westbound IH 10 Frontage Road	24	10/9/2014
TMC4	TMC	NB SH 99 Frontage Road at Westbound IH 10 Frontage Road	24	10/9/2014
TMC5	TMC	SB SH 99 Frontage Road at Eastbound IH 10 Frontage Road	24	10/9/2014
TMC6	TMC	NB SH 99 Frontage Road at Eastbound IH 10 Frontage Road	24	10/9/2014

2.6.4 Traffic Counts Review

The automatic counts were reviewed to ensure that the collected data was of good quality using a traffic count review procedure as described in more detail below. The peak hour profiles were reviewed to ensure that they were occurring at the expected times. The morning peak hour typically exhibited in the Houston area falls between 6:00 AM and 9:00 AM and the evening peak hour between 3:00 PM and 7:00 PM. The data was reviewed taking this into consideration to ensure that the clock on the counters were not incorrectly set. Any major differences in the peaking characteristics between the two consecutive days of counts collected were also reviewed and flagged.

The collected volumes were also compared to the potential maximum capacity of the facility depending on the number of lanes being counted and the roadway type. Volumes approaching the maximum were evaluated to ensure that they occurred during the evening and morning peak periods. Counters that recorded volumes greater than the expected maximum values were flagged for potential double counting of some or most of the vehicles. This phenomenon of double count occurs if the vehicles are moving slowly or at an angle other than 90° to the pneumatic tubes. This typically occurs if the counter has been placed too close to a controlled intersection and is somewhat difficult to detect within the data stream alone. For this reason, the peak hour volumes were also evaluated to ensure that an anticipated minimum volume was reached depending on the number of lanes and the roadway type to assist in flagging potential flawed counts.

Under congested conditions, the volumes during the peak hour may occasionally drop. This is normal for congested roadways and is a good indication that the capacity of the roadway has been reached but does not reflect the demand for the facility at that point in time. Additional checks also included ensuring that the total directional volumes were similar, and ensuring that the peak direction evening peak period volumes were typically higher than peak period morning volumes in the opposite direction.

2.6.5 2014 Screenline Traffic Profiles

Figures 2-11 through 2-25 show the average weekday traffic profile for each of the fifteen traffic count screenlines based on the 2014 traffic counts. The weekday traffic is shown for the AM peak period (6:00-9:00 AM), the Mid-day period (9:00 AM to 3:00 PM), the PM peak period (3:00 to 7:00 PM) and the overnight or night time period (7:00 PM to 6:00 AM).

As shown in the figures, Screenlines D-G-3, D-G-4, D-G-5, H-I-1, H-I-4, H-I-10 and H-I-12 have higher volumes in the NB or EB direction during the morning peak period, and higher volumes in the SB or WB direction during the evening peak period. Screenlines D-G-1, D-G-2, H-I-5, H-I-6 and H-I-8 have higher volumes in the SB or WB direction during the morning peak period and higher volumes in the NB or EB direction during the evening peak period.

The external zone counts represent a screenline along the edge of the modeling area which is along the county boundary lines contained in the modeling area. **Figure 2-26** shows the weekday number of vehicles inbound to the model area and the outbound traffic for the four time periods previously mentioned.

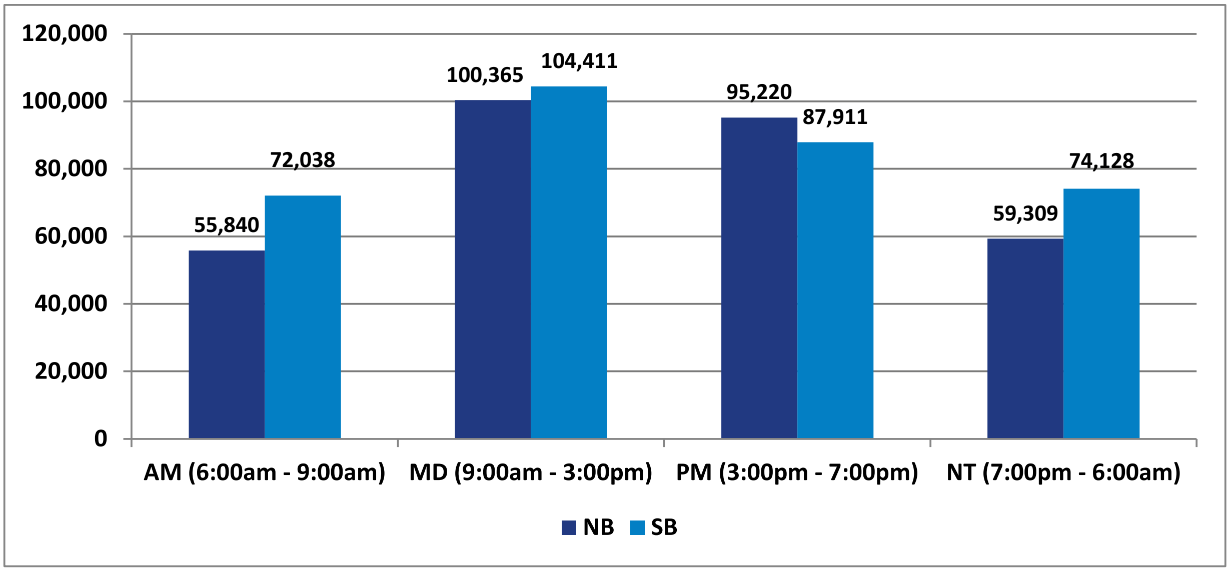


Figure 2-11
Screenline D-G-1 Traffic Profile

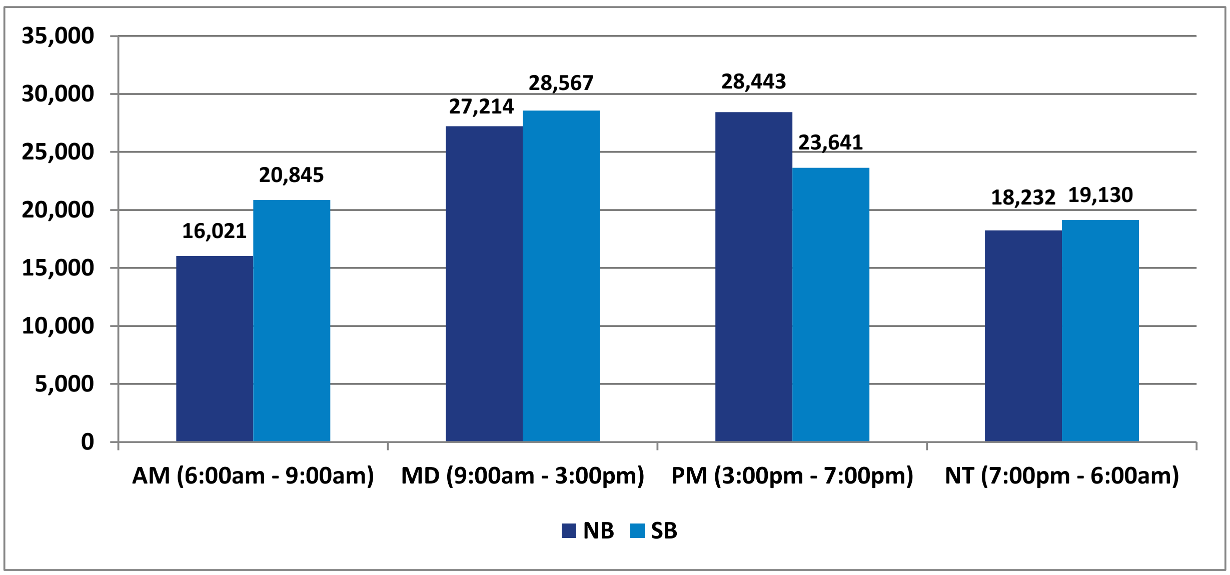


Figure 2-12
Screenline D-G-2 Traffic Profile

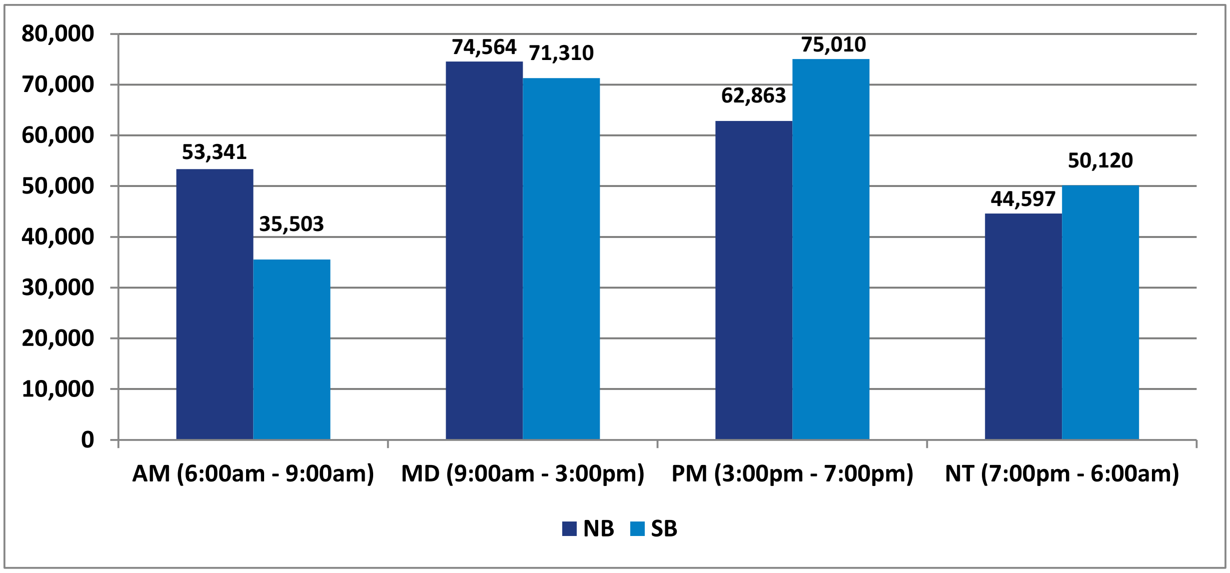


Figure 2-13
Screenline D-G-3 Traffic Profile

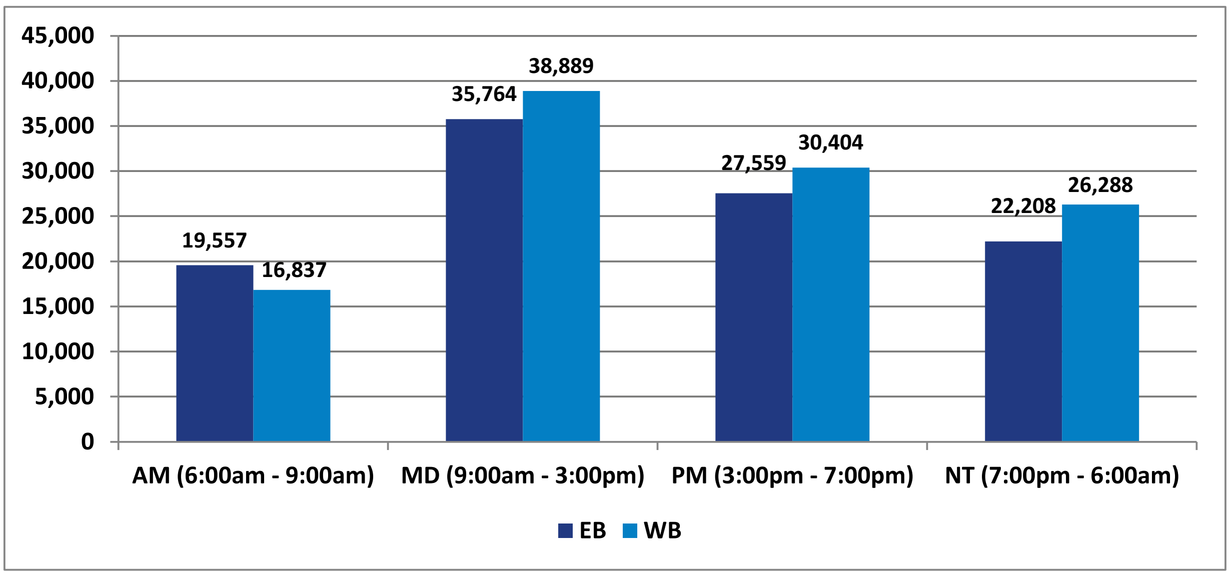


Figure 2-14
Screenline D-G-4 Traffic Profile

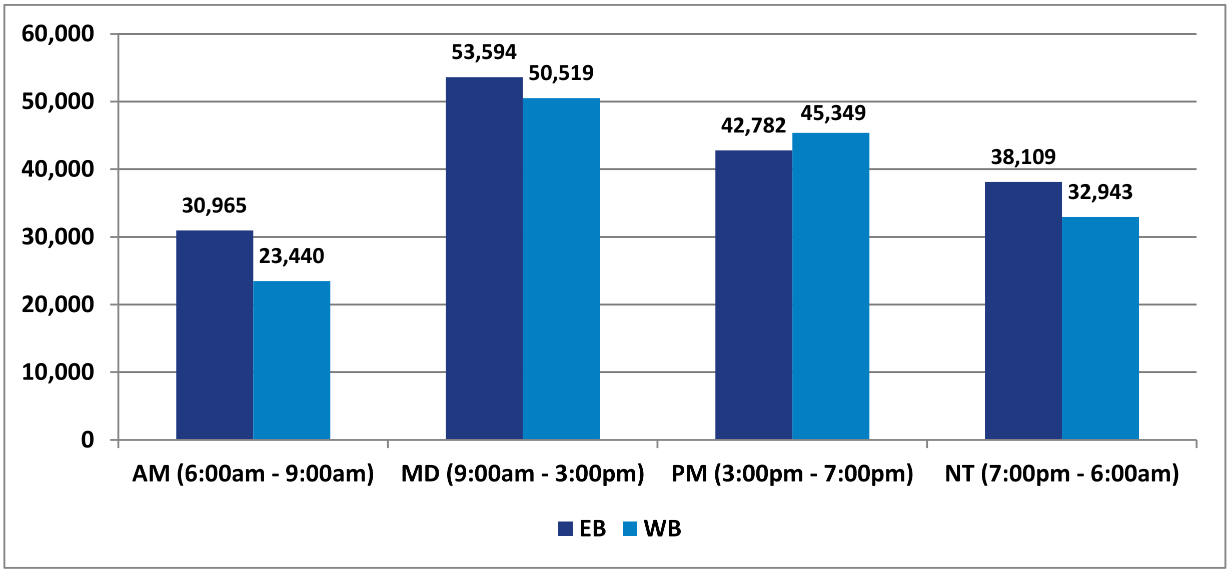


Figure 2-15
Screenline D-G-5 Traffic Profile

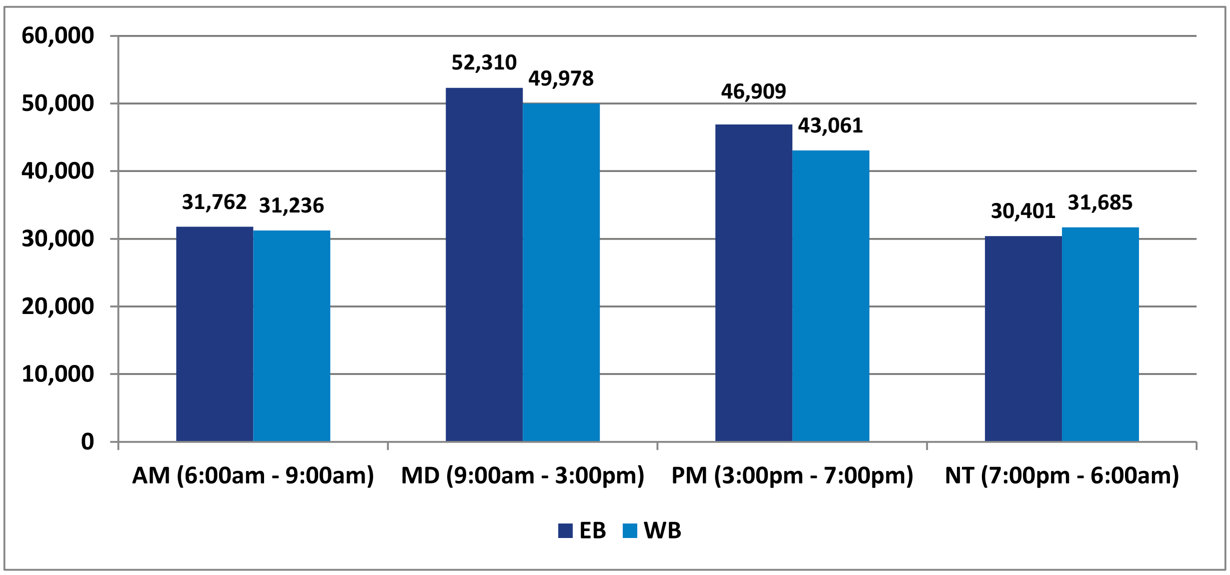


Figure 2-16
Screenline D-G-6 Traffic Profile

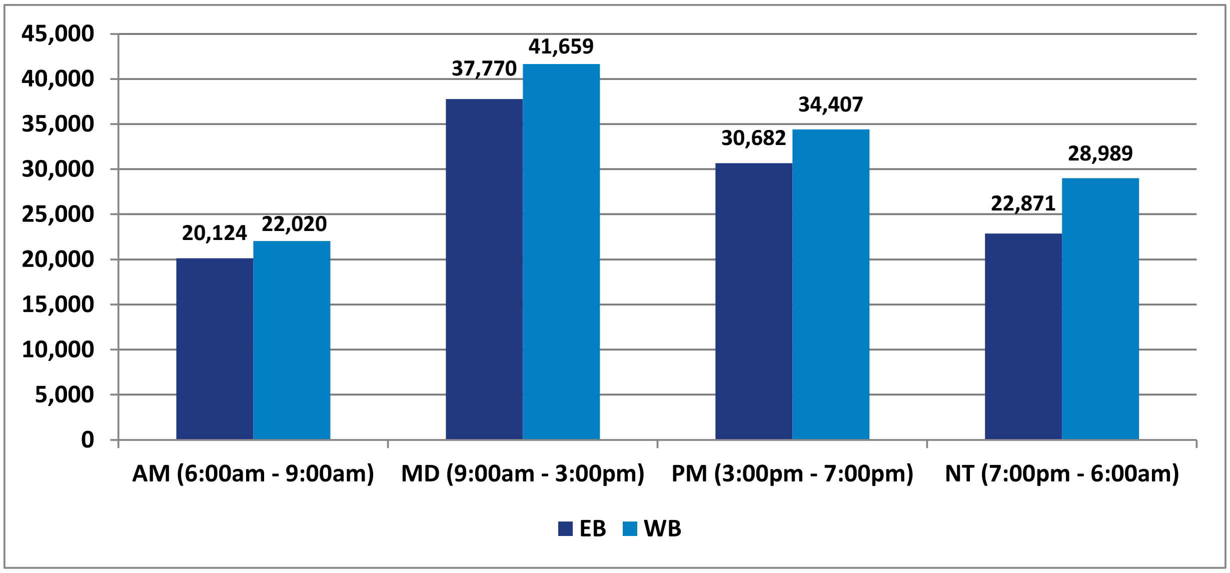


Figure 2-17
Screenline D-G-7 Traffic Profile

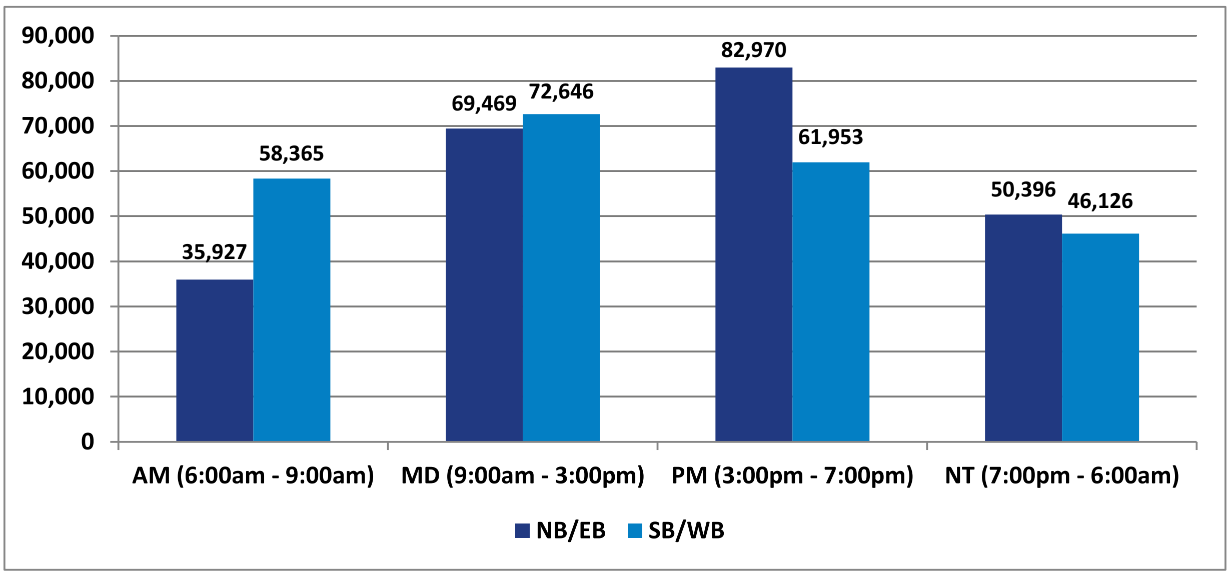


Figure 2-18
Screenline H-I-1 Traffic Profile

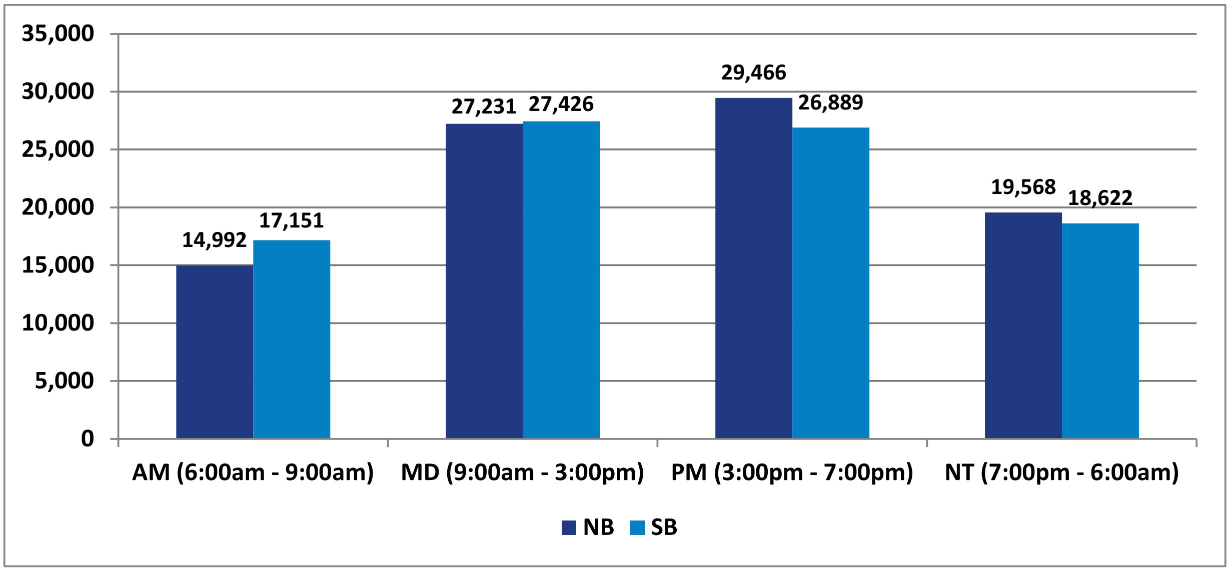


Figure 2-19
Screenline H-I-4 Traffic Profile

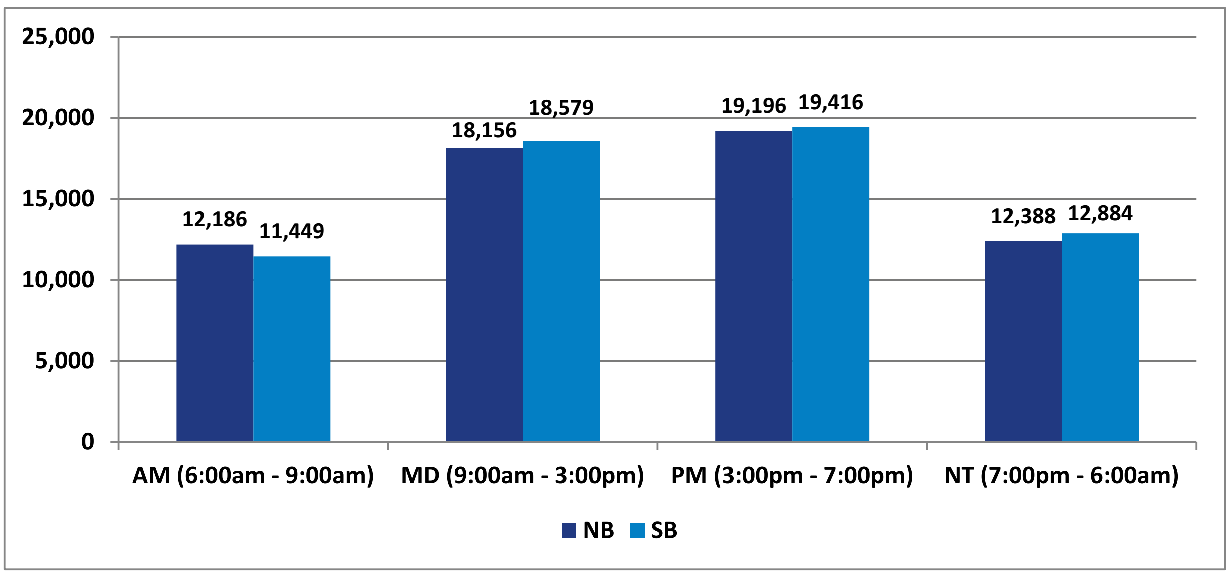


Figure 2-20
Screenline H-I-5 Traffic Profile

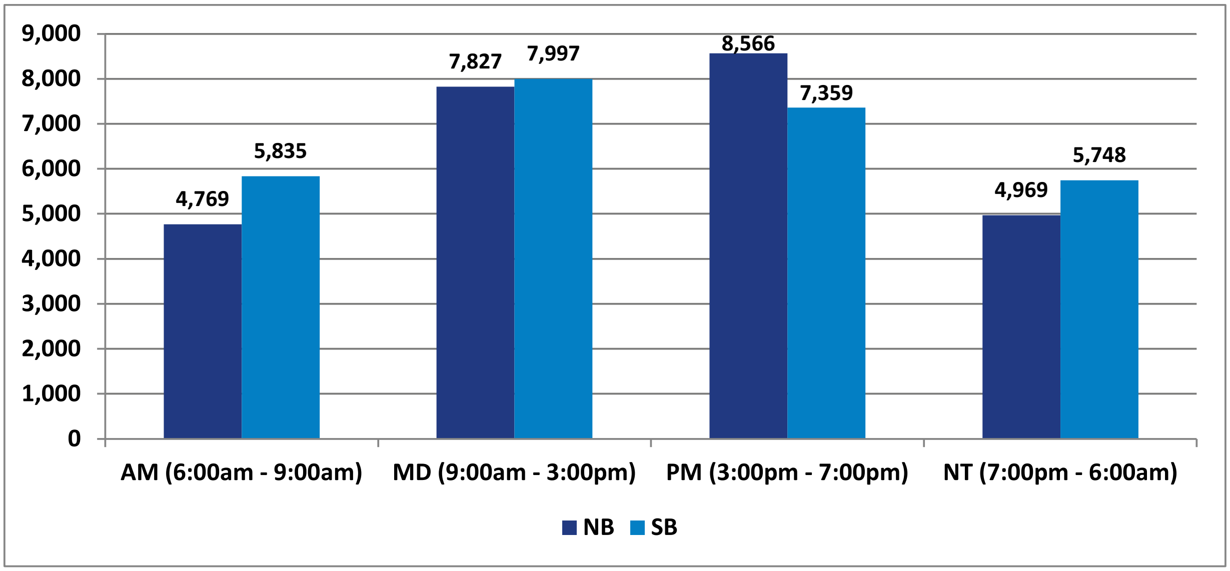


Figure 2-21
Screenline H-I-6 Traffic Profile

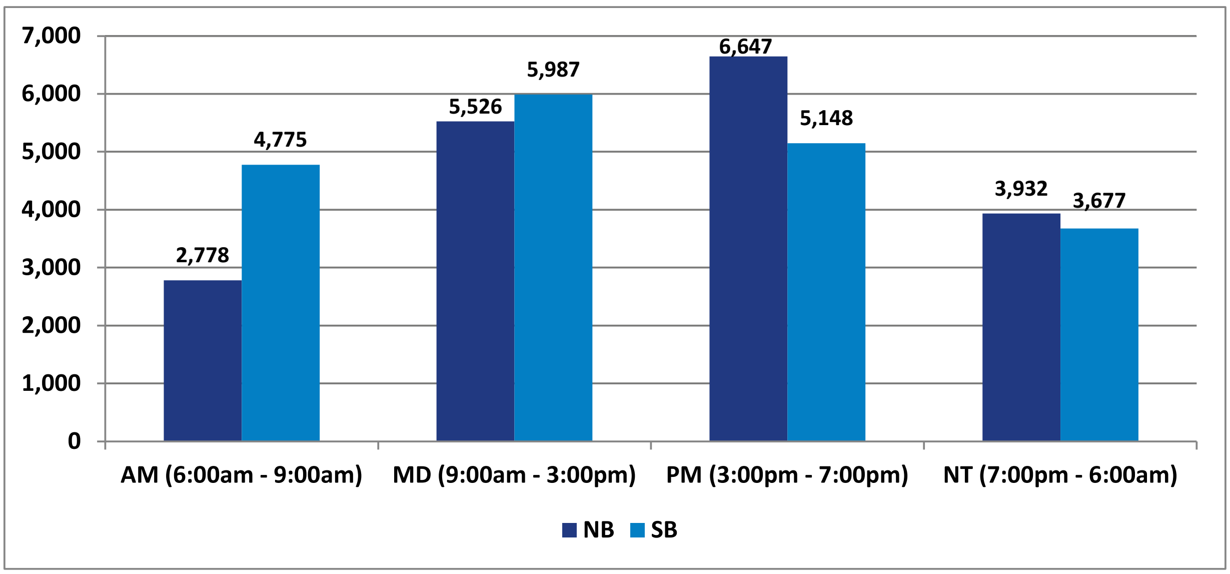


Figure 2-22
Screenline H-I-8 Traffic Profile

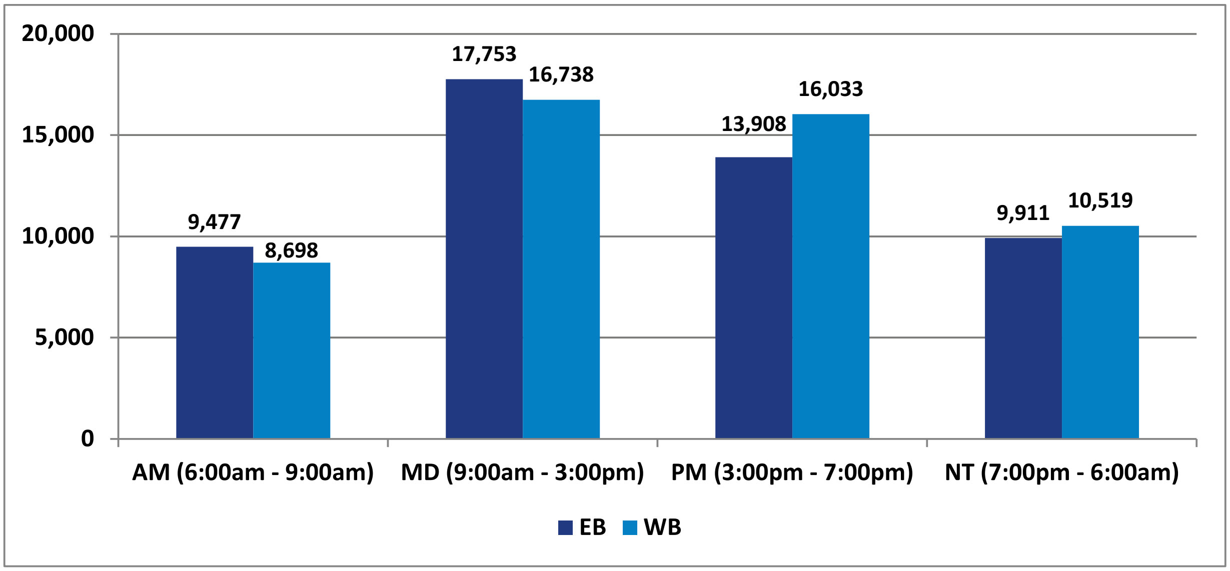


Figure 2-23
Screenline H-I-10 Traffic Profile

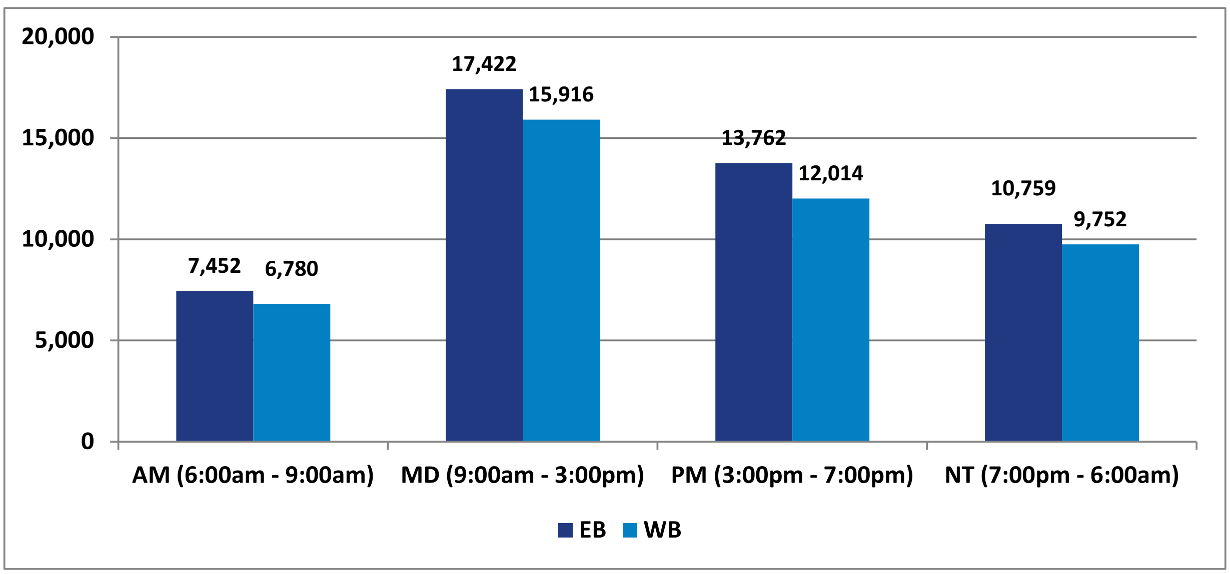


Figure 2-24
Screenline H-I-11 Traffic Profile

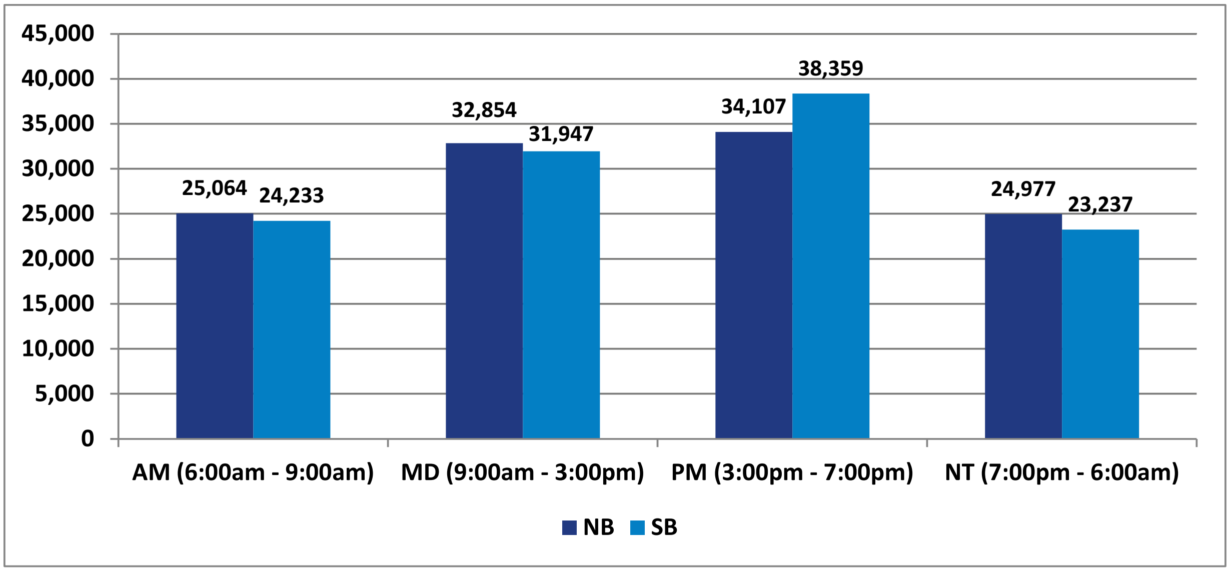


Figure 2-25
Screenline H-I-12 Traffic Profile

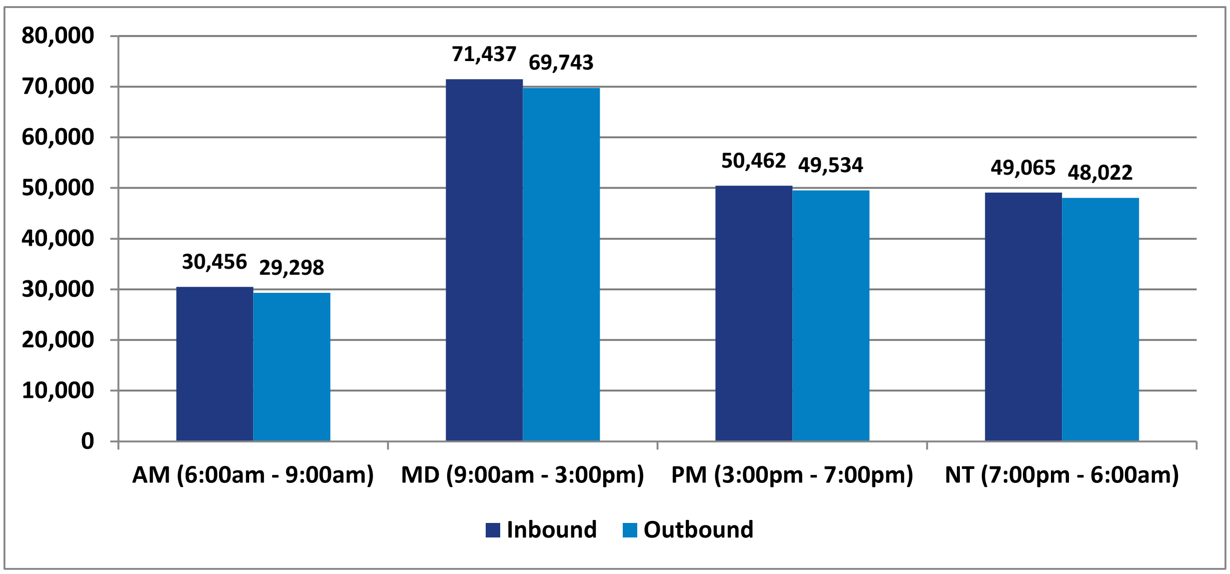


Figure 2-26
External Zone Traffic Count Profile

2.6.6 2014 Truck Traffic Counts

Given that the proposed Segment H and I corridor traverses an active industrial region near the Port of Houston, several vehicle classification counts were also collected. The classification data allowed for the determination of the truck traffic as a share of the total weekday traffic. **Table 2-26** shows a summary of the observed truck traffic shares. The highest truck traffic shares of 25.5 percent were observed along southbound SH 146 north of IH 10.

Table 2-26 Truck Share Summaries

Count Location	AWDT	Trucks	Percentage
NB SH 146 (Fred Hartman Bridge)	45,663	9,112	20.0%
SB SH 146 (Fred Hartman Bridge)	44,625	11,295	25.3%
EB IH 10 East Freeway at San Jacinto River	60,402	10,045	16.6%
WB IH 10 East Freeway at San Jacinto River	59,372	9,656	16.3%
NB IH 69 / US 59 at San Jacinto River	63,930	3,745	5.9%
SB IH 69 / US 59 at San Jacinto River	64,029	3,933	6.1%
EB SH 330 N of Rollingwood Road south of IH 10	16,563	2,000	12.1%
WB SH 330 N of Rollingwood Road south of IH 10	20,121	2,006	10.0%
NB SH 146 south of IH 10	17,580	1,843	10.5%
SB SH 146 south of IH 10	16,375	1,633	10.0%
NB Grand Parkway south of IH 10	1,682	332	19.7%
SB Grand Parkway south of IH 10	1,809	328	18.1%
NB SH 146 north of IH 10	13,989	2,263	16.2%
SB SH 146 north of IH 10	13,432	3,424	25.5%

2.6.7 2016 Data Collection Program

In addition to the comprehensive traffic data collection program conducted in 2014, additional traffic counts were collected within the Grand Parkway study area at several spot count locations in the spring of 2016. This traffic data collection program update is described and summarized herein. The traffic count information was collected in order to normalize the travel demand models to a 2016 base year. The counts collected in 2016 reflect the condition whereby the mainlanes along Grand Parkway Segments D through G are substantially open, compared to when the counts were collected in 2014 when only Segments D and E were initially open at the time.

For the screenline count locations near Segments H and I that were collected in 2014 but not in 2016, the estimated 2016 traffic volumes were derived by applying regional historical traffic growth rates by roadway functional class (as described previously in Section 2.6). The various TxDOT count locations in the vicinity of the H and I corridors used for developing the growth rates by roadway functional class are shown in **Figure 2-27**. In order to estimate traffic volumes at these locations for 2016, a combination of historical growth rates and moving-averages was used to estimate the growth rates from 2014 to 2016 by roadway functional class.

In addition to the estimated 2016 traffic counts in the Segments H and I corridor, traffic count data was collected at 42 spot count locations covering highway mainlanes and other major arterials, as shown in **Table 2-27**. An additional 30 count locations were also captured along ramps and direct connectors, as summarized in **Table 2-28**. Each table provides the assigned identification or location number, the direction of the count, a description of the count location, and the duration of the count in hours. **Figure 2-28** provides a graphical reference of each data collection location.

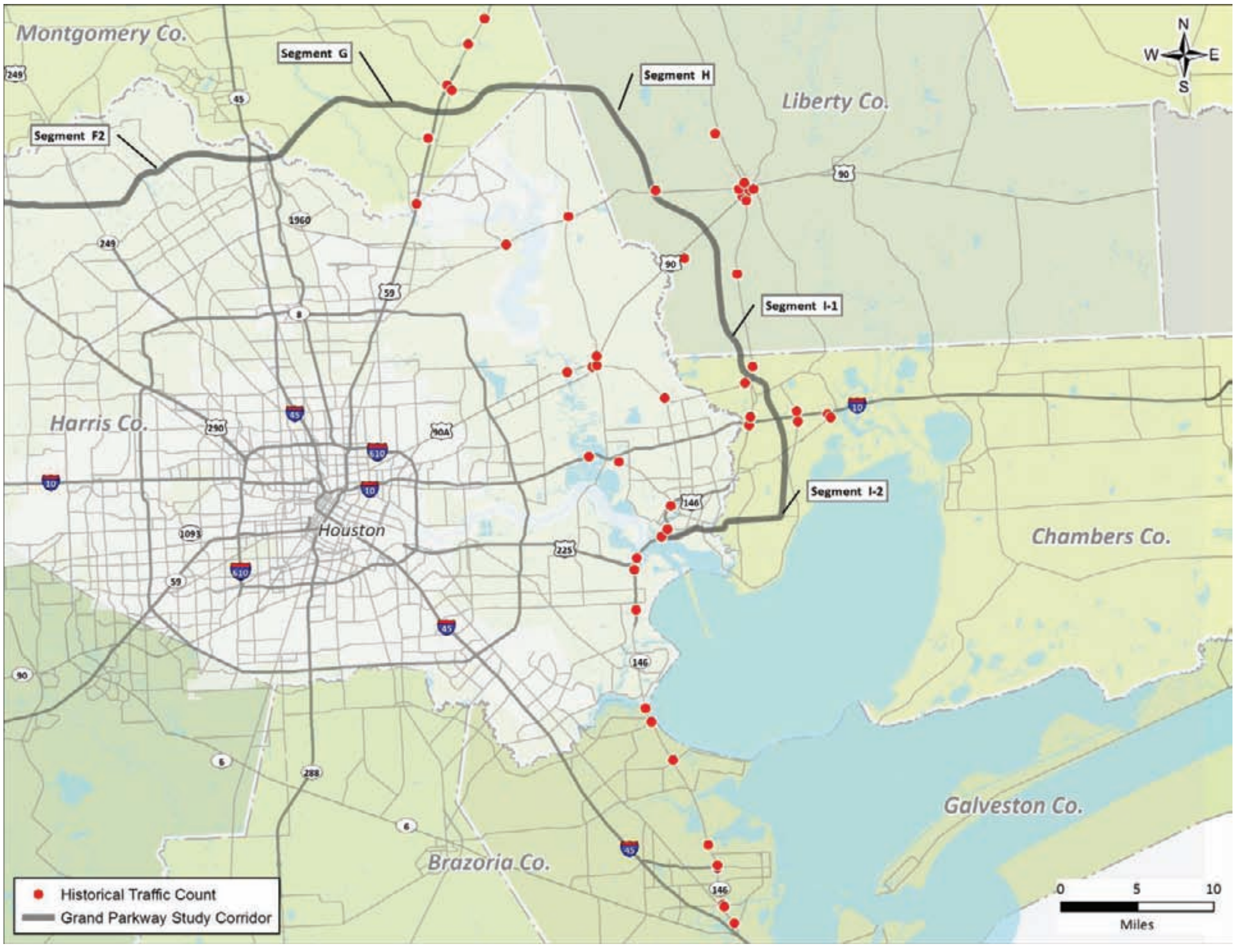


Figure 2-27
Additional TxDOT Locations Used to Estimate 2014-2016 Growth Rates for Segments H and I Corridor

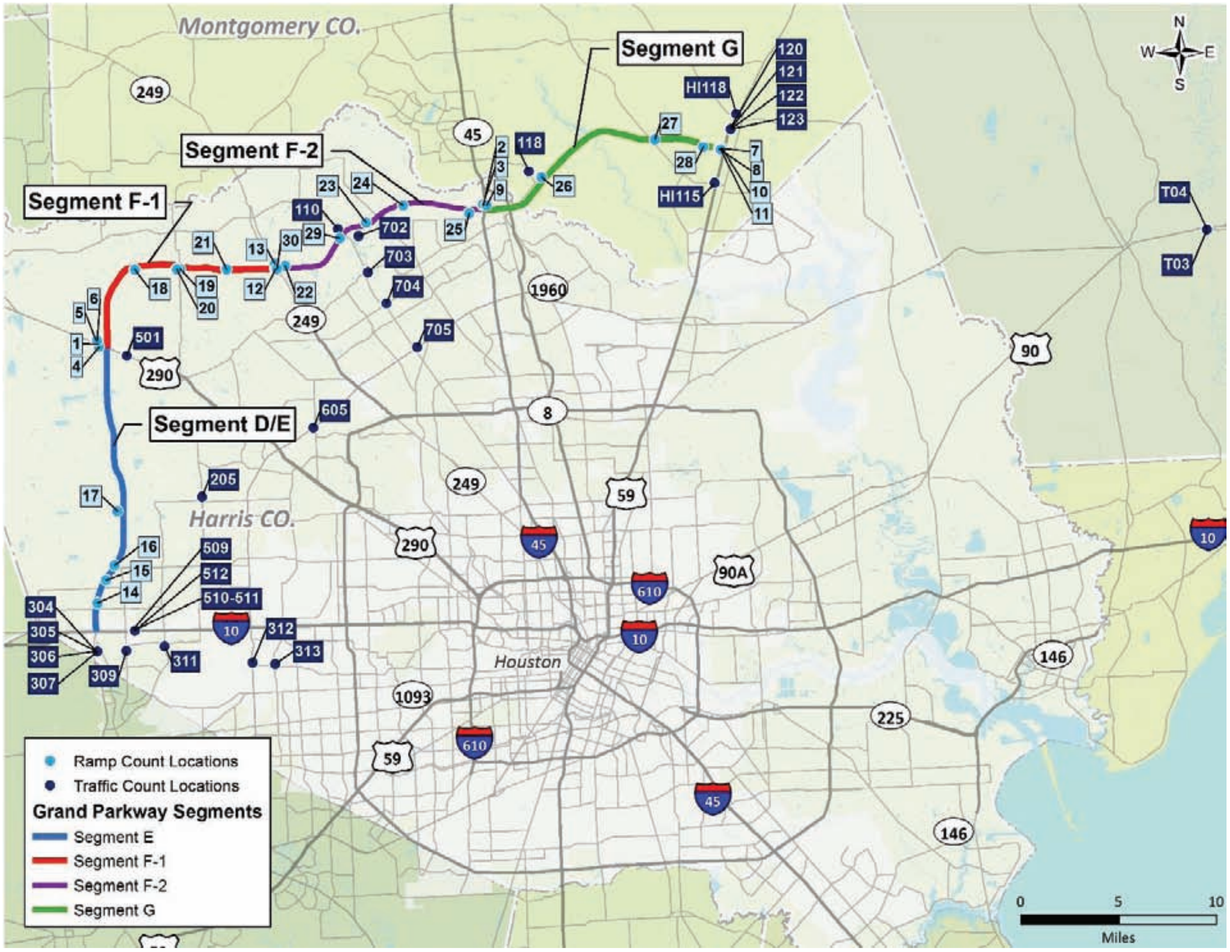


Figure 2-28
2016 Traffic Count Locations Including Spot Counts and Ramps

Table 2-27 2016 Data Collection Program: Arterial and Highway Locations

ID	Location Description	Direction	Duration (Hours)
110	FM 2920 b/w Dowdell Road and Boudreaux Road	EB	48
110	FM 2920 b/w Dowdell Road and Boudreaux Road	WB	48
118	Rayford Road b/w Legends Run Drive and Fox Run Boulevard	EB	48
118	Rayford Road b/w Legends Run Drive and Fox Run Boulevard	WB	48
120	Frontage Road of US 59 b/w FM 1485 and McClesky Road	SB	48
121	US 59 b/w FM 1485 and McClesky Road	SB	48
122	US 59 b/w FM 1485 and McClesky Road	NB	48
123	Frontage Road of US 59 b/w FM 1485/McClesky Road +	NB	48
205	Barker Cypress Road north of FM 529	NB	48
205	Barker Cypress Road north of FM 529	SB	48
304	Grand Parkway Frontage Road south of Kingsland Boulevard	SB	48
305	Grand Parkway south of Kingsland Boulevard	SB	48
306	Grand Parkway south of Kingsland Boulevard	NB	48
307	Grand Parkway Frontage Road south of Kingsland Boulevard	NB	48
309	Mason Road north of Cimmaron Parkway	NB	48
309	Mason Road north of Cimmaron Parkway	SB	48
311	S Fry Road north of Emerald Leak Drive	NB	48
311	S Fry Road north of Emerald Leak Drive	SB	48
312	SH 6 north of Briar Forest Drive	NB	48
312	SH 6 north of Briar Forest Drive	SB	48
313	N Eldridge Parkway north of Briar Forest Drive	NB	48
313	N Eldridge Parkway north of Briar Forest Drive	SB	48
501	FR of US 290 b/w Fairfield Place Drive and Mueschke Road	WB	48
504	FR of US 290 b/w Fairfield Place Drive and Mueschke Road	EB	48
509	FR IH 10 b/w N. Mason Road and Westgreen Boulevard	WB	48
510	IH 10 b/w N. Mason Road and Westgreen Boulevard	EB	48
511	IH 10 b/w N. Mason Road and Westgreen Boulevard	WB	48
512	FR IH 10 b/w N. Mason Road and Westgreen Boulevard	EB	48
605	FM 1960 b/w Steepletop Drive and Jones Road	EB	48
605	FM 1960 b/w Steepletop Drive and Jones Road	WB	48
702	FM 2920 east of Steubner Airline Road	EB	48
702	FM 2920 east of Steubner Airline Road	WB	48
703	Spring Cypress Road east of Steubner Airline Road	EB	48
703	Spring Cypress Road east of Steubner Airline Road	WB	48
704	Louetta Road east of Steubner Airline Road	EB	48
704	Louetta Road east of Steubner Airline Road	WB	48
705	FM 1960 east of Steubner Airline Road	EB	48
705	FM 1960 east of Steubner Airline Road	WB	48
HI115	FM 1314	EB	48
HI118	FM 1485	WB	48
T03	US 90 at Trinity River Bridge	EB	48
T04	US 90 at Trinity River Bridge	WB	48

Table 2-28 2016 Data Collection Program: Ramp and Direct Connector Locations

ID	Description	Number of Hours
DCRamp1	SH 99 NB-US 290 WB	48
DCRamp2	SH 99 EB-IH 45 NB	168
DCRamp3	IH 45 SB-SH 99 WB	48
DCRamp4	SH 99 NB-US 290 EB	48
DCRamp5	SH 99 SB-US 290 WB	48
DCRamp6	SH 99 SB-US 290 EB	48
DCRamp7	US 59 NB-SH 99 WB	48
DCRamp8	SH 99 EB-US 59 NB	48
DCRamp9	Exit Ramp-NE Quad IH 45 and SH 99	48
DCRamp10	Entrance Ramp-NW Quad US 59 and SH 99	48
DCRamp11	Exit Ramp-SW Quad US 59 and SH 99	48
DCRamp12	SB SH 249 Frontage-SW Quad SH 249 and SH 99	48
DCRamp13	NB Ramp-NE Quad SH 249 and SH 99	48
DCRamp14	Franz Road -SB Exit	48
DCRamp15	Morton Road - SB Exit	48
DCRamp16	Clay Road - SB Exit	48
DCRamp17	FM 529 - NB Exit	48
DCRamp18	Mueschke Road - EB Exit	48
DCRamp19	Cypress Rose Hill - WB Exit	48
DCRamp20	Cypress Rose Hill - EB Exit	48
DCRamp21	Telge Road - WB Exit	48
DCRamp22	Boudreaux Road - WB Exit	48
DCRamp23	Spring Stuebner Road - EB Exit	48
DCRamp24	Gosling Road - WB Exit	48
DCRamp25	Holzwarth Road - EB Exit	48
DCRamp26	Rayford Road - EB Exit	48
DCRamp27	FM 1413 - WB Exit	48
DCRamp28	Valley Ranch - EB Exit	48
DCRamp29	FM 2920 - EB Exit	48
DCRamp30	NB SH 249 Frontage-SW Quad SH 249 and SH 99	48

2.7 TxDOT Permanent Counter Data

CDM Smith also compiled available permanent traffic counter data maintained by TxDOT at several locations within the Segments D through I study corridor, as shown in **Figure 2-29**. This information was collected to evaluate the seasonality and weekly distribution of traffic and to determine the variations in traffic level between the weekday and weekend. The derived average weekday and weekend traffic for the selected eight locations are shown in **Table 2-29**. The 2012 truck traffic shares at three of these locations are also included in Table 2-29. It is worth noting that for a handful of locations, the 2013 data was available and are also highlighted and presented in **Table 2-30**.

The typical weekend traffic share along US 59 (S-174 and S-140) was shown to range from 76 percent in the north and 83 percent in the south. The weekend share along SH 146 (S-529 and S-508) was shown to be in a similar range between 72 percent and 82 percent while the weekend share along existing SH 99 (S-516) within the same vicinity was shown to be around 50 percent. This lower share suggests that the current segment is catering to a market that does not fluctuate significantly between the weekday and weekend and suggests that there is less commuter traffic along the route. Along the SH 249 (S-258) and IH 45 (A-316), the weekend share was shown to be around 77 and 78 percent respectively while the US 290 (S-3) location showed a weekend share of 91 percent.

Some of the counter locations also collected axle data to measure the percentage of trucks. The truck traffic share along the existing non-tolled SH 99 (Segment I-2 section) was approximately 16 percent, while SH 146 (near the SH 99 non-tolled Segment I-2) showed a truck share of 10 percent and 7 percent along SH 146 (north of US 90).

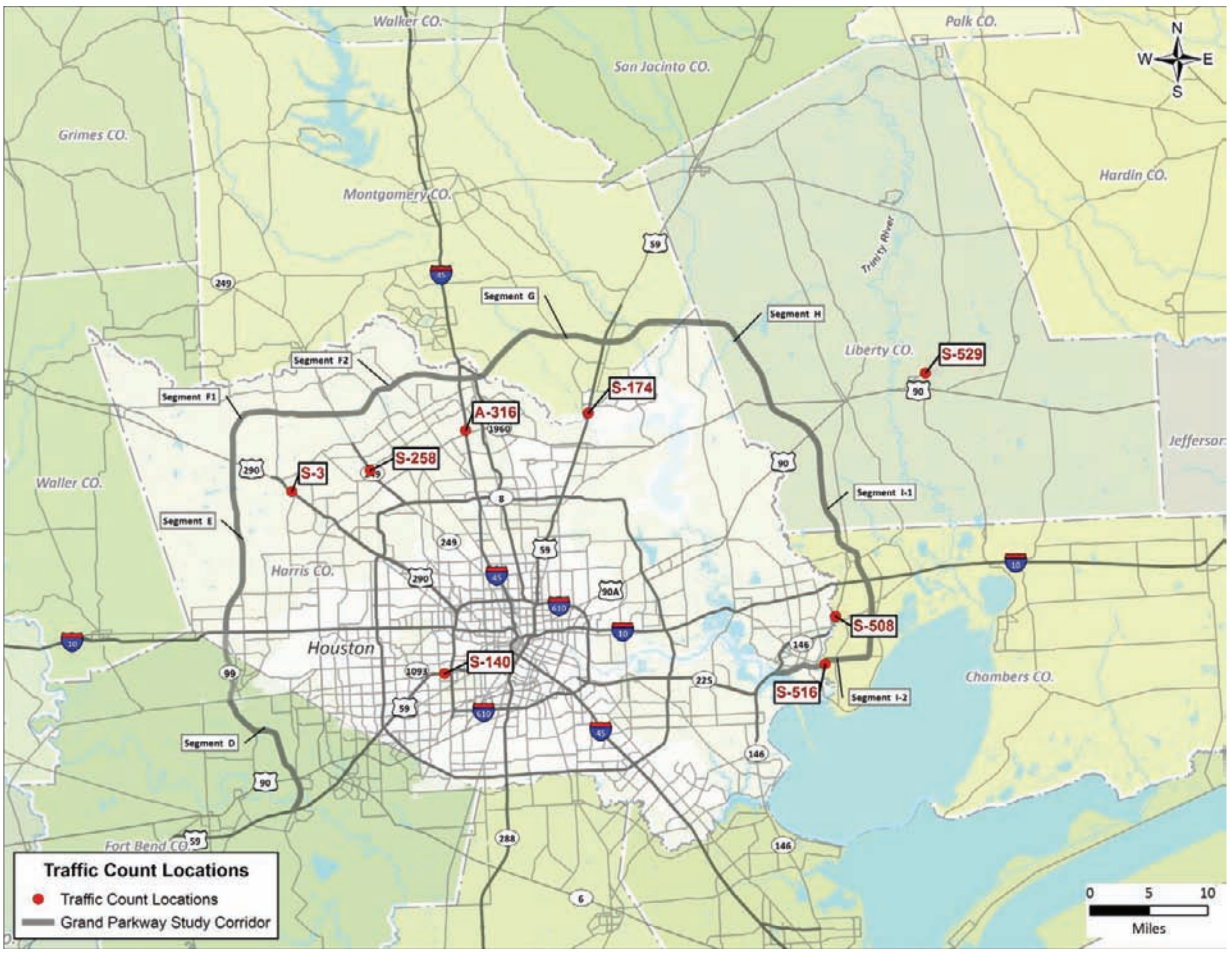


Figure 2-29
Expanded Grand Parkway System Corridor (D through I Corridor): TxDOT Permanent Traffic Counter Locations

Table 2-29 TxDOT Permanent Traffic Counter Data Summaries for Roadways in the Expanded Grand Parkway System Corridor (2012)

Parameter	Location ID	2012
Weekday Average	S-174	105,918
	S-508	30,450
	S-516	11,602
	S-529	10,728
	S-3	123,560
	A-316	212,760
	S-140	321,751
	S-258	108,905
Weekend Average	S-174	80,325
	S-508	22,053
	S-516	5,838
	S-529	8,819
	S-3	113,131
	A-316	166,056
	S-140	266,222
	S-258	84,216
% Truck Traffic	S-508	10%
	S-516	16%
	S-529	7%

Legend:
S-174: US 59 – 2.7 miles N of FM 1960
S-508: SH 146 – 0.9 miles N of FM 1450
S-516: SH 99 – 1.8 miles E of SH 146 Business
S-529: SH 146 – 0.3 miles S of Spur 227
S-3: US 290 – 5 miles W of FM 1960
A-316: IH 45 – 0.5 miles N of FM 1960
S-140: US 59 – 0.6 miles S of IH 610, S. Houston
S-258: SH 249 – 2 miles N of FM 1960

Table 2-30 TxDOT Permanent Traffic Counter Data Summaries for Roadways in the Expanded Grand Parkway System Corridor (2013)

Parameter	Location ID	2013
Weekday Average	S-174	108,589
	S-3	127,859
	A-316	217,109*
	S-258	113,897
Weekend Average	S-174	82,762
	S-3	115,008
	A-316	170,918*
	S-258	80,296

*Only 4-month data available

2.8 Grand Parkway Recent Observed Trends

Segments D (Harris County), E, F-1, F-2, G and I-2A of the Grand Parkway are currently operational. Segments D and E opened in December 2013 and TxDOT began collecting tolls in February 2014. The Segments F-1 and F-2 opened in early February 2016 and tolling began on February 15, 2016. Segment G opened directly to tolling on April 4, 2016. The current configuration, tolling locations and toll rates for Segments D through G are shown in **Figure 2-30**. Segment I-2A is a separate stand-alone tolled facility operated by TxDOT and is not currently operated as part of the Grand Parkway System yet. GPTC will not being receiving revenues from Segment I-2A until Segments H, I-1 and I-2B and the improvements to Segment I-2A are substantially completed; and it is assumed that GPTC will begin receiving I-2A revenues from May 9, 2022.

Figure 2-31 shows the recent average weekday transaction trends at the tolled gantries for Segments D and E. The bi-directional total traffic at each of the Segment E's mainlane gantries is currently (November 2016) ranging between 38, 000 and 46,000 vehicles during an average weekday. The total bi-directional ramp transactions along Segment E were over 24, 000 vehicles during an average weekday (November 2016).

Figure 2-32 shows the trend in truck transaction shares along Segments D (Harris County) and E, which was approximately 2.5 percent during the initial opening period, increased to over 4.5 percent in March 2016 following the opening of Segments F-1, F-2 and G and averaged 3.7 percent in November 2016.

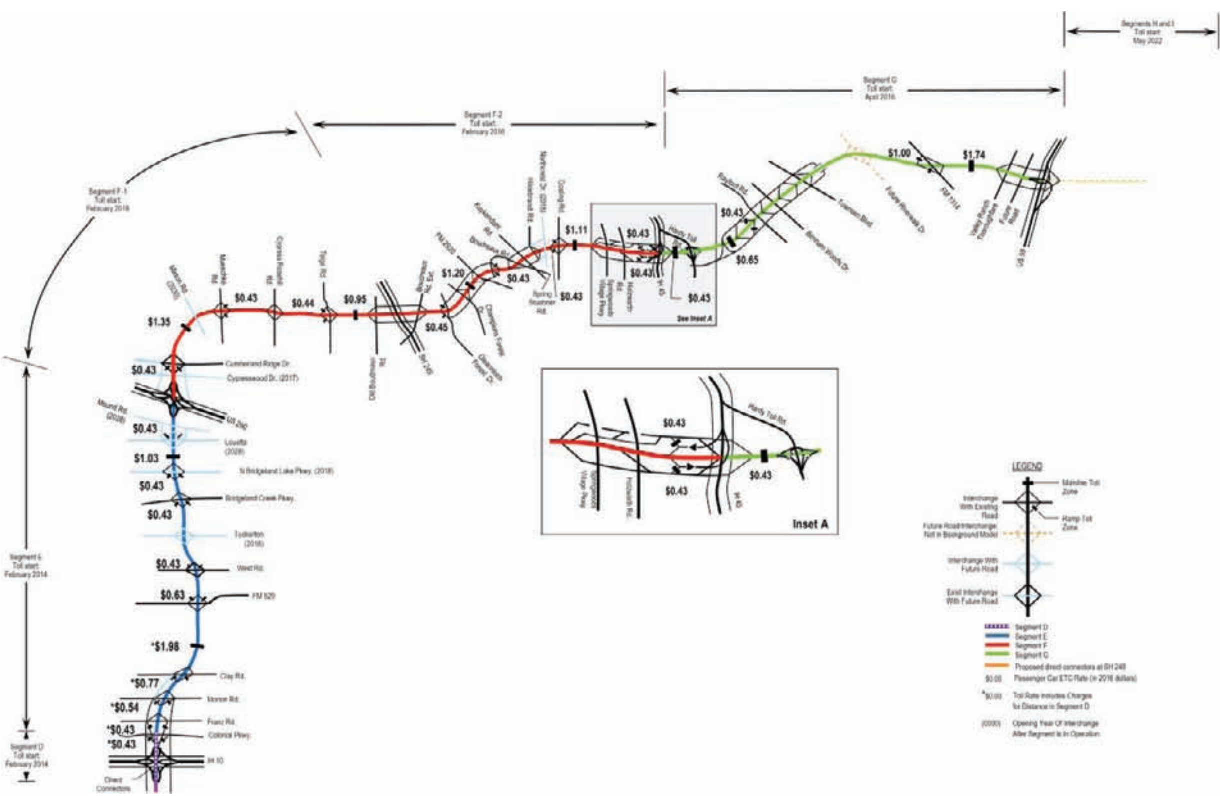


Figure 2-30
SH 99 Segments D through G: Existing Configuration and Toll Rates

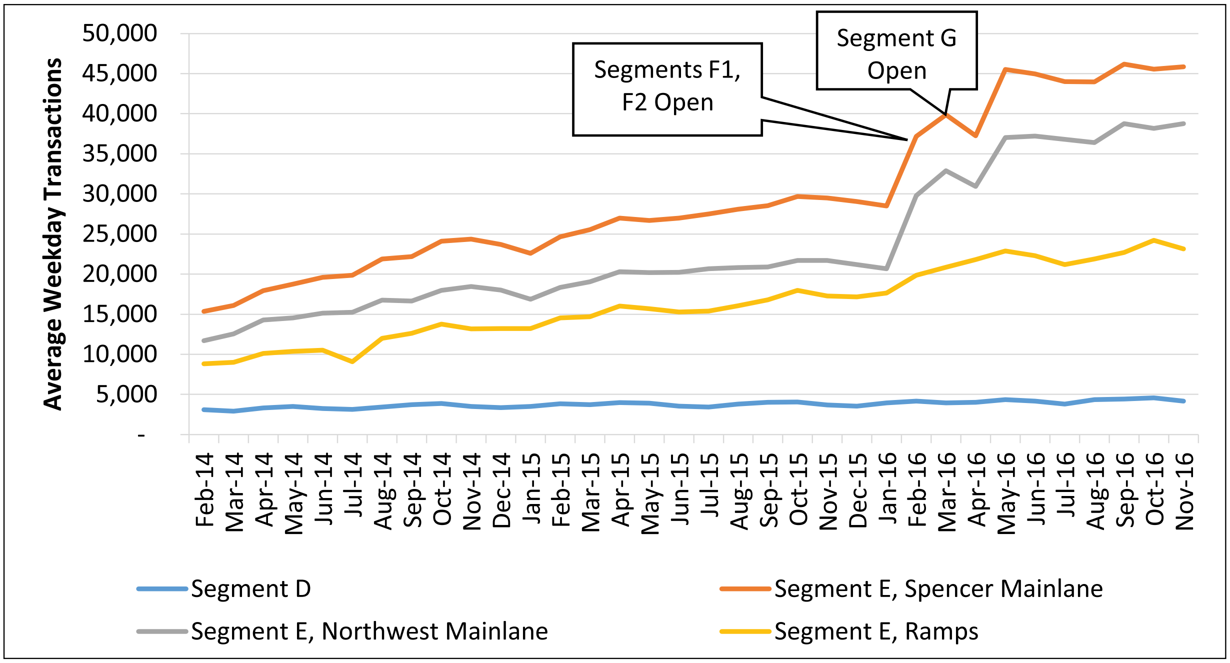


Figure 2-31
SH 99 Segments D (Harris County) and E: Average Weekday Toll Transaction Trends

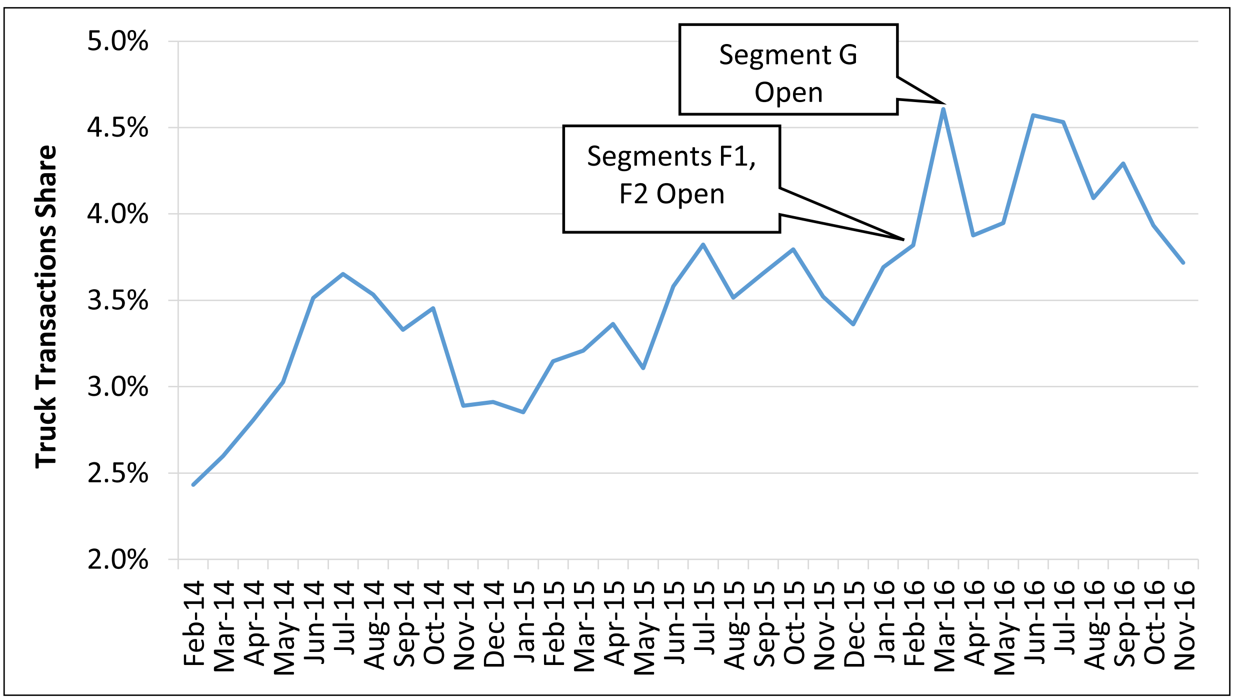
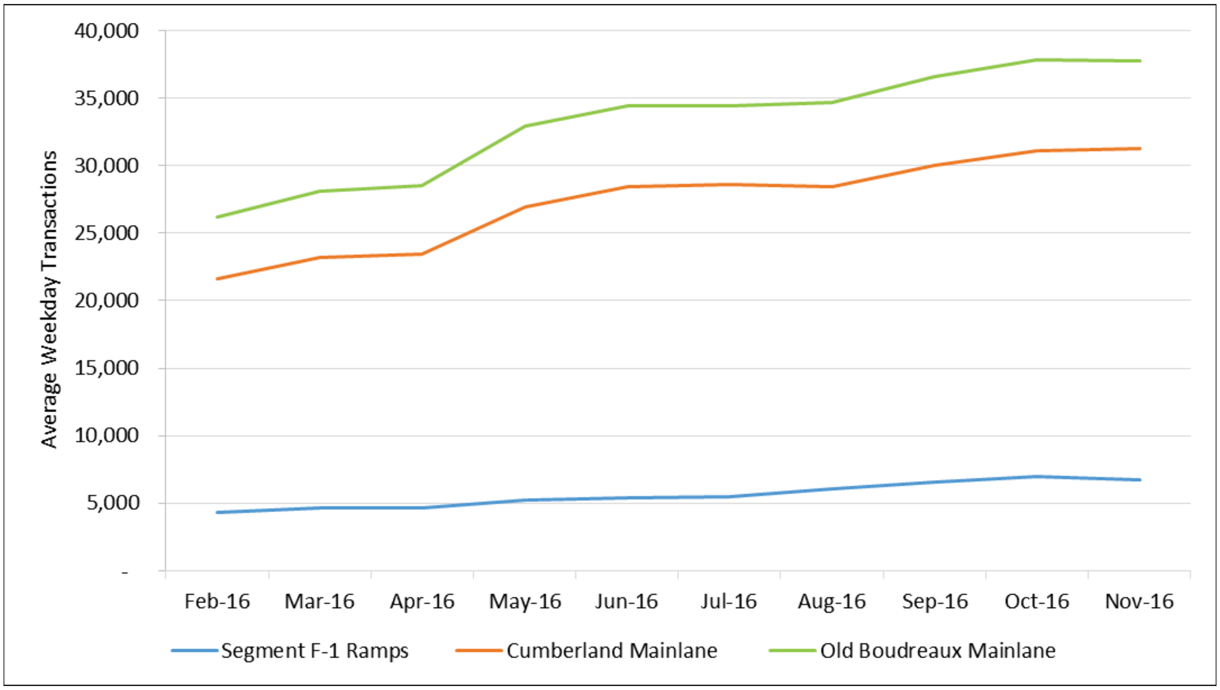


Figure 2-32
SH 99 Segments D (Harris County) and E: Truck Traffic Share Trends

Figure 2-33 shows the recent average weekday transaction trends for the first few months (February through November 2016) at the tolled gantries for Segments F-1 and F-2 respectively. Within Segment F-1, the average weekday traffic at the Cumberland Mainlane location was approximately 27,000 per weekday in May 2016 and 31,000 in November 2016, while the Old Boudreaux Mainlane location captured approximately 33, 000 and 37,000 per weekday in May

2016 and November 2016 respectively. Segment F-2 captured relatively similar average weekday traffic along the two mainlane locations, both of which captured close to 40,000 vehicles per weekday at each respective location in May 2016 increasing to between 46,000 and 48,000 vehicles daily by November 2016.



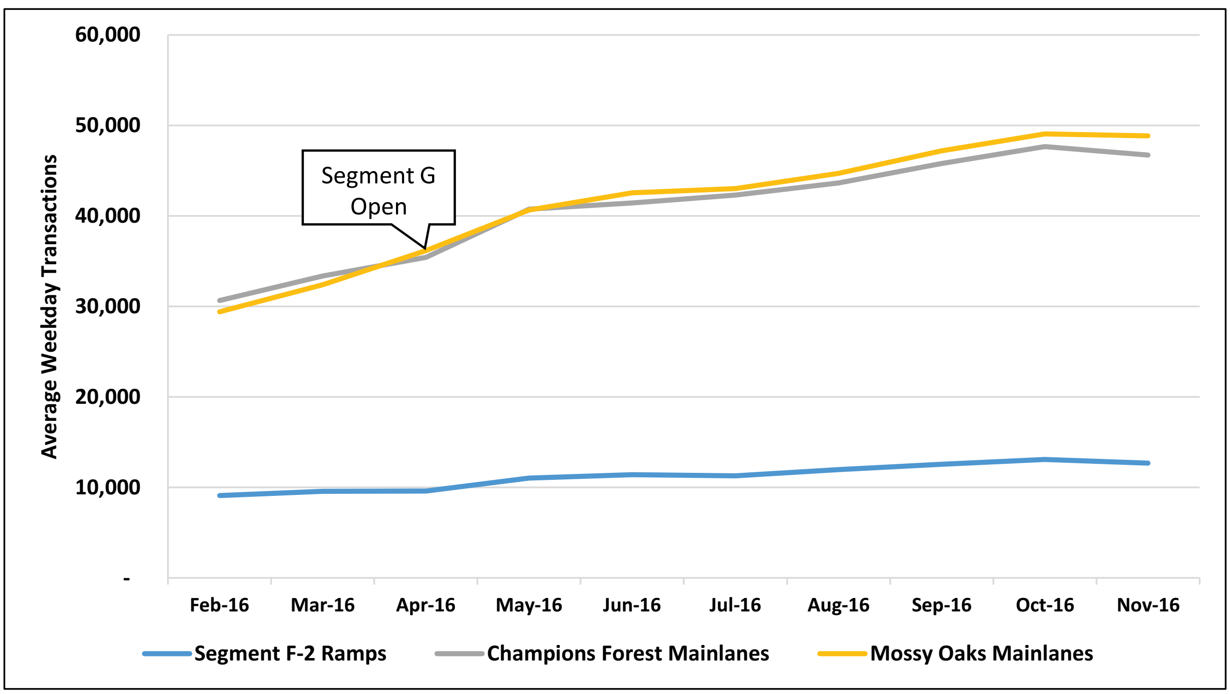
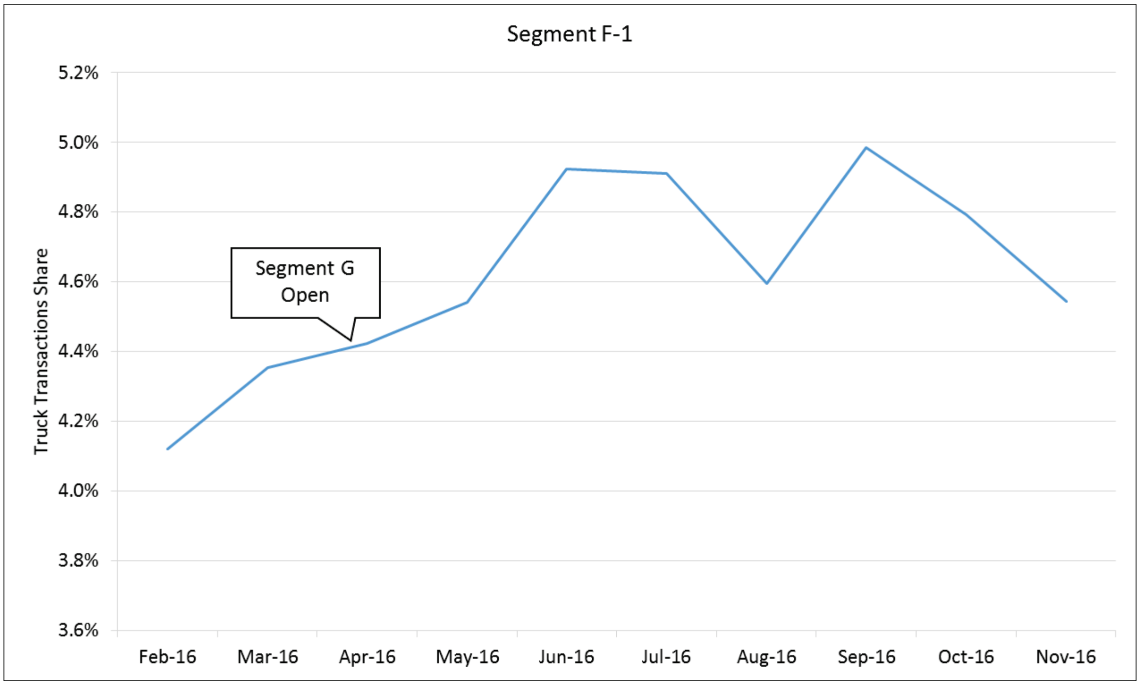


Figure 2-33
SH 99 Segments F-1 and F-2: Average Weekday Toll Transaction Trends

Figure 2-34 shows the percentage shares trend of truck transactions along these segments. Between February 2016 and April 2016, the truck percentage shares along Segment F-1 grew from about 4.1 percent to 4.4 percent and remained close to 4.5 percent in November 2016, whereas along Segment F-2, they grew from 3.1 percent in May 2016 to close to 3.5 percent by November 2016.



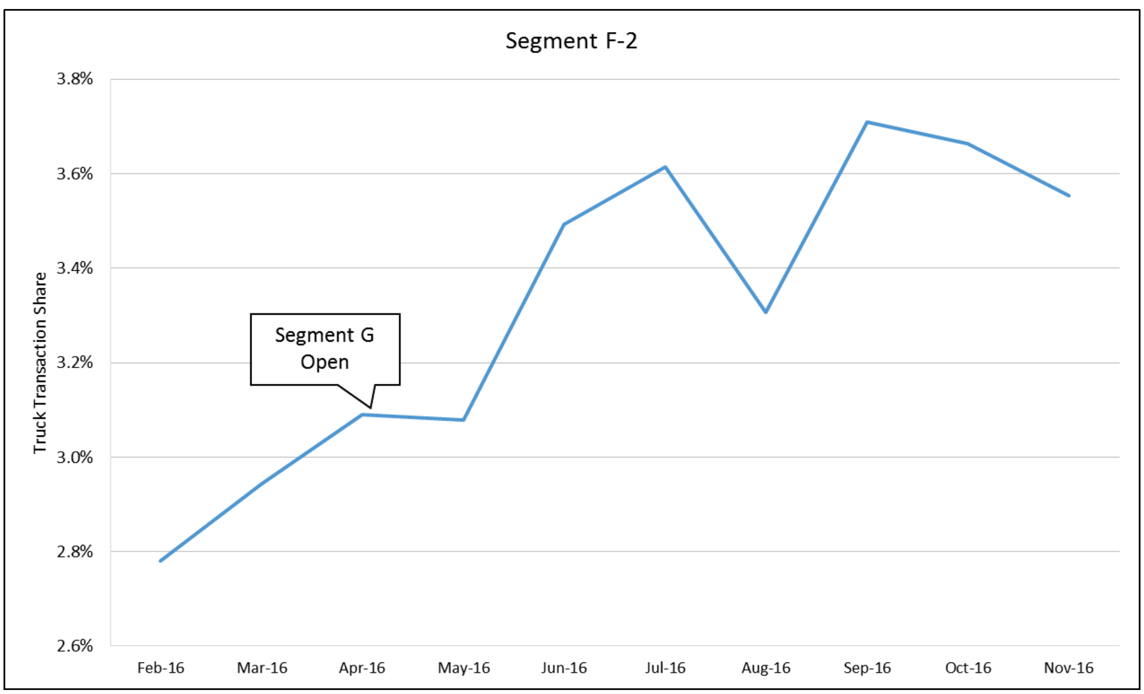


Figure 2-34
SH 99 Segments F-1 and F-2: Truck Traffic Share Trends

The latest tolled transactions data along the recently opened Segment G mainlanes and ramps from April to November 2016 are shown in **Figure 2-35**. The two directional volumes at the two mainlane gantries on either side of Hardy toll road reached approximately 20,000 per weekday in May 2016 and increased to between 26,000 (at Riley Fuzzel mainlane gantry) and 28,000 (at Hardy mainlane gantry), whereas the Valley Ranch mainlane gantry two-directional total was close to 10,000 per weekday in May 2016 increasing to 16,000 vehicles per weekday in November 2016. **Figure 2-36** shows the percentage shares of trucks captured along Segment G from April 2016 to November 2016.

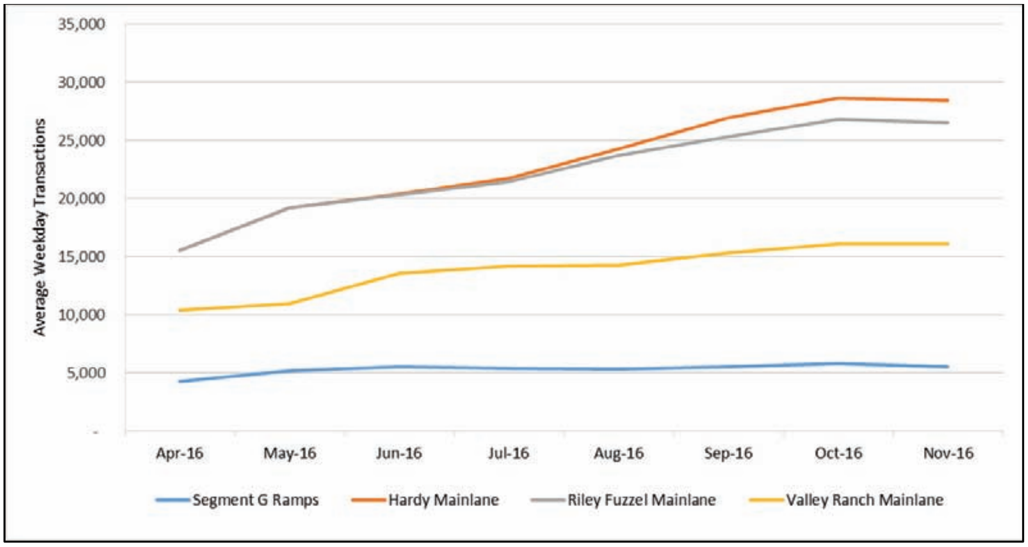


Figure 2-35
SH 99 Segment G: Average Weekday Toll Transaction Trends
*Note Reflects raw transaction data and unusual weather and data reporting was experienced in May 2016

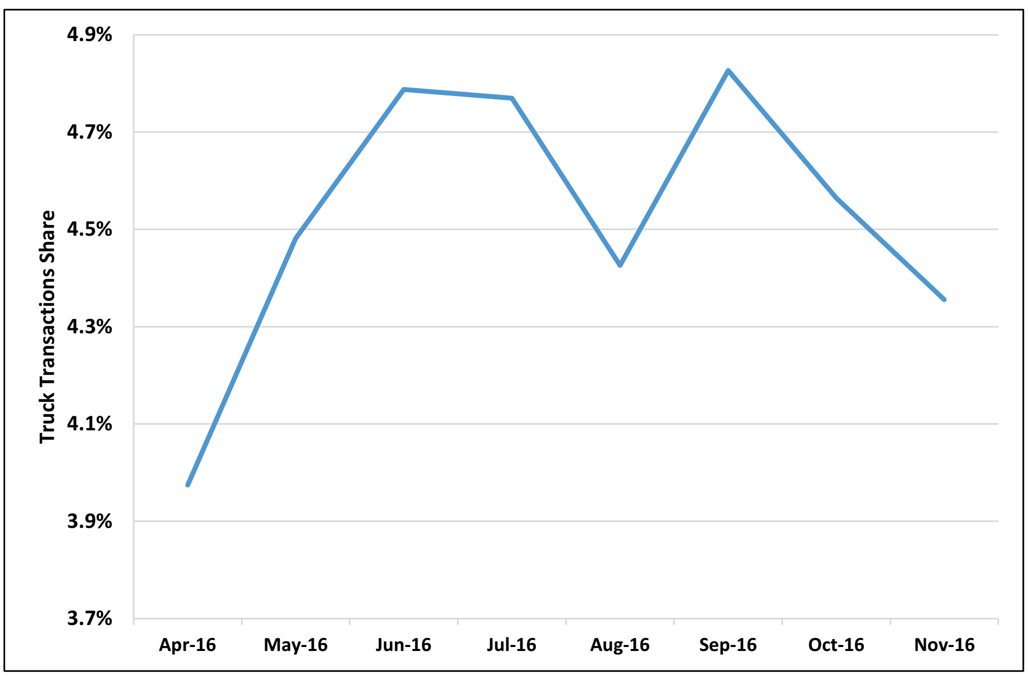


Figure 2-36
SH 99 Segment G: Truck Traffic Share Trends

Figures 2-37 and 2-38 show the average weekday transactions and truck transaction shares along Segment I-2A.

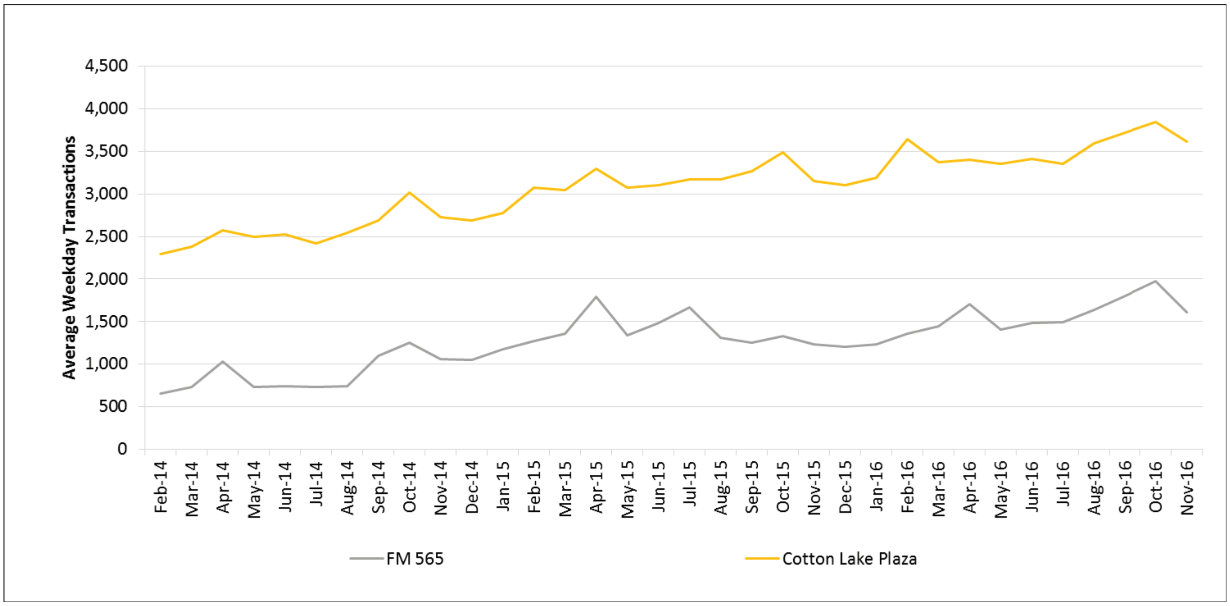


Figure 2-37
SH 99 Segment I-2A*: Average Weekday Toll Transaction Trends

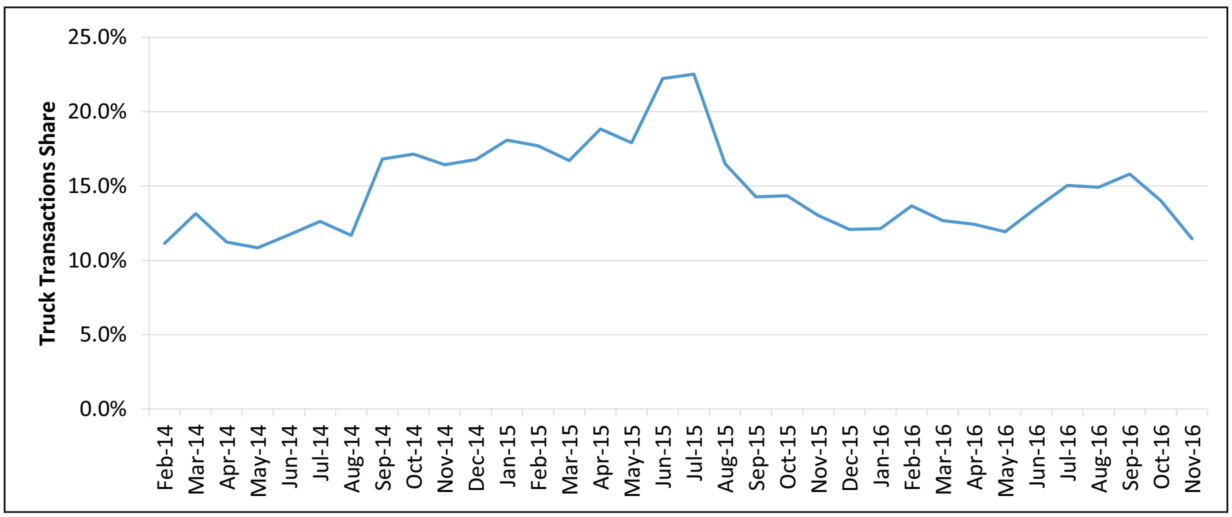


Figure 2-38
SH 99 Segment I-2A*: Truck Traffic Share Trends
* Stand-alone toll facility of TxDOT and its State Highway Fund until Segments H and I are constructed and operational.

Figure 2-39 shows the total monthly toll transactions and revenue recorded along Segments D through G of the existing Grand Parkway System from when tolling first began on Segment E in February 2014. As shown, the average monthly T&R quadrupled by late 2016, compared to the average monthly T&R observed in 2015, due to the continued ramp-up of the recently opened Segments F1, F2 and G.

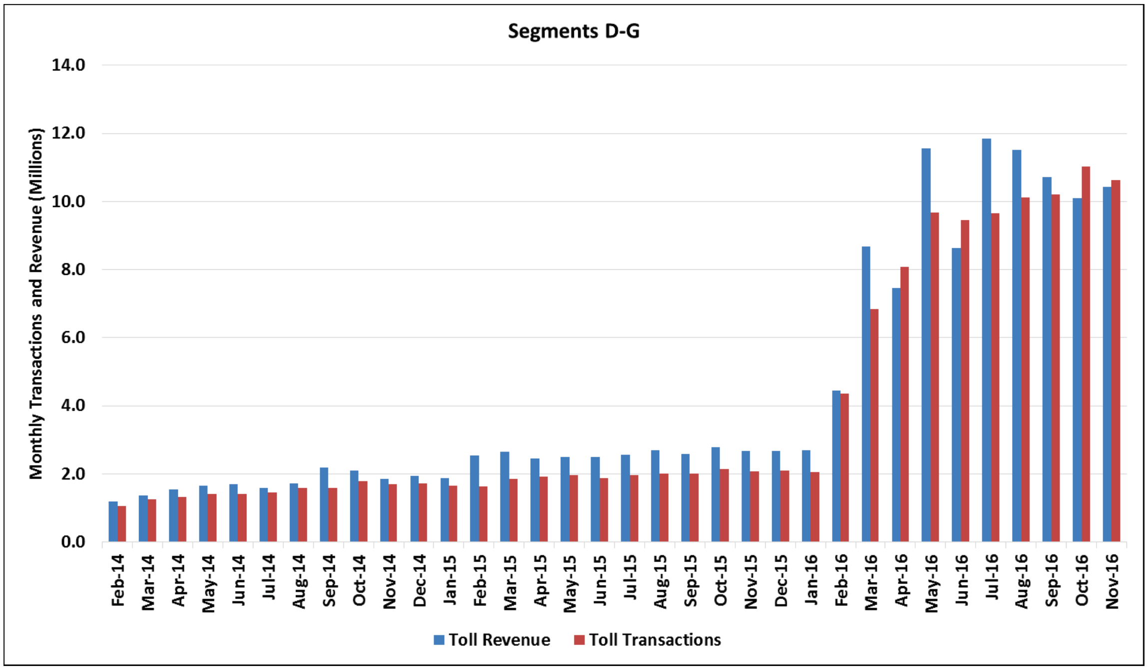


Figure 2-39
SH 99 Segments D through G: Monthly Traffic and Revenue Trends

2.9 Travel Time Information

The evaluation of a proposed toll facility requires knowledge of the current travel time characteristics along the major roadways within the project area. For the current study, travel time data was collected using two methods. The primary source was historical travel data obtained from INRIX, Inc., which was supplemented using vehicles equipped with a GPS-device traveling along several identified key routes within the proposed study area.

2.9.1 INRIX Travel Speed Data

INRIX, Inc., a traffic data company based in Washington State, maintains an archive of travel speed data for thousands of roadways across the United States that is accumulated from GPS-enabled devices along the highway network. INRIX is a Data-as-a-Service (DaaS) company that monitors traffic flow along approximately 260,000 miles of major freeways, highways, urban and rural arterials, and side streets in the United States. This data provides historical as well as real-time traffic data, seven days a week, 24 hours a day in as little as 5 minute increments for all metro areas with a population of more than one million. They were engaged to provide a series of travel speed data for several roadways within the study area.

INRIX obtains its data via crowd sourcing and collects travel speed information from various probes; including anonymous cell phones/smartphones and vehicles equipped with global positioning system (GPS) devices (trucks, delivery vans, transit vehicles, etc.). The collected data is then processed in real-time to create traffic speed information along most of the major roadways. The real-time travel speed data is normalized to account for parameters that affect traffic flow conditions, such as weather forecasts, school schedules, special events, accidents, seasonal variation, and road construction. The procedure adopted by INRIX to obtain and distribute the crowd-sourced traffic data is illustrated in **Figure 2-40**.

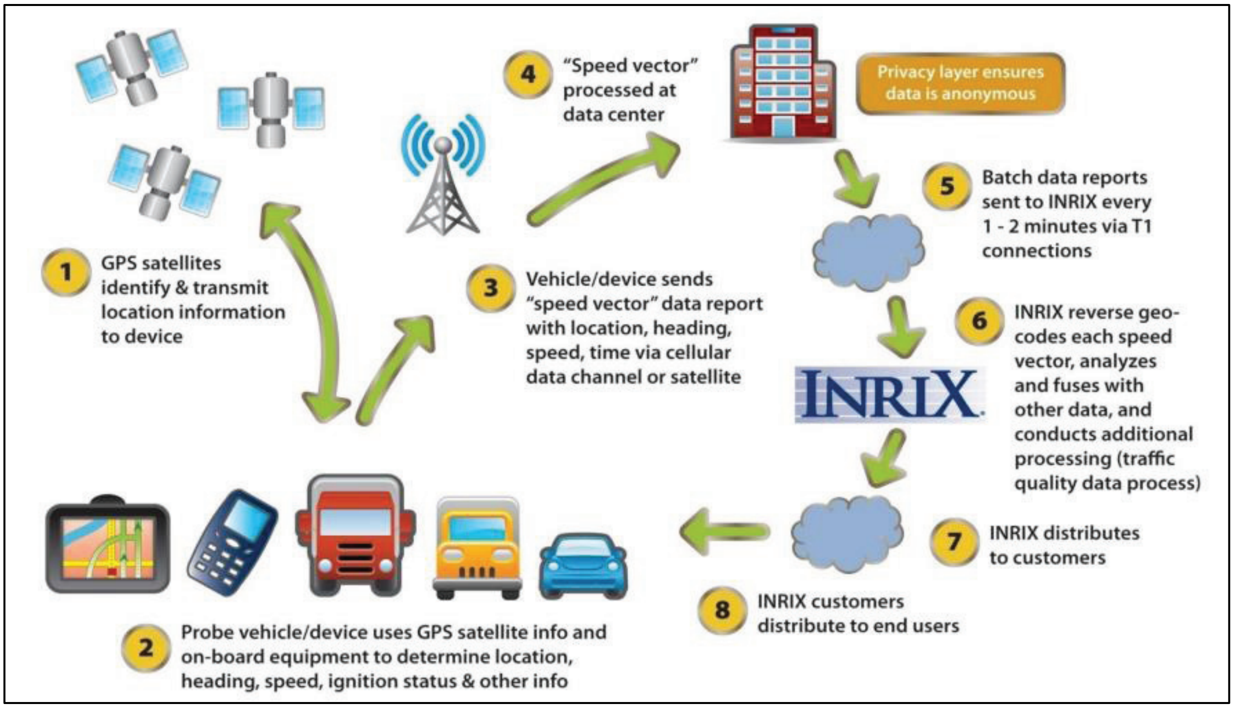


Figure 2-40
INRIX Traffic Data Collection and Distribution Process
Source: INRIX, Inc.

2.9.2 GPS-Based Travel Time Data

In addition to the data received from INRIX, CDM Smith conducted a series of travel time runs for potential competing routes along the Grand Parkway corridor in October 2014. Time and location data were recorded every one twentieth of a mile. The average operating speed, change in speed and distance traveled can be easily estimated from this time and location data, thus providing information regarding peak period average travel speeds in the study area.

2.9.3 Summary of Travel Time Data

The route locations for which data was collected within the expanded Grand Parkway System corridor are listed in **Table 2-31** and presented graphically in **Figure 2-41**. The type of data collected at each location (INRIX, GPS or both) is illustrated in **Figure 2-42.** For illustration purposes, summaries of the speed data collected from INRIX during both the Mid-day free flow conditions as well as the AM and PM peak periods are shown in **Figures 2-43 through 2-45**.

These figures highlight the observed congestion during both AM and PM peak periods. As shown in the figures for both the AM and PM peak periods, the higher levels of congestion are typically occurring at locations nearer the Houston downtown area.

The routes covered with the GPS-based travel time data collection are listed in the **Table 2-32**. The GPS-based data collection routes are shown in **Figure 2-46.** The speeds observed with the GPS-based data collection are listed in **Table 2-33**.

Table 2-31 Travel Time Data Collection Routes in 2013

Route	Corridor/Roadway	From	To
1	Sam Houston Tollway	US 59	SH 225
2	US 59	Sam Houston Tollway	SH 105
3	US 90	Sam Houston Tollway	Jefferson County Line
4	IH 10	Sam Houston Tollway	Jefferson County Line
5	FM 1960	US 59	SH 321
6	SH 146	SH 225	SH 105
7	SH 321	US 90	SH 105
8	SH 105	SH 321 (west)	SH 326
9	FM 1485	US 59	FM 2100
10	FM 2100/Crosby Lynchburg Road	FM 1485	IH 10
11	FM 1942	US 90	SH 146
12	Bohemian Hall Road	US 90	FM 1942
13	N Main Street	FM 1942	IH 10
14	FM 563	US 90	IH 10
15	SH 99	IH 10	B-146
16	FM 2354	SH 146	FM 3180
17	FM 1405	SH 146	FM 2354
18	FM 565	FM 1409	SH 146
19	FM 1409	US 90	FM 565
20	SH 225	Sam Houston Tollway	SH 146
21	FM 2518/CR 2285/FM 1008	SH 105	SH 321
22	SH 61	US 90	IH 10

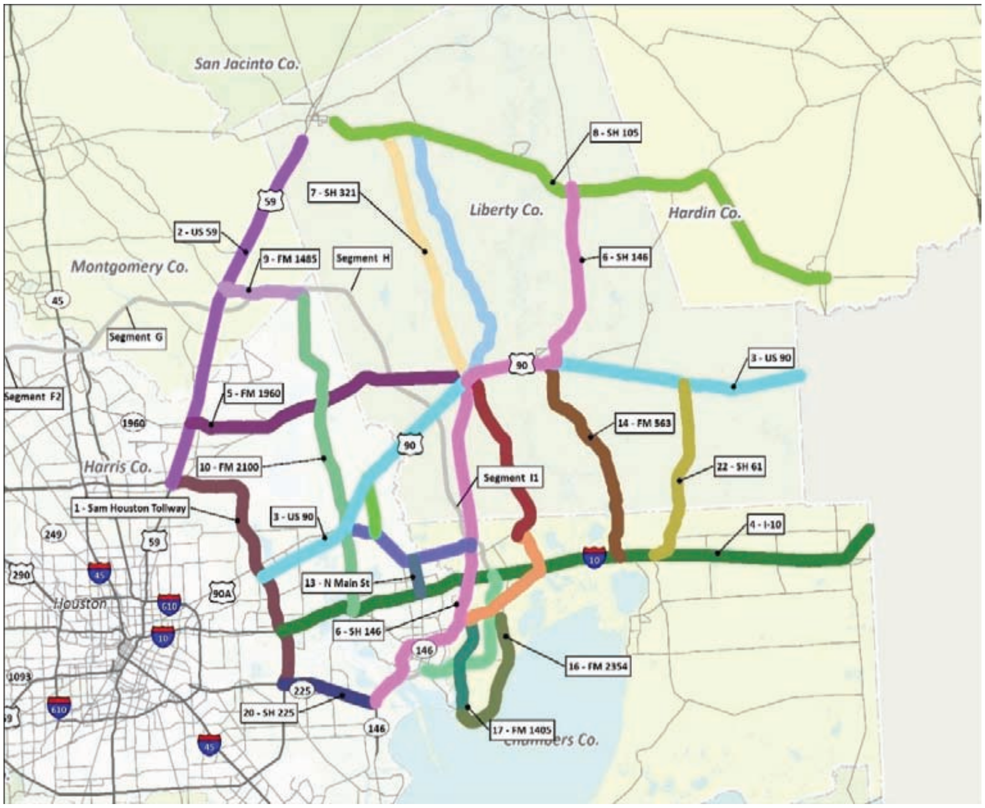


Figure 2-41
Travel Time Data Collection Routes in 2013

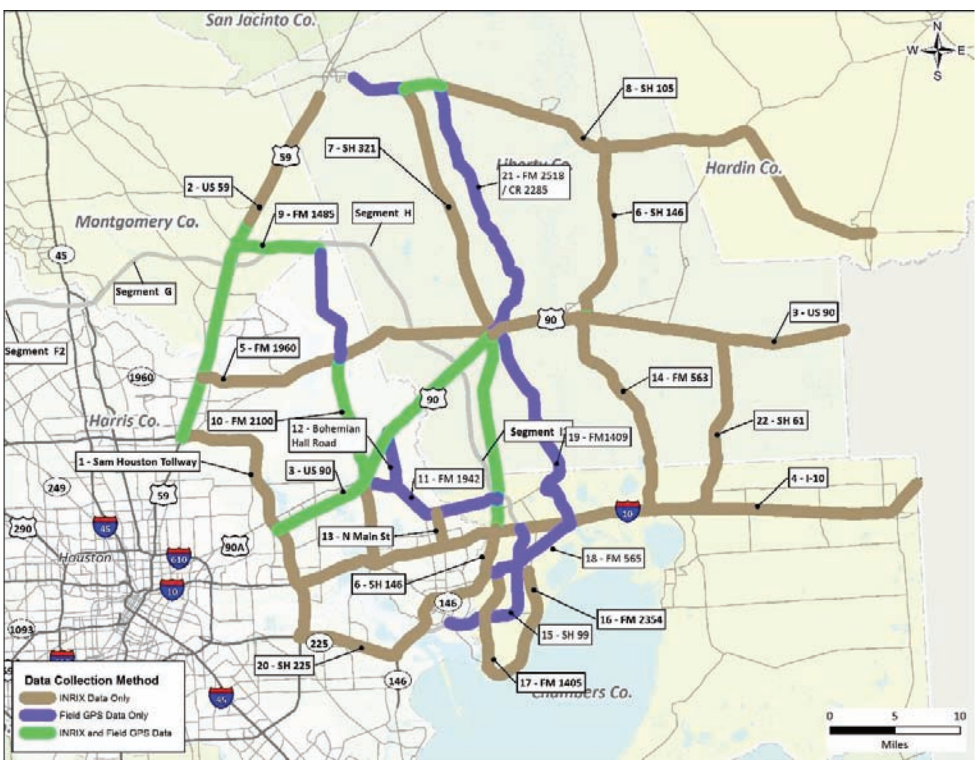


Figure 2-42
Travel Time Data Type

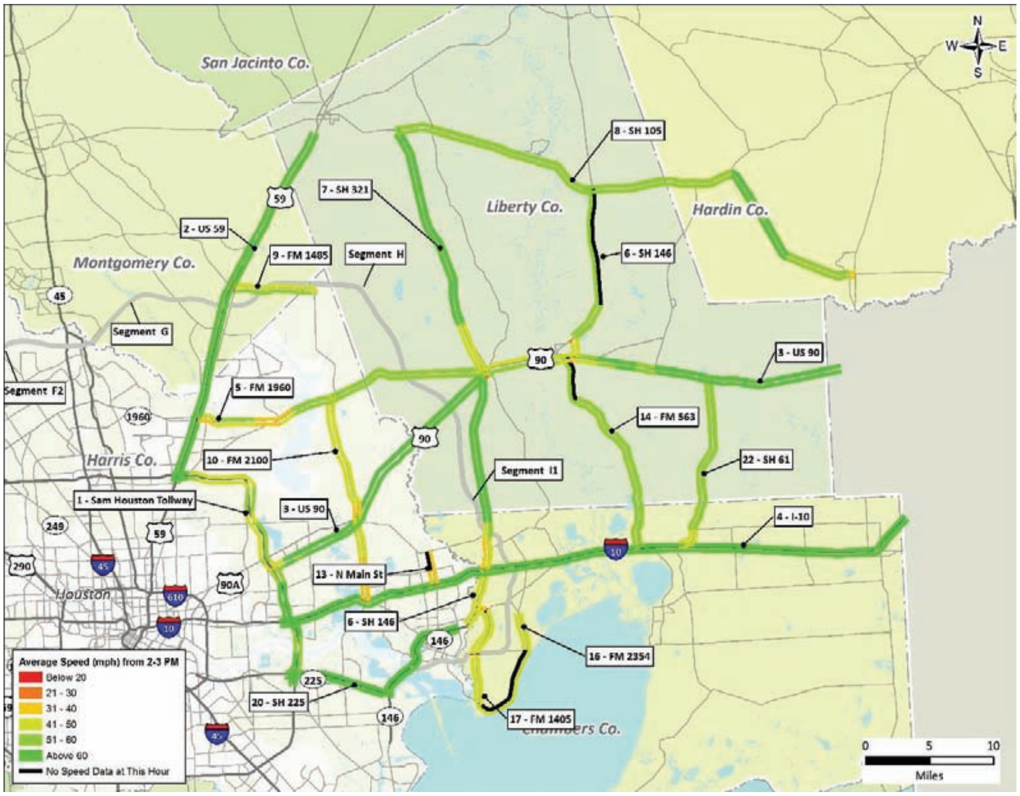


Figure 2-43
INRIX Average Speed Profile (Mid-Day Period)

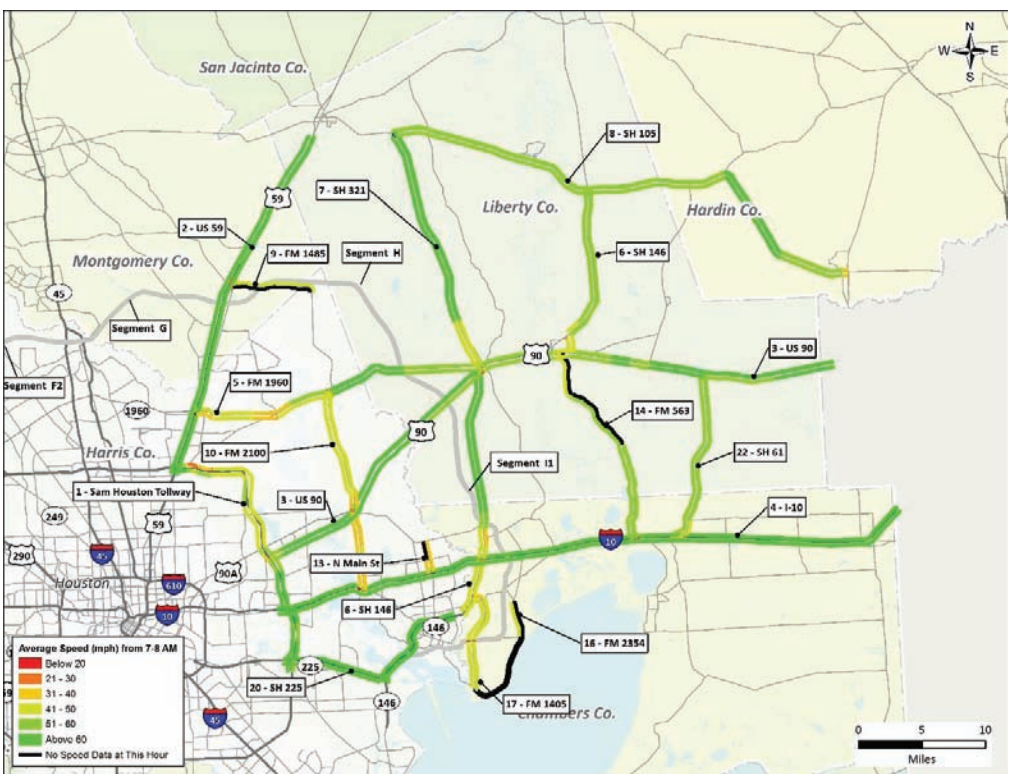


Figure 2-44
INRIX Average Speed Profile (AM Peak Period)

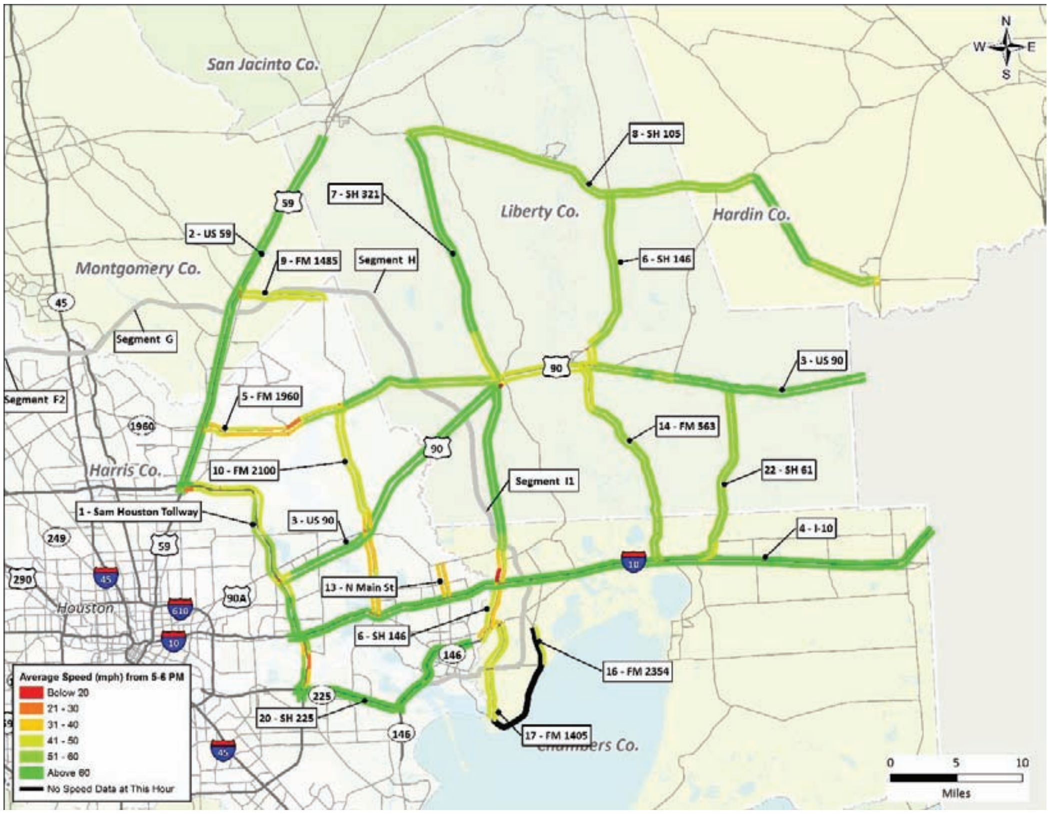


Figure 2-45
INRIX Average Speed Profile (PM Peak Period)

Table 2-32 GPS-Based Travel Time Data Collection Routes in 2014

Route	Corridor/Roadway	From	To
1	Sam Houston Tollway	IH 10	SH 225
3	US 90	Sam Houston Tollway	SH 146
5	FM 1960	IH 45	SH 321
6	SH 146	US 90	Red Bluff Road
15	SH 99	IH 10	SH 146
21	SH 330	IH 10	SH 146
24	SH 6 and FM 1960	IH 10	IH 45

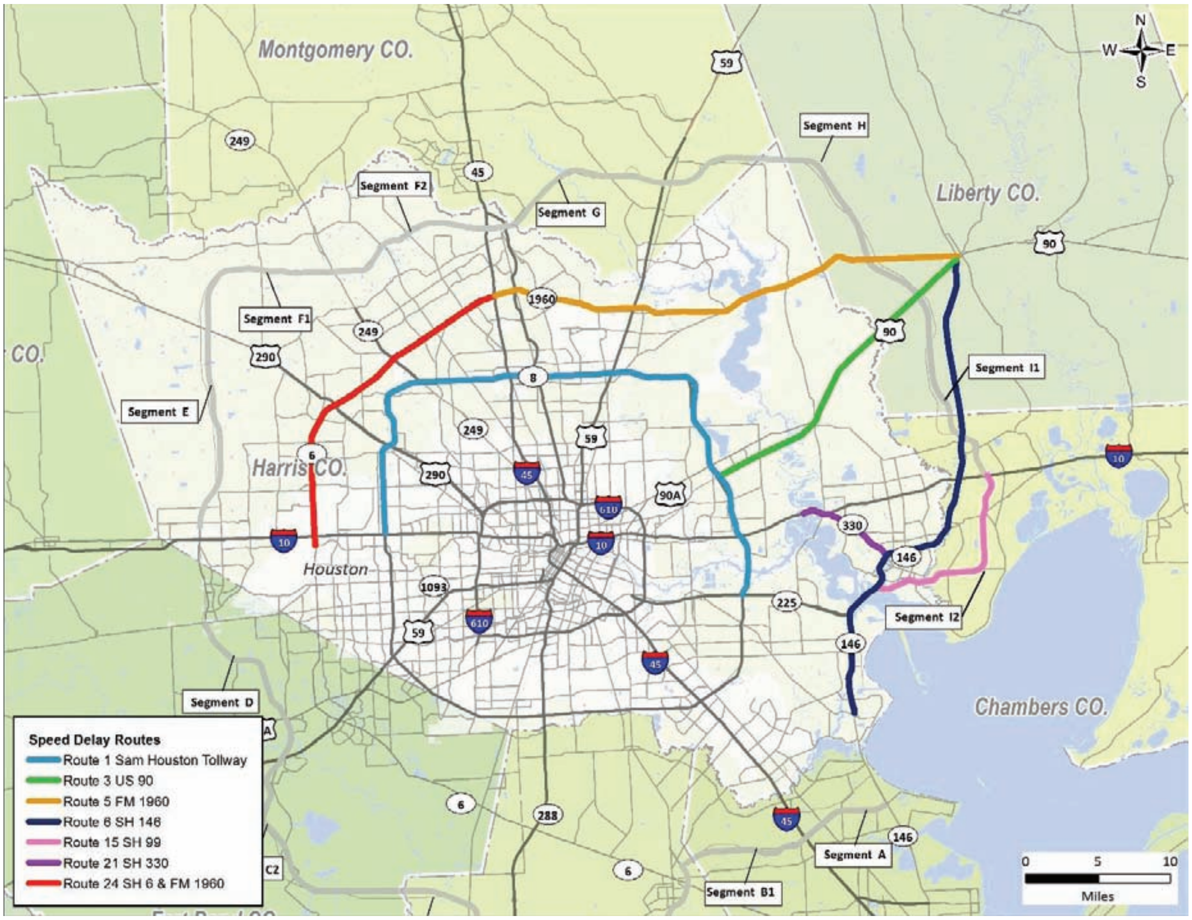


Figure 2-46
GPS-Based Speed/Travel Time Data Collection in 2014

Table 2-33 GPS-Based Speed Results (AM and PM Peak Period)

	AM		PM	
EW Roadway	**EB**	**WB**	**EB**	**WB**
Sam Houston Tollway: SH 225 to IH 69	56	65	63	63
Sam Houston Tollway: IH 69 to SH249	47	55	48	56
Sam Houston Tollway: SH 249 to IH 10	61	30	46	70
FM 1960: SH 321 to IH 45	33	47	37	36
NS Roadway	**NB**	**SB**	**NB**	**SB**
US 90: SH 146 to Sam Houston Tollway	63	66	66	68
SH 146: US 90 to IH 10	56	52	58	50
SH 146: IH 10 to Red Bluff Road	58	60	61	60
SH 99: IH 10 to SH 146	57	55	60	57
SH 330: SH 146 to IH 10	65	66	69	66
FM 1960/SH6: IH 10 to IH 45	23	20	19	19

2.10 Stated Preference Survey

As part of the comprehensive traffic and revenue study for Grand Parkway Segments D through I in anticipation of Segments H, I-1 and I-2 being added to GPTC's Grand Parkway System, Resource Systems Group (RSG) was contracted by CDM Smith to develop and implement a stated preference (SP) survey to gather information from current automobile travelers in the vicinity of Grand Parkway. The most recent surveys were conducted by RSG in 2014 for the Segments H and I corridor to estimate the distribution of potential customer's value-of-time (VOT) for that market. RSG was also involved with the SP surveys that were conducted in 2011 for the Segments D through G Level 3 Traffic and Revenue Study used in GPTC's initial project debt offering for the Grand Parkway System.

In addition to collecting data on current travel behaviors, the survey presented respondents with information about the proposed highway improvements and with the use of choice-based conjoint (trade-off) questions, which assisted in estimating travelers' values-of-time (an essential input for determination of toll diversion).

No new Stated Preference Data was collected specifically for the Segments D through G and thus relied on the previously collected 2011 results; however, new data from the Segments H and I data collection undertaken was incorporated as part of the update and provided an enhancement to the regional models used as part of this study. This section provides a brief overview of the survey data collection and model estimation work conducted by RSG for the Grand Parkway Stated Preference Study, with focus on the more recent SP survey results for Segments H and I. The complete report of the latest SP survey including details of the survey administration and results is included in **Appendix B**.

2.10.1 Survey Approach

Survey data was collected that allows for statistical estimation of a stated preference mode choice model. Data was collected to include time of day and trip purpose segmentations, as well as travel cost sensitivity and willingness of travelers to use the toll road options within the Grand Parkway corridor. The stated preference survey conducted for this study collected data from travelers regarding their current trip characteristics and choices among current travel options such as tolled and un-tolled use of the proposed Grand Parkway segments, HOV, and use of public transit. Two sets of surveys were conducted:

1. The first survey was developed for the Grand Parkway Segments D through G Comprehensive T&R Study report dated May 2013, focusing on Segments D through G. A summary of the results and associated values-of-time from this report is included in **Table 2-37**.

2. The second survey (2014) was developed for the current study, the Grand Parkway Segments D through I Comprehensive T&R Study, focusing on the value-of-time of motorists within the Segments H and I corridor.

The stated preference survey approach was based on the IVIS computer-assisted self-interview (CASI) technique as developed by RSG. It was programmed using customized proprietary software for both laptops and Internet administration.

The laptop-based stated preference survey was conducted at a variety of locations throughout the Grand Parkway corridor area. The locations were selected to ensure that a representative sample of corridor travelers were obtained. To ensure that all of the groups of interest were included in the sample, a multi-method sampling approach was used. Intercepts were conducted in public facilities such as shopping malls, tax collection offices, large office buildings, and libraries. The sample obtained by intercept was supplemented with the participation of employees from a number of large employers located in the vicinity of the Grand Parkway corridor using an online version of the survey.

A detailed report of the previous SP analysis for Segments D through G, including the text of the questionnaire and example screens, is included in the Grand Parkway Segments D through G Comprehensive T&R Study report dated May 2013. Additionally, RSG indicated that the values-of-time that were estimated for potential travelers of the Grand Parkway, Segments D through G, should be adjusted to reflect the changes in the CPI from 2011$ to 2014$. Since the household income and household expenditures in the region appear to be growing at or slightly below the CPI over the same period, RSG recommended that the VOT has likely kept up with the CPI in the region and the VOTs should be adjusted to match.

2.10.2 Survey Administration

The data collection effort for the Grand Parkway Segments H and I Level 3 study was conducted between October 20 and November 23, 2014, resulting in a total of 1,011 valid passenger vehicle and 302 valid commercial vehicle surveys being collected. Travelers who either used or could have used Grand Parkway for a trip between 15 minutes and 4 hours in length were intercepted at various locations throughout Houston. Emphasis was placed on selecting sites that were in close proximity to the Grand Parkway corridor and allowed for collection of responses from both work and non-work markets. The survey was administered in the following manner:

- In-person intercepts using laptop computers at various locations along the study corridor (commercial vehicle survey only), the locations of intercept survey are listed in **Table 2-34**.
- Postcard handout invitation to travelers making trips within the study corridor (commercial vehicle and passenger vehicle surveys), the locations of the handout are listed in **Table 2-35**.
- E-mail invitations sent to businesses located within the study area (passenger vehicle survey only).
- E-mail invitations sent to members of an online research panel (passenger vehicle survey only).

The survey administration setup was comprised of up to 15 laptop computer interview stations set up each day, usually split between two locations. Each survey site was staffed by survey attendants who were responsible for soliciting and screening potential respondents, escorting the participants to survey stations, and if necessary, assisting them with questions. Potential respondents were questioned to ensure that they met the screening criteria. A framed poster mounted on an easel was positioned near the interview station to assist in attracting respondents.

When taking the survey, respondents sat in front of a laptop computer and primarily used a mouse to record answers and navigate through the survey. Most respondents took between ten and fifteen minutes to complete the survey. Data for each individual was automatically saved to the computer for later analysis. It was reported that participants were generally enthusiastic about taking the survey and seemed to enjoy the survey's interactive technology.

Table 2-34 SP Survey Intercept Locations

Name and Location	Complete Surveys
Lion King, La Porte, TX	79
TA, Baytown, TX	71
Love's Travel Stop, Baytown, TX	42
Love's Travel Stop, Cleveland, TX	29
La Porte Travel Plaza, La Porte, TX	26
Love's Travel Stop, Deer Park, TX	11
Zee's Truck Stop, Channelview, TX	10
Sheldon Travel Center, Houston, TX	9

Table 2-35 SP Survey Postcard Handout Locations

Location
▪ Northbound lanes of Garth Road South of IH 10
▪ Northbound lanes of SH 146 South of IH 10
▪ Eastbound lanes of FM 1314 West of IH 69
▪ Westbound lanes of FM 1960 Humble Huffman Road at Lake Houston

In addition to the surveys collected at central site locations, additional surveys were collected via the Internet. RSG contracted with Research Now, a firm that maintains an online market research panel, to provide between 300 and 400 complete passenger vehicle responses. Panel members were targeted by ZIP code of residence and qualifying members were sent an e-mail invitation to the stated preference survey that contained a link with a unique identifier. Respondents completed the survey on RSG's server before being redirected back to the panel provider's website. The online panel yielded 344 complete survey responses.

2.10.3 Survey Results

A total of 1,011 completed the passenger car survey and 302 commercial vehicle surveys were completed. For matters of consistency, all tabulations in this report include only data from respondents who completed the entire survey. A complete set of straight tabulations are contained in Appendix B of the RSG SP survey report. The sources for the completed surveys are shown below in **Table 2-36.**

Table 2-36 SP Survey Number of Responses by Administration Method

Data Source	Completed Surveys	
	Passenger Vehicles	Commercial Vehicles
In-person intercept	N/A	277
Postcard handout	365	25
Online research panel	344	N/A
E-mail invitation to area businesses/organizations	302	N/A
Total	**1,011**	**302**

2.10.3.1 Demographics

The sample was comprised of 54 percent women. The median age was in the range of 45 to 54 years. The household income was in the range of $75,000 to $99,999. The income distribution of the survey responders is shown in **Figure 2-47**.

2.10.3.2 Trip Characteristics

Forty-three percent of respondents in the aggregate reported a commute trip to/from work, 17 percent reported a personal errand, 14 percent reported a social or recreation trip, and 13 percent reported a business-related trip.

The distribution of time of day of when respondents took their trip revealed that the Mid-day period of six hours, had the largest number of responses and accounted for almost 40 percent of respondents. The three-hour AM Peak (34.5 percent) was over three times the four-hour PM Peak (11.2 percent). Night-time trips were slightly over the PM Peak with 14.4 percent. The survey trip purpose distributions are shown in **Figure 2-48.**

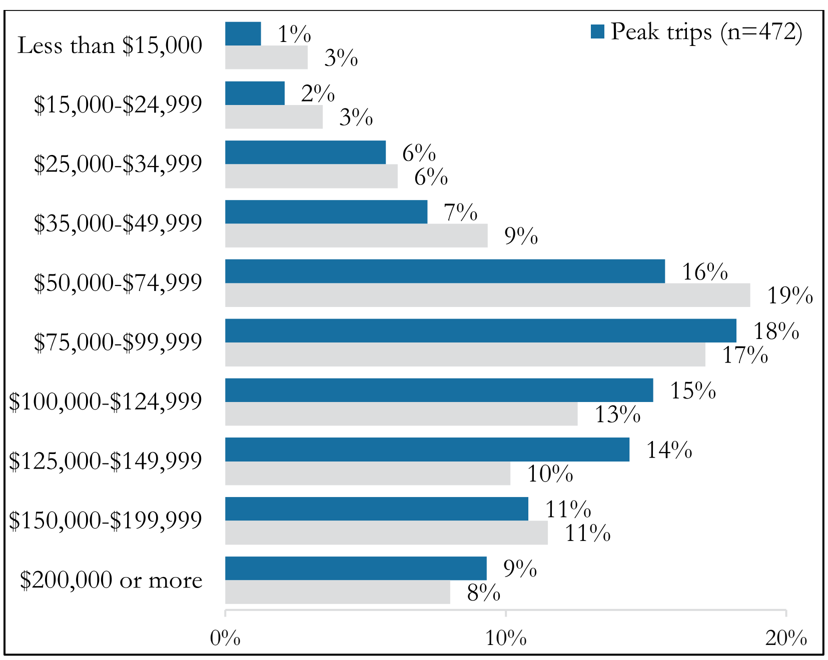


Figure 2-47
Passenger Vehicle Survey: Annual Household Income by Segment
Source: Resource Systems Group, Inc. March 2015

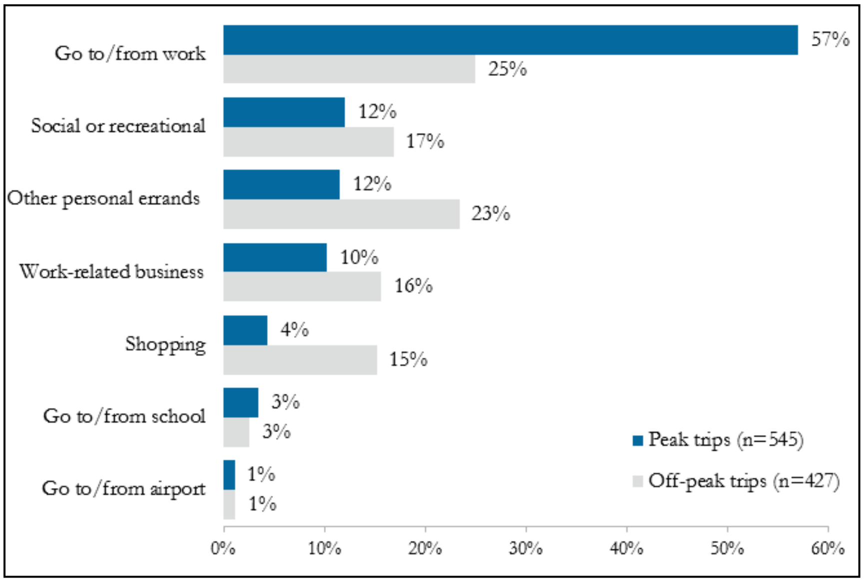


Figure 2-48
SP Survey Trip Purpose
Source: Resource Systems Group, Inc. March 2015

For the purposes of statistical modeling, respondents were grouped into two segments, peak and off-peak trips (all weekday trips) as defined below:

1. Peak period trips (6:00 AM to 8:59 AM or 3:00 PM to 6:59 PM) – 545 respondents (56 percent).

2. Off-peak period trips (9:00 AM to 2:59 PM or 7:00 PM to 5:59 AM) – 427 respondents (44 percent).

2.10.4 Results and Usage

The results of the SP exercises provided CDM Smith with a distribution of values-of-time dependent on income to use in the modeling process. **Table 2-37** summarizes the multinomial values-of-time resulting from the SP survey analysis for the corridor for Segments D through G and Segments H and I respectively.

Table 2-37 Multinomial Values-of-Time by Segment and Income

Household Income	Segments D through G (1)	Segments H and I (2)
	Aggregate VOT ($/hr.)	Aggregate VOT ($/hr.)
$10,000	$7.51	$8.28
22,500	$10.15	$9.74
30,000	$11.09	$10.26
42,500	$12.22	$10.89
62,500	$13.48	$11.58
87,500	$14.58	$12.18
112,500	$15.40	$12.64
137,500	$16.05	$13.00
175,000	$16.84	$13.43
225,000	$17.66	$13.88

Note: (1) Resource Systems Group, Inc. March 2011 (May 2013 Study)
(2) Resource Systems Group, Inc. December 2014 (Current Study)

2.11 Origin-Destination Data

Detailed origin-destination (O-D) trip data is generally collected to validate trip-making patterns within a study corridor. The O-D efforts implemented as part of this study are described in the following sections including the use of AirSage O-D data obtained for the Houston region. AirSage uses cellular-signal data to identify temporal travel patterns. This data was also complemented with Bluetooth O-D techniques that can be used to detect unique activated Bluetooth devices from passing vehicles along the corridor at the selected Bluetooth reader locations. Also, these data are specific to Segments H and I only and are provided herein as reference to some enhancements that were incorporated into the models for use as part of the current study.

2.11.1 AirSage

CDM Smith obtained O-D data derived using population movement data and patented technology that monitors cellular telephone signal data from AirSage. AirSage has partnerships with several nationwide wireless phone carriers to assess data from more than 100 million mobile devices to obtain general O-D patterns while still maintaining the anonymity of any unique movements. AirSage analyzed the available data from the Houston 8-county region to provide O-D trip data to and from the 2,954 traffic zones identified in the model area. The data was divided into three trip purposes, home based work trips (HBW), home based other trips (HBO) and non-home based trips (NHB) based on the observed characteristics. The trip data was aggregated by day for the average weekday (Tuesday through Thursday) and the average weekend (Saturday and Sunday). The data was provided for different time periods over the day – the AM peak period, the Mid-day period, the PM peak period and for the 24-hour total.

The resulting trip statistics from the analyzed data are shown in **Table 2-38** and also summarizes the sample size of total unique devices that were obtained and used by AirSage. The corresponding population from Census data is also provided for purposes of gauging the magnitude of the full population sample that the observed devices represented. The sampling rate is simply defined as the total number of resident devices as a percent of the total population.

Table 2-38 Total Trip Statistics

	April 2013
Study Area Population	6,593,463
Total Unique Devices Seen	5,382,199
Total of Residents Identified in Study Area Population	663,292
Sampling Rate	10.06%

2.11.2 Bluetooth Origin and Destination Data

CDM Smith subcontracted with C.J. Hensch & Associates to collect additional origin and destination data in Liberty and Chambers counties using Bluetooth technology and roadside traffic detection devices from Post Oak Traffic Systems. Post Oak's Anonymous Wireless Address Matching (AWAM) system detects vehicles equipped with Bluetooth devices such as cell phones or mobile GPS systems. Every Bluetooth device has a unique 48-bit address, known as a Media Access Control (MAC) address that is used to differentiate it from other devices. The AWAM reader, positioned on the roadside, can read or detect the MAC address of enabled devices as they pass the reader.

MAC addresses are a unique identifier assigned to every Ethernet network interface, including Bluetooth devices. The MAC addresses read by AWAM are not associated with a specific user and do not contain any personal data. The AWAM reader does not get any other information from the Bluetooth device. Each record made by the AWAM reader contains a timestamp, the location of the reader and the MAC address of the Bluetooth device. To ensure privacy, all MAC addresses read by an AWAM reader are anonymized upon receipt.

C.J. Hensch placed the Bluetooth readers along the roadside at several locations in the Segments H and I corridor.

The detectors were placed at key locations in the Segments H and I corridor, and CDM Smith used this information to estimate the proportion of traffic at each of these locations and passing through other detector locations. An example of the mobile AWAM units that were used by C.J. Hensch and their deployment are shown in **Figure 2-49**. The deployment locations of the Bluetooth readers are shown in **Figure 2-50**. At each station one reader was placed adjacent to roadside to read Bluetooth devices in both directions of the roadway. The station locations of the Bluetooth readers are listed in **Table 2-39**.

Figure 2-49
View of Typical Deployment at an Intersection

Figure 2-50
Bluetooth Reader Deployment Locations

Table 2-39 Location of Deployed Bluetooth Readers

Bluetooth Location Number	Count Location Number	Location Description	Number of Hours
BT01	X39-X40	US 59 at San Jacinto County Line	72
BT02	T03-T04	US 90 at Trinity River Bridge	72
BT03	T01-T02	IH 10 at Trinity River Bridge	72
BT04	001	SH 146 (Fred Hartman Bridge)	72
BT05	BT05a-d	IH 10 east of IH 610 b/w Mercury Drive and Holland Avenue	72
BT06	BT06a-b	US 90 east of IH 610 b/w Mercury Drive and Wallisville Road	72
BT07	BT07a-e	IH 69 north of IH 610 b/w E Crosstimbers Street and Bennington Street	72
BT08	BT08	FM 1960 east of Cypresswood Drive	72
BT09	D-G 119	FM 1314 b/w Gene Campbell Road and Rolling Hills Drive	72
BT10	BT10a-d	Beltway 8 west of IH 69 b/w John F Kennedy Boulevard and Lee Road	72
BT11	BT11a-d	Beltway 8 north of US 90 b/w W Lake Houston Parkway and Winfield Road	72
BT12	BT12a-d	Beltway 8 north of IH 10 b/w Wallisville Road and Woodforest Road	72
BT13	032	Beltway 8 at Houston Ship Channel	72
BT14	BT14a-d	Beltway 8 south of SH 225 b/w Green Shadow and San Augustine Avenue	72
BT15	003	IH 10 at San Jacinto River Bridge	72
BT16	004	US 90 at San Jacinto river Bridge	72
BT17	006	FM 1960 Humble Huffman Road at Lake Houston	72
BT18	048	SH 146 south of IH 10	72
BT19	049	Grand Parkway south of IH 10	72
BT20	020	SH 146 S of W Houston Street	72
BT21	100	SH 321 N Cleveland Street N of W Clayton Street	72
BT22	093	Crosby Huffman Road north of FM 1960	72
BT23	118	FM 1485 west of IH 69	72
BT24	119	SH 242 west of IH 69	72

The initial deployment of the Bluetooth readers was completed on Tuesday, September 23, 2014 and the readers were then left in place for three days. Due to several problems with the initial deployment, the counters were redeployed on November 11, 2014 for another three days. The data from both of the deployments provided by the Bluetooth readers resulted in a representative origin and destination (O-D) matrix across the selected locations and assisted in identifying the O-D patterns for trips that passed through the Bluetooth locations.

An O-D matrix of the percentage of daily trips for twelve station locations for Wednesday, November 12, 2014 read at any of the origin stations and moving to any of the destination stations is shown in Table 2-40. For example, at Station 1 along US 59 at the San Jacinto County Line 42.9 percent of the vehicles read in the southbound direction were detected at Station 7 along IH 69 north of IH 610. A comparison of the base year model trip patterns to Bluetooth trip patterns is included in Chapter 4.

The read rate for all twenty four Bluetooth Reader locations for Wednesday, November 12, 2014 is shown in Table 2-41. In general, the number of captured vehicles with Bluetooth devices that are read ranged between 3 and 5 percent of the total travel market.

Table 2-40 Results from Bluetooth Origin-Destination Study on Wednesday, November 12, 2014

	Destinations											
Origins	BT01	BT03	BT04	BT05	BT07	BT10	BT11	BT12	BT15	BT18	BT23	BT24
BT01		2.6%	3.5%	5.5%	42.9%	15.3%	7.3%	5.4%	3.5%	3.7%	12.0%	12.5%
BT03	1.8%		8.7%	51.0%	3.8%	3.8%	4.4%	5.9%	50.4%	9.0%	0.6%	0.6%
BT04	1.7%	9.1%		6.0%	1.9%	2.3%	3.1%	5.3%	17.9%	19.2%	0.3%	0.6%
BT05	0.8%	14.5%	1.5%		4.7%	1.7%	1.3%	4.3%	35.9%	1.5%	0.4%	0.2%
BT07	6.0%	1.2%	0.8%	5.3%		9.8%	1.1%	0.8%	2.3%	0.6%	1.8%	0.8%
BT10	2.4%	1.7%	0.9%	2.0%	14.7%		20.2%	11.6%	4.7%	0.6%	1.0%	0.6%
BT11	1.7%	4.1%	2.6%	3.3%	3.3%	41.2%		44.3%	15.8%	1.6%	1.7%	1.3%
BT12	1.4%	4.4%	3.1%	10.2%	2.6%	23.8%	40.5%		19.1%	1.6%	1.0%	1.1%
BT15	0.6%	24.3%	9.2%	40.5%	2.3%	4.9%	6.5%	8.5%		4.1%	0.3%	0.2%
BT18	3.6%	16.0%	30.0%	7.9%	2.5%	3.7%	3.8%	4.1%	11.1%		1.0%	1.1%
BT23	7.8%	0.8%	1.3%	2.5%	17.8%	7.0%	5.9%	3.6%	1.4%	1.0%		3.9%
BT24	4.3%	1.0%	1.0%	1.3%	6.0%	2.0%	1.7%	1.1%	0.9%	0.5%	1.3%	

Table 2-41 Read Rate of Traffic at Bluetooth Reader Locations on Wednesday, November 12, 2014

Bluetooth Location Number	Location Description	Traffic AWDT	Bluetooth Reads	Read Rate
BT01	US 59 at San Jacinto County Line	33,928	1,715	5.1%
BT02	US 90 at Trinity River Bridge	30,933	1,157	3.7%
BT03	IH 10 at Trinity River Bridge	57,812	2,278	3.9%
BT04	SH 146 (Fred Hartman Bridge)	72,691	3,262	4.5%
BT05	IH 10 east of IH 610 b/w Mercury Drive and Holland Avenue	187,012	9,750	5.2%
BT06	US 90 east of IH 610 b/w Mercury Drive and Wallisville Road	58,736	2,023	3.4%
BT07	IH 69 north of IH 610 b/w E Crosstimbers Street and Bennington Street	225,447	9,464	4.2%
BT08	FM 1960 east of Cypresswood Drive	62,112	2,787	4.5%
BT09	FM 1314 b/w Gene Campbell Road and Rolling Hills Drive	21,661	1,123	5.2%
BT10	Beltway 8 west of IH 69 b/w John F Kennedy Boulevard and Lee Road	155,077	7,962	5.1%
BT11	Beltway 8 north of US 90 b/w W Lake Houston Parkway and Winfield Road	35,231	3,779	10.7%
BT12	Beltway 8 north of IH 10 b/w Wallisville Road and Woodforest Road	114,620	3,777	3.3%
BT13	Beltway 8 at Houston Ship Channel	56,901	4,325	7.6%
BT14	Beltway 8 south of SH 225 b/w Green Shadow and San Augustine Avenue	86,657	792	0.9%
BT15	IH 10 at San Jacinto River Bridge	119,773	6,222	5.2%
BT16	US 90 at San Jacinto river Bridge	49,428	1,361	2.8%
BT17	FM 1960 Humble Huffman Road at Lake Houston	33,452	1,359	4.1%
BT18	SH 146 south of IH 10	33,955	1,620	4.8%
BT19	Grand Parkway south of IH 10	3,219	172	5.3%
BT20	SH 146 S of W Houston Street	17,712	809	4.6%
BT21	SH 321 N Cleveland Street N of W Clayton Street	17,651	2,400	13.6%
BT22	Crosby Huffman Road north of FM 1960	15,966	811	5.1%
BT23	FM 1485 west of IH 69	23,560	1,429	6.1%
BT24	SH 242 west of IH 69	9,881	2,538	25.7%

This chapter provided a summary of the various data collected as part of this study. Chapter 4 describes in more detail how these data elements are utilized as part of the model calibration process including the screenline comparisons, travel time comparisons and Bluetooth and AirSage data comparisons.

In addition to model calibration, the transaction and revenue trends of the existing segments (Segments D, E, F-1, F-2, G and I-2A) presented in this chapter were used for the development of the base case traffic and toll revenue forecasts. In addition, the observed daily, monthly transaction and revenue trends, truck shares and revenue days developed from the existing transactions data were utilized in the traffic and revenue forecast development.

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Chapter 3

Economics and Growth

This chapter provides an overview of the historical regional trends in population and employment trends along with an overview of recent short-term economic trends in the Houston metropolitan region. It also describes the regional growth forecasts from independent sources, and makes comparisons to the official Houston-Galveston Area Council (H-GAC) forecasts and the revised Community Development Strategies (CDS) forecasts used as part of the study.

The distribution and growth of population, households, and employment each have a significant impact on the traffic and revenue potential of a toll facility. The forecasts of these indicators are a key input into the trip generation steps used to build the travel demand model trip tables. These trip tables are the foundation of the travel demand model for the base and correspondingly forecast years from which the future traffic and revenue estimates are derived. It is therefore critical to review these underlying demographic assumptions.

The official regional socioeconomic forecasts used in the regional travel demand model are developed by the local planning organization, namely H-GAC. Embedded in their 2040 Regional Growth Forecasts are estimates for population, households, and employment within an eight-county Transportation Management Area (TMA) encompassing the Grand Parkway System Segments D through I, namely Harris, Fort Bend, Waller, Montgomery, Liberty, Chambers, Galveston, and Brazoria counties. As part of this study, an independent firm, CDS was retained to conduct an independent economic analysis of the validity of the H-GAC Regional Planning Model socioeconomic data that is used to forecast future travel demand in the Houston-Galveston area. In particular, the independent economist focused on a defined "area of influence" surrounding the Grand Parkway project. A separate report was prepared by CDS in June 2016 and is included as **Appendix A** of this report.

Chapter 3 is organized into the following key sections:

- Historical regional trends
- Recent economic trends and outlook
- Regional growth forecasts
- Evaluation of H-GAC forecasts
- CDS forecast revisions
- Summary of independent socioeconomic review
- Consumer price index
- Summary of key economic drivers that influence traffic and revenue

3.1 Historical Regional Trends

A review of the historical trends of region's economic indicators was performed to assess growth patterns in the Houston-Galveston area, as summarized herein.

3.1.1 Historical Population Trends

Table 3-1 shows the historical population trends for the eight counties within the Houston-Galveston region. The total population has increased by an average annual growth rate of 2.5 percent from 1970 to 2010 for the eight-county region, adding approximately 3.71 million new residents to the area.

The eight-county region added almost 1 million people within one decade between 1970 and 1980. The rate of growth was substantially reduced by major economic recession and restructuring which occurred in the mid-1980s because of falling oil prices and an over dependency on the petroleum industry within the Houston economy. After that economic downturn, the greater Houston region emerged as a much more diverse economy and strong growth resumed thereafter.

Harris County, as the most populous county in the region, added over 2.3 million additional residents between 1970 and 2010, an overall rate of growth of 2.2 percent per year. According to Census 2010, more than 4.0 million people lived in Harris County, out of the total 5.9 million in the eight-county region.

The most rapidly growing counties are Fort Bend and Montgomery, averaging about 6 percent per year in growth from 1970 to 2010. Both counties had populations in the range of 50,000 residents in 1970, and by 2010 had more than 11 times that amount in Fort Bend County, and Montgomery County had over 455,000 residents. Fort Bend County had consistent long-term growth, even during the 1980's (after the fall of the oil market, which had a devastating impact on the overall Houston area's economy). In fact, over the past decade Fort Bend County had the highest rate of population growth of 5.1 percent per annum.

Table 3-1 Historical Population Growth by County

County	1970	CAGR	1980	CAGR	1990	CAGR	2000	CAGR	2010	1970-2010 CAGR
Brazoria	108,312	4.6%	169,587	1.2%	191,707	2.3%	241,767	2.6%	313,166	2.7%
Chambers	12,187	4.3%	18,538	0.8%	20,088	2.6%	26,031	3.0%	35,096	2.7%
Fort Bend	52,314	9.6%	130,962	5.6%	225,421	4.6%	354,452	5.1%	585,375	6.2%
Galveston	169,812	1.4%	195,738	1.1%	217,399	1.4%	250,158	1.5%	291,309	1.4%
Harris	1,741,913	3.3%	2,409,547	1.6%	2,818,199	1.9%	3,400,578	1.9%	4,092,459	2.2%
Liberty	33,014	3.6%	47,088	1.1%	52,726	2.9%	70,154	0.8%	75,643	2.1%
Montgomery	49,479	9.9%	127,222	3.7%	182,201	4.9%	293,786	4.5%	455,746	5.7%
Waller	14,285	3.3%	19,798	1.7%	23,390	3.4%	32,663	2.8%	43,205	2.8%
8-County Region	**2,181,316**	**3.6%**	**3,118,480**	**1.8%**	**3,731,131**	**2.3%**	**4,669,589**	**2.4%**	**5,891,999**	**2.5%**

Source: US Census Bureau (August 2011)

Population growth is one of the principal measures of the economic vitality of any region because increasing population is generally the result of more jobs, a high level of immigration and a stable or expanding economy.

From 1970 to 2010, population in the eight-county region grew from 2.2 million to 5.9 million at a compounded annual growth rate of 2.5 percent per year. Population growth is made up of three primary components – natural increase (births minus deaths); domestic migration (from the U.S.); and international migration (from outside the U.S.). The net in-migration, which is calculated based on the persons "moving in" versus those "moving out", has accounted for almost 50 percent of the growth in Houston Metropolitan Statistical Area (MSA) population over the 2000-2011 period (according to U.S. Census Bureau). International migration comprised of 29.1 percent of the total net change while domestic migration made up a share of 22 percent of the net change in population in the region. From 2010 to 2014, natural increase in the eight-county region accounted for 43 percent of the net population change while international and domestic migration accounted for about 23 percent and 34 percent, respectively.

3.1.2 Historical Employment Trends

The historical employment trend in the region by county is shown in **Table 3-2**. Total employment of the eight-county region has increased by approximately 690,000 between 1990 and 2010. This equates to a long-term growth rate of 1.6 percent per year with a high of 3.2 percent per year occurring during the 1995-2000 period. The counties of Fort Bend and Montgomery maintained higher employment growth rates of 5.4 percent per year and 6.2 percent per year between 1990 and 2010, respectively, compared to the remaining other six counties. More recent 2015 numbers were retrieved from an independent source (Texas Workforce Commission), which showed that Montgomery County experienced the highest annual growth of 5.5 percent per year within the 1990-2015 timeframe.

The increase in employment within the entire Houston Metropolitan Area was almost 250,000 jobs between 2000 and 2010. This is almost 11 percent or a compounded 1.1 percent per year over that decade. The greatest increases occurred in the far Southwest (Fort Bend County) and far Northwest (in Montgomery County near Segments F-1, F-2 and G), with total ten-year growths of approximately 46 percent and approximately 60 percent respectively.

Table 3-2 Historical Total Employment Growth by County

County	1990	CAGR	1995	CAGR	2000	CAGR	2005	CAGR	2010	CAGR	2015*	1990-2015 CAGR
Brazoria	70,950	0.4%	72,482	1.3%	77,472	0.7%	80,250	1.2%	85,071	4.0%	103,265	1.5%
Chambers	6,048	2.7%	6,921	3.7%	8,288	1.2%	8,787	3.1%	10,259	4.6%	12,824	3.1%
Fort Bend	50,546	4.1%	61,908	10.0%	99,768	2.5%	112,936	5.2%	145,621	3.2%	170,096	5.0%
Galveston	80,224	0.9%	83,826	2.3%	94,138	0.6%	96,956	0.1%	97,581	1.2%	103,654	1.0%
Harris	1,539,045	1.0%	1,619,544	2.8%	1,855,051	0.5%	1,906,019	0.8%	1,986,400	2.9%	2,288,404	1.6%
Liberty	14,251	1.0%	14,951	3.7%	17,901	1.1%	18,862	2.2%	21,017	-4.8%	16,428	0.6%
Montgomery	43,268	4.8%	54,602	10.4%	89,634	3.9%	108,484	5.7%	143,369	2.9%	165,027	5.5%
Waller	7,612	1.9%	8,373	3.3%	9,851	1.8%	10,778	3.4%	12,761	4.4%	15,823	3.0%
8-County Region	**1,811,944**	**1.2%**	**1,922,607**	**3.2%**	**2,252,103**	**0.8%**	**2,343,072**	**1.3%**	**2,502,079**	**2.8%**	**2,875,521**	**1.9%**

Source: University of Houston – Institute for Regional Forecasting
*Source: Texas Workforce Commission, Quarterly Census of Employment and Wages, QCEW, April 2016

3.1.3 Historical Personal Income Trends

Travel demand in general is sensitive to, among other things, the amount of disposable income available to a household. In regards to demand for toll facilities, a reliable indicator of an individual's propensity to pay tolls compared to the benefits provided by other free alternatives is personal income. This is a key input into the assessment of the values-of-time for a motorist as there is typically a relationship between their values-of-time, income and the overall motorists' willingness-to-pay.

The historical per capita income trend in the region by county is shown in **Table 3-3.** As can be noted from the table, the overall growth is in the range of 3.8 percent to 4.9 percent per year between 1990 and 2014. Montgomery County has had the highest growth rate between 1990 and 2014 of 4.9 percent per year. The lowest occurred in Waller and Brazoria counties with a solid growth rate of 3.8 percent per year. In 2014, Harris County had the highest per capita income in the Houston region of $56,896. This was higher than the United States gross national income per capita of $55,140 in 2014.

Table 3-3 Historical Personal Per Capita Personal Income by County

County	1990	CAGR	1995	CAGR	2000	CAGR	2005	CAGR	2010	CAGR	2013	CAGR	2014	1990-2014 CAGR
Brazoria	$17,295	3.3%	$20,329	5.7%	$26,866	2.8%	$30,772	3.4%	$36,430	3.9%	$40,839	4.1%	$42,519	3.8%
Chambers	$15,383	5.4%	$19,972	6.3%	$27,085	3.5%	$32,244	3.5%	$38,288	5.8%	$45,302	3.7%	$46,986	4.8%
Fort Bend	$19,810	4.4%	$24,605	6.4%	$33,529	3.7%	$40,169	2.4%	$45,149	5.3%	$52,767	3.8%	$54,753	4.3%
Galveston	$18,021	4.6%	$22,606	5.5%	$29,484	2.4%	$33,190	4.1%	$40,538	3.6%	$45,123	4.0%	$46,917	4.1%
Harris	$20,718	3.7%	$24,863	7.0%	$34,913	3.7%	$41,869	2.0%	$46,278	5.7%	$54,575	4.3%	$56,896	4.3%
Liberty	$13,886	4.1%	$16,983	4.2%	$20,901	4.2%	$25,620	2.6%	$29,198	4.7%	$33,512	4.0%	$34,839	3.9%
Montgomery	$17,647	6.0%	$23,604	6.8%	$32,792	4.0%	$39,928	3.2%	$46,728	4.8%	$53,836	3.7%	$55,849	4.9%
Waller	$13,898	3.6%	$16,600	3.8%	$19,992	6.2%	$27,015	1.4%	$29,014	4.4%	$33,051	3.1%	$34,078	3.8%

Source: US Bureau of Economic Analyis. Census Bureau midyear population estimates. 2010-2014 estimates reflect county population estimates available as of March 2015.

Last updated: November 19, 2015-- new estimates for 2014; revised estimates for 1969-2013.

Note- All dollar estimates are in current dollars (not adjusted for inflation).

3.1.4 Trends in Households/Housing Units

Another key indicator of economic vitality is the number of households or housing units in the study area. **Table 3-4** shows the 25-year trend in housing unit growth. Since 1990, the number of housing units in the eight-county region has grown by 1.9 percent per year. Fort Bend and Montgomery counties had the largest growth rates at 4.5 and 4.1 percent per year, respectively. The largest absolute growth remained within Harris County, where housing units increased by almost 546,633 between 1990 and 2015 and reflected an average annual growth rate of 1.5 percent per year. Fort Bend and Montgomery counties had the second and third highest absolute growth of 156,168 and 128,603 household units respectively.

Considering the entire eight-county Houston Metro Area, growth in households from 2000 to 2015 was 39.2 percent. The two areas with the highest growth rates in households were the far southwest (Fort Bend County) at 98.5 percent and the far northwest (Montgomery County) at 77.7 percent.

Table 3-4 Historical Housing Units by County

County	1990	CAGR	2000	CAGR	2010	CAGR	2014	CAGR	2015	1990-2010 CAGR	2010-2015 CAGR
Brazoria	74,504	2.0%	91,211	2.6%	118,336	1.6%	126,268	2.6%	129,521	2.3%	1.8%
Chambers	8,061	2.6%	10,433	2.5%	13,291	2.1%	14,418	2.6%	14,799	2.5%	2.2%
Fort Bend	77,075	4.3%	117,509	5.3%	197,030	3.3%	223,983	4.1%	233,243	4.8%	3.4%
Galveston	99,451	1.2%	112,431	1.7%	132,492	1.3%	139,612	2.0%	142,337	1.4%	1.4%
Harris	1,173,808	1.1%	1,303,521	2.1%	1,598,698	1.3%	1,682,870	2.2%	1,720,441	1.6%	1.5%
Liberty	22,243	1.8%	26,477	0.8%	28,759	0.6%	29,505	1.0%	29,811	1.3%	0.7%
Montgomery	73,871	4.4%	113,960	4.5%	177,647	2.4%	195,381	3.6%	202,474	4.5%	2.7%
Waller	8,824	3.2%	12,062	2.8%	15,839	0.4%	16,122	0.7%	16,238	3.0%	0.5%
8-County Region	**1,537,837**	**1.5%**	**1,787,604**	**2.5%**	**2,282,092**	**1.6%**	**2,428,159**	**2.5%**	**2,488,864**	**2.0%**	**1.7%**

Source: US Census Bureau (August 2011), U.S. Census Bureau, Population Division
Release Date: June 2016

3.2 Recent Economic Trends and Outlook

CDM Smith requested CDS, as an independent consultant, to review recent economic indicators for the Houston-Galveston area to better understand how trends in Houston's market compare to national trends and also to evaluate the emerging trends within the Houston compared to their previous 2013 forecasts. CDS conducted a study that analyzed the validity of regional socioeconomic data and also focused on updating the socioeconomic trends within the Grand Parkway corridor to better reflect the existing socioeconomic profile and forecasts based on recent known developments within the vicinity of the Grand Parkway corridor. A brief summary of this analysis is presented in the following section and CDS's full report on local economic indicators is included as Appendix A of this report.

3.2.1 Recent Employment Trends

The Houston Area enjoyed a boom in the 1970's during the country's energy shortages. When the oil market fell in the early 1980's, it had a devastating impact on the Houston Area economy. From 1982 to 1987 almost 222,000 jobs were lost. Over 80 percent of those lost jobs were in oil and gas related industries. However, the Houston economy is less dependent today than it was in early to mid-1980's. Since 1986, Houston diversified its economy and thereby lessened its dependence on the energy industry. In 2011, upstream energy sector accounted for approximately a third of the Houston Area employment base and the downstream refining and chemicals sector accounted for approximately a 15 percent of the total employment base.

Figure 3-1 shows the decline in employment that began in 1982 and continued through 1987. Jobs increased significantly from 1988 through 1990 and then growth flattened out for the next four years. There was another period of sharp increase from 1993 to 1999. Following a year of no growth, 2000 and 2001 showed another sharp increase that was again followed by another "flat" period from 2002 to 2004 and steady growth through 2008. Houston was affected by the recent national recession with job losses beginning in January 2009.

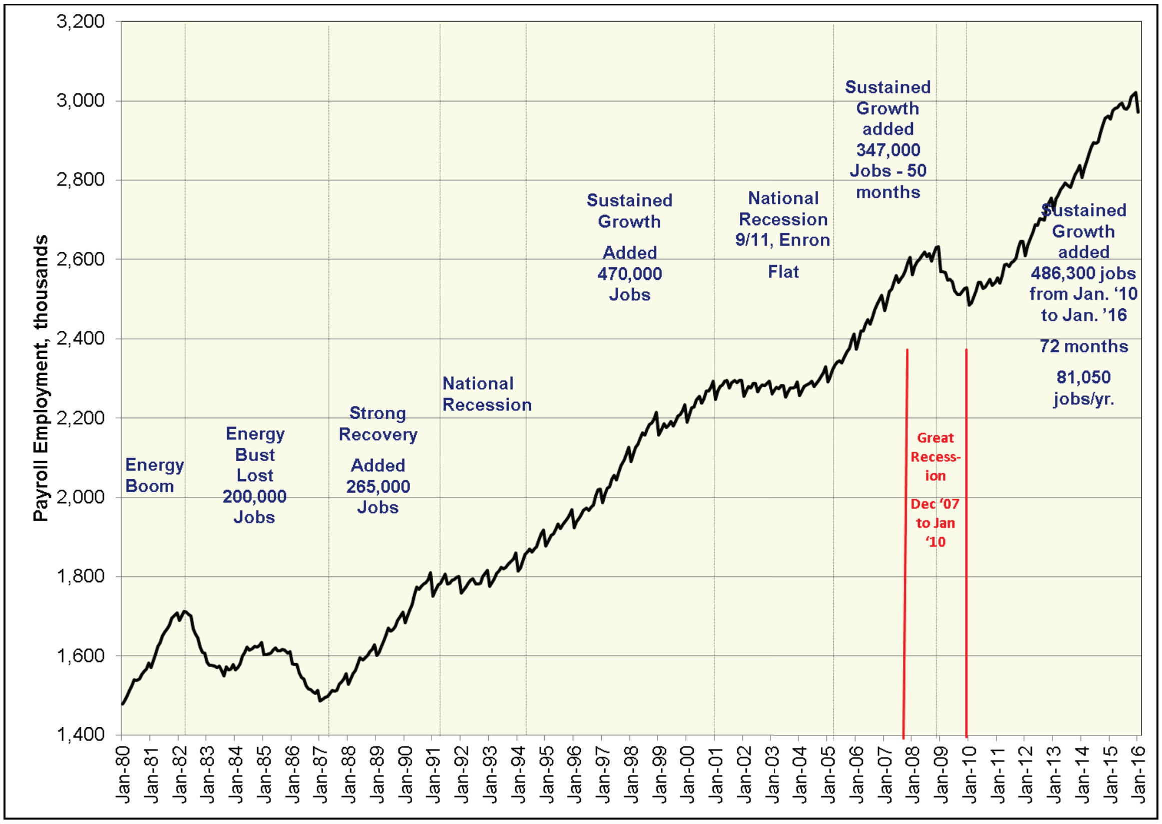

Figure 3-1
Houston Metropolitan Statistical Area Historical Employment Trends from CDS Report
Source: Texas Workforce Commission, March 2016

Recent data showed the Houston's recovery began in early 2010 and that the region has added 486,300 jobs from January 2010 to January 2016.

3.2.2 Factors Affecting Future Regional Economic Growth

According to the Greater Houston Partnership, three factors have governed the state of Houston's economy for the past 10 years:

- The health of the national economy;
- The value of the U.S. dollar against foreign currencies; and
- Energy prices.

While some effect of energy prices is apparent, the effect has not been a significant factor in the long-term growth of the regional economy. While the non-energy sectors only accounted for 16 percent of the regional economy in 1986, by 2011 the non-energy sectors accounted for 50 percent of the regional economy, demonstrating the economic diversification of the Houston region.

All of the three important drivers of the Houston's economy started to decline in mid-2008 as real GDP began to drop, the value of the dollar began to rise, and as oil prices began a sharp decline. These factors were shown to have had an effect on the Houston economy during the recession but it quick recovered thereafter. The oil and gas prices plummeting along with the U.S. dollar strengthening within the subsequent 2014-2016 timeframe has since begun putting some stress to the region's growth.

The higher oil and gas prices prior to 2014 had stimulate demand for oil field equipment and services, which is a strong sector within the Houston economy. Spot market closing prices for the West Texas Intermediate (WTI) began the 2000's decade in the $20-$30 per barrel range and remained there until 2004 before it began a steady climb, with a brief downward fall in 2006, to a peak of over $140 per barrel during the first half of 2008. The worldwide recession, accompanied by a fall-off in demand, resulted in a decrease in WTI crude oil prices (blue line in **Figure 3-2**) to less than $40 per barrel. By 2011, WTI price rebounded to more than $100 per barrel and fluctuated within a range of $85 to $110 until June of 2014, but dropped to $46 per barrel in January 2015. Oil prices rebounded slightly in the following three months of 2015, reaching $60 per barrel by May 2015. Since that point there was a continued decline to $30 per barrel in February 2016. As of December 2016, oil prices have rebounded to nearly $54 per barrel.

Concurrently, Henry Hub spot natural gas (red line in Figure 3-2) remained under $10.0/mm Btu before falling to a low of $2.0/mm BTU and then rebounding to $5.35 /mm BTU in late 2009. Spot natural gas prices again fell to $2.0 in the spring of 2012 but reached $6.2 by February of 2014. Since that peak, natural gas prices have dropped to $2.55 as of November of 2016.

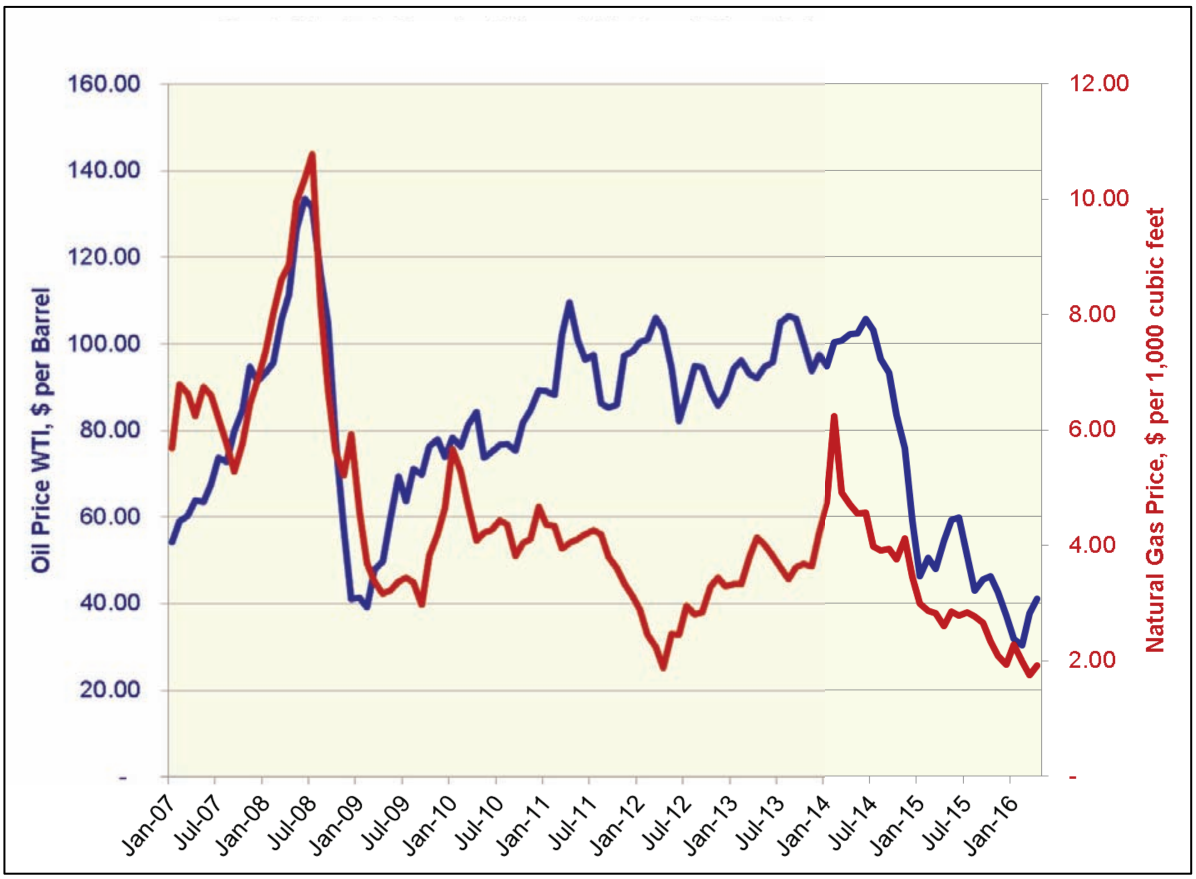

Figure 3-2
Energy Price Trends from CDS Report
Source: U.S. Energy Information Administration, May 2016

Additional information and references showing recent economic trends are included in CDS's report in Appendix A of this document.

3.2.3 Economic Geography

The City of Houston has never had zoning, and development is governed by codes that address how property can be subdivided. The region's Central Business District presently accounts for approximately six percent of the regional employment. Loosely-defined "edge cities" comprise a large portion of the region's employment base. These are usually made up of clusters of office, medical office, hotel, and supportive retail land uses. Many of these clusters contain high-rise, high density buildings. Examples of major regional employers and activity centers include the Uptown/Galleria, the Texas Medical Center in the urban core, or the Energy Corridor (near Segments H and I), Greenway Plaza, Sugar Land, Westchase, Greenspoint and The Woodlands in the suburbs. The region's heavy industries are clustered around the Houston Ship Channel in the vicinity of Segments H and I. The area's large employment centers are largely dependent upon access to the regional highway system. Additionally, growth anticipated to occur once Grand Parkway expands east (Segments H and I corridor) into Liberty and Chambers counties has already begun to manifest itself. The Castle Hills, Forestar and Kingwood tracts (near Segment H), the planned expansion of Cedar Port Industrial Park (near proposed Segment I-2B) and other future developments are occurring and anticipated based on CDS' analysis and in consultation with developers and stakeholders in Liberty and Chambers counties.

3.3 Regional Growth Forecasts

As the official metropolitan planning organization (MPO) for the eight-county Houston TMA, H-GAC prepares regional and small area forecasts that are utilized in transportation and other regional planning efforts. H-GAC is using a micro-simulation of the real estate development industry which supplies residential and non-residential buildings to accommodate the growing population and employment. H-GAC 2040 Regional Growth Forecast is updated and made available every quarter. Each quarterly release incorporates new information, changes made based upon feedback, and improvements to the model. Other public and private organizations that have developed population projections for the Houston Area include:

- The Texas State Data center;
- Moody's;
- The Texas Water Development Board;
- Wood & Poole Economics, Inc.;
- University of Houston, Institute for Regional Forecasting (UH-IRF);

Each of these forecasts demonstrates the general expectation of substantial future growth in the Houston region from a 2010 population base of 5.9 million to between 9.8 and 11.5 million residents by 2040. As discussed previously, this region added an annual average of 122,241 new residents within the 2000 to 2010 decade.

Population projections for the eight counties in the region are compared in the CDS report (see Appendix A) to the following relevant data sources:

- H-GAC 2040 Regional Growth Forecast from early 2016;
- CDS forecasts from 2014 and 2015;
- Texas State Data Center (TxSDC), two migration scenarios. Scenario 1.0 based on 100 percent of the 2000-2010 migration rates (TxSDC '14 1.0) and Scenario 0.5 based on migration at 50 percent of the 2000-2010 rates (TxSDC '14 0.5);
- Moody's projections; and
- Woods and Poole Economics, Inc.

There have also been several recent employment projections developed for the Houston Region by the following independent sources:

- The Houston-Galveston Area Council;
- Moody's; and
- Woods and Poole Economics, Inc.

The 2010 regional employment base of approximately 2.5 million (as estimated by CDS) is expected to grow by 2040 within the range of 4.16 million to 6.57 million depending on the sources which equates to an annual average growth of approximately 44,329 to 99,764 new jobs per year within the 2010 to 2040 timeframe.

Taking into account the recent dip in oil and gas prices and its effects on the Houston economy, CDS revised the regional and county level forecasts taking into account the correlation between long-term employment growth and the attraction of new residents brought about from the job creation.

In preparing this new CDS 2016 forecast, the following assumptions were used:

- The short-term growth of regional employment will be affected by low energy prices. For this short-term forecast, CDS used the most recent 2016 and 2017 job growth estimates as their underlying basis for revisions.
- In the long-term, the Houston economy is expected to continue to grow – overcoming the current short-term oil price disruptions. The Houston economy is much less dependent on the upstream energy industry now than in the past and historical trends support the contention that the Houston region will continue to be a low cost, business friendly, growth-oriented community – attractive to new business start-ups and corporate relocations and expansions.

- Houston, should not expect to continue the high and exponential growth experienced historically. As the region matures and attractive parcels are developed, CDS expects that job growth rates will stabilize to a modest sustainable annual rate.

For the revised long-term forecast, CDS has used an annual job growth rate of 1.8 percent. This rate of growth results in payroll jobs of 4,284,434 by 2040 – an annual average increase of 56,000 jobs compared to the historical ranges of 59,000 observed recently between 2005 and 2015. To prepare the regional "population in households" and "household" forecasts, CDS used historical trends of the ratio of jobs to households and historical trends of average household size.

Starting with the regional forecast, the county-level forecasts were prepared using Dr. Barton Smith's Shift-Share model whereby changing shares of regional growth were allocated to each county in the region.

3.4 Evaluation of H-GAC Forecasts

CDS Market Research was contracted by CDM Smith to assess the population and employment within the defined area of influence area around the Grand Parkway through 2040. This effort by CDS builds upon the 2011 economic and demographic forecast for the original tolled sections of the existing open Grand Parkway System Segments D through G and subsequent refinements made in 2014 to focus on the proposed Grand Parkway Segments H and I. This new study by CDS provides an update of those 2014 forecasts to account for changing conditions and recent "announced" and "under construction" residential and commercial development within the Segments D through I corridor. Also included are updates from 2011 to 2015 that reflect the Grand Parkway System and various other planned roadway projects and expansions by TxDOT, the Harris County Toll Road Authority (HCTRA), Fort Bend Grand Parkway Toll Road Authority (FBGPTRA) and the Fort Bend County Toll Road Authority (FBCTRA).

CDS considered multiple independent forecasts to determine and develop their most likely case scenarios. Along with H-GAC's regional forecast, this report considered seven independent forecasts of population and three independent forecasts of employment from reputable organizations.

The H-GAC's regional forecasts, from which their small area forecasts are derived, tended to be in the middle of the independent forecasts referenced in this study. It has been the conclusion of the CDS team that the H-GAC 2040 regional forecasts at the eight-county regional level were generally reasonable and consistent with other credible forecasts, but assumed lower overall growth rates in the CDS projections. CDS suggested that the short-term small area and county-level forecasts by H-GAC's 2040 forecast are somewhat divergent with recent observed growth trends. Therefore, CDS utilized the following general approach, as documented in their report in Appendix A:

- When compared to H-GAC's forecast and the latest forecast model by CDS is notable for the extent to which their models account for the anticipated decentralization of both jobs and population from the core Harris County into the surrounding regional counties. This pattern is consistent with what has happened in almost every major urban area in America, including both the older cities in the northeast and the newer ones in the south and west.

This results in totals for those two variables in outlying counties which are well above H-GAC's and others' projections, while Harris County results in lower control totals. An important reason is that the model is sensitive to two significant factors: the presence of vacant developable land (and conversely the lack of it in the existing built-up areas within the central core) and the qualitative factors and market forces which tend to favor outlying locations for many types of new development.

- The latest CDS model, and its predecessors (based on the model developed by Dr. Barton Smith), also allows counties to capture accelerating or decelerating (non-linear) shares of growth over time – signifying "tipping points" and changes in market momentum that are similar to patterns that typically play out in the marketplace. This is done through second-degree polynomial formulas incorporated into a shift-share model.
- Dr. Smith had previously normalized the estimated coefficients to reflect changes and additional information obtained that was particularly relevant, such as the expansion of the toll road system in the region and/or the limited expansion of roadways in the urban core.
- While it is an alteration, the latest CDS forecast includes an adjustment to Dr. Smith's 2012 forecasts to consider households and household population instead of housing units and total population, but does not change the underlying methodology. Housing units were converted to households by assuming a continuation of recent historical trends in housing occupancy, while total population was converted to household population by the assumption that recent trends in the share of population outside of households (group quarters) will continue. The changes arising from these modifications did not affect the growth rates or shares in any significant way and resulted in very slight modifications to the overall key variable control total forecasts.

CDS does mention that their latest forecasts present a revised set of regional and county forecasts that have been modified to reflect current conditions and assumptions pertaining to a slowdown of the regional economy in the short-term. In the long-term, the Houston economy is expected to continue to grow at a somewhat dampened growth rate compared to recent historical trends. It is worth noting that an extended and prolonged run of low oil prices and slowdown of the oil and gas industry beyond the short-term assumptions already envisioned by CDS has the potential to result in lower population and employment growth rates than currently being projected by the CDS baseline in the long-term.

3.4.1 Small Area Forecast Method Overview

In general, the methodology CDS used to develop the small area forecasts, included the following steps:

1. Utilize the forecasts of county-level jobs and population from the UH-IRF (Dr. Barton Smith 2012 forecast);
2. Compile data on historical growth trends from the central appraisal districts for Harris, Waller, Montgomery and Fort Bend counties; commercial development data from O'Connor and Associates; PCensus for Arcview; historical employment information

from the Census Transportation Planning Package; and population and jobs from previous H-GAC forecasts;

3. Evaluate the growth trends in the previous and latest H-GAC 2040 projections;
4. Investigate the forecasts of area governmental agencies and private organizations;
5. Evaluate the observed growth inducing effects of the Grand Parkway segments and other major infrastructure improvements;
6. Implement a "shift-share" forecasting methodology at the Regional Analysis Zones (RAZ) level which takes into account the historical trends; the known historical growth areas for housing and jobs; announced major developments; the land available for new developments; and likely areas in the community for new development based on locally influenced qualitative factors; and
7. Disaggregate the RAZ forecast into the smaller zones.

3.4.2 Future Transportation Network Assumptions

Consideration of changes in the regional transportation network including both highways and public transit were beyond the scope of the CDS study. However, major new planned facilities such as the Grand Parkway, the Fort Bend and Harris counties Major Thoroughfare Plans, and known enhancement to existing facilities such as improvements to US 290, SH 249, SH 288, IH 45 South and IH 45 North, HCTRA facilities, FBTRA and FBGPTRA facilities and planned light rail extensions were included.

3.4.3 Contact with Area Agencies and Organizations

In the course of developing small area forecasts, CDS sought out the demographic and economic projections used by key public sector agencies serving both the key areas of focus and the Houston region as a whole. The goal was to understand the projections used by these organizations and to account for knowledge and insight gained from conversations with the local organizations to support the development of CDS's socioeconomic projections.

3.4.4 The RAZ Level Forecasts

The forecasts at the RAZ geographic level were produced using a shift-share forecasting methodology, accounting for land availability throughout the process. The methodology involved establishment of county-level forecasts from 2010 to 2040 using the UH-IRF's 2012 forecasts. The shares of the future county housing units, population and jobs were then estimated for each five-year period between 2010 and 2040. The area of influence (AOI) that constituted the geographic areas surrounding the Grand Parkway Segments D through I and that was used for more detailed assessment was defined as illustrated in **Figure 3-3**. A more comprehensive summary of the forecasts and descriptions of the development trends within each zone can be found in the full CDS report in Appendix A.

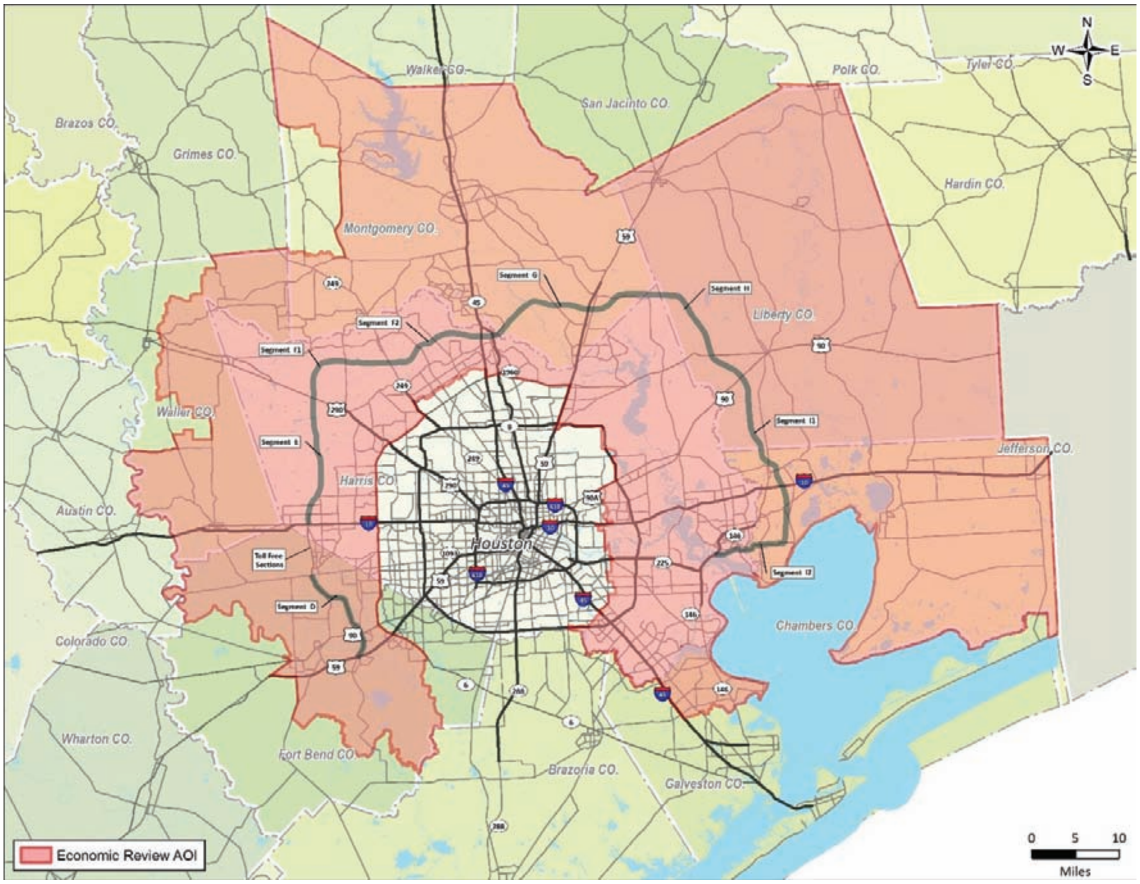

Figure 3-3
Grand Parkway Segments D through I Socio-Economic Review Area of Influence

3.4.5 Distributing RAZ-Level Forecast Data to the TAZ and SAZ

The forecasts for the RAZ were distributed to the smaller Traffic Analysis Zones (TAZ), and subsequent Small Area Zones (SAZ) for the entire eight-county region. There are 3,512 forecast areas in the region. The methodology used to distribute the forecasts from the RAZ to the TAZ and SAZ zones along with the resulting detailed population and employment forecasts are all described in the CDS report provided in Appendix A. The following is a brief comparison summary of the developed CDS forecasts.

3.4.6 CDS vs. H-GAC Forecasts

Tables 3-5 and 3-6 compare the CDS population and employment forecasts to the official H-GAC's latest 2016 forecasts. At the eight-county TMA region level, the CDS population forecast is approximately 0.4 percent higher than the H-GAC forecast in 2015 but then is 4.8 percent lower in 2020 and 2.0 percent lower in 2040. While the Harris County population forecast by CDS remain very similar to the official H-GAC forecast, the CDS forecasts in the surrounding counties varied. The Chambers County CDS forecasts in 2040 were approximately 50.3 percent higher, 52.2 percent higher for Liberty County, 6.0 percent higher for Fort Bend County and 2.2 percent higher in Montgomery County.

The historical average annual growth of population from 1980 to 2010 was 2.2 percent in Chambers County and CDS estimates the future growth from 2010 to 2040 to be slightly higher at

3.2 percent per year to reflect the redistribution of growth to the surrounding counties as Harris county continues to mature as has already been evident in Fort Bend and Montgomery counties. The historical average annual growth of population from 1980 to 2010 was 1.6 percent in Liberty County and 4.3 percent in Montgomery County. The CDS estimates of future growth from 2010 to 2040 is again slightly higher at 3.9 percent per year in Liberty County due to its capacity to absorb growth and slightly lower at 3.3 percent per year in Montgomery County to reflect a maturation of growth in this county due to the current influx of growth that has already occurred.

At the eight-county TMA region level, the CDS employment forecast is 7.6 percent lower than the H-GAC forecast in 2015, 12.0 percent lower by 2020, 6.8 percent in 2035 and 4.4 percent lower by 2040. The Harris County employment forecast in 2040 by CDS are lower than the H-GAC forecast by 16.2 percent while the surrounding counties yield higher forecasts of 46.69 percent in Chambers County, 142.9 percent in Liberty County and 54.5 percent in Montgomery County.

The historical average annual growth of employment from 1990 to 2010 was 2.7 percent in Chambers County and CDS estimates the future growth from 2010 to 2040 to be 3.8 percent per year. The historical average annual growth of employment from 1990 to 2010 was 2.0 percent in Liberty County and 6.2 percent in Montgomery County. The CDS estimates of future growth from 2010 to 2040 were higher at 3.6 percent per year in Liberty County and lower at 4.0 percent per year in Montgomery County, respectively.

Figure 3-4 and Figure 3-5 illustrate the CDS and H-GAC population and employment from 2010 through 2040 (in ten-year increments) for H-GAC TMA model area which includes Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller counties. Historical population is based on information from the U.S. Census, and historical employment is based on information from the Bureau of Labor Statistics (BLS). Also shown in the graphics are independent source forecasts from TxSDC for the population, and Moody's for the employment.

The growth estimated by CDS between 2010 and 2020 and 2020 to 2035, is shown for population in **Figure 3-6 and Figure 3-7**; for household growth in **Figure 3-8 and Figure 3-9**; and for employment growth in **Figure 3-10 and Figure 3-11**. Additional details regarding the reasons for the changes made by CDS to the H-GAC forecasts is included in the CDS report included as Appendix A.

Table 3-5 Comparison of County-Level Population Forecasts between H-GAC and CDS

H-GAC Forecast	2010	2015	2020	2025	2030	2035	2040
Brazoria County	302,585	346,143	388,694	427,261	472,874	513,249	554,702
Chambers County	34,863	40,125	44,326	48,357	51,999	55,453	58,982
Fort Bend County	578,220	732,812	864,926	982,657	1,054,635	1,149,607	1,255,598
Galveston County	286,922	333,018	358,171	381,746	412,455	438,313	467,593
Harris County	4,044,783	4,366,726	4,708,774	5,079,695	5,468,126	5,861,019	6,254,220
Liberty County	70,499	74,900	81,642	97,558	112,410	127,812	144,047
Montgomery County	452,509	584,435	728,948	854,284	972,587	1,084,742	1,174,147
Waller County	39,488	39,580	46,114	53,280	87,675	100,731	109,334
8-County Region	5,809,869	6,517,739	7,221,595	7,924,838	8,632,761	9,330,926	10,018,623
CDS Adjusted Forecast	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
Brazoria County	302,607	335,300	358,332	417,897	492,277	575,722	662,276
Chambers County	34,867	38,600	43,472	53,135	63,207	75,355	88,631
Fort Bend County	579,439	709,800	768,763	888,058	1,022,463	1,169,734	1,330,309
Galveston County	287,012	317,900	332,515	367,946	410,060	463,684	530,338
Harris County	4,047,935	4,491,200	4,656,482	4,932,177	5,181,124	5,404,635	5,628,281
Liberty County	70,499	74,500	81,081	101,732	131,520	171,146	219,303
Montgomery County	452,522	534,200	583,254	691,898	831,360	1,004,905	1,199,620
Waller County	39,502	44,900	48,191	61,380	83,467	116,379	159,512
8-County Region	5,814,383	6,546,400	6,872,090	7,514,223	8,215,478	8,981,560	9,818,270
Difference	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
Brazoria County	0.0%	-3.1%	-7.8%	-2.2%	4.1%	12.2%	19.4%
Chambers County	0.0%	-3.8%	-1.9%	9.9%	21.6%	35.9%	50.3%
Fort Bend County	0.2%	-3.1%	-11.1%	-9.6%	-3.1%	1.8%	6.0%
Galveston County	0.0%	-4.5%	-7.2%	-3.6%	-0.6%	5.8%	13.4%
Harris County	0.1%	2.9%	-1.1%	-2.9%	-5.2%	-7.8%	-10.0%
Liberty County	0.0%	-0.5%	-0.7%	4.3%	17.0%	33.9%	52.2%
Montgomery County	0.0%	-8.6%	-20.0%	-19.0%	-14.5%	-7.4%	2.2%
Waller County	0.0%	13.4%	4.5%	15.2%	-4.8%	15.5%	45.9%
8-County Region	0.1%	0.4%	-4.8%	-5.2%	-4.8%	-3.7%	-2.0%

Table 3-6 Comparison of County-Level Employment Forecasts between H-GAC and CDS

H-GAC Forecast	2010	2015	2020	2025	2030	2035	2040
Brazoria County	84,422	91,673	97,436	103,630	111,815	124,608	145,759
Chambers County	12,403	14,360	15,585	16,687	17,708	18,713	19,722
Fort Bend County	148,418	188,447	229,074	248,512	259,575	267,736	283,161
Galveston County	95,512	104,629	109,672	115,099	131,072	153,978	171,802
Harris County	2,236,495	2,517,770	2,712,354	2,935,242	3,142,874	3,354,047	3,553,890
Liberty County	14,286	14,351	14,549	14,801	15,872	16,797	21,494
Montgomery County	139,807	168,326	202,510	213,008	226,154	232,772	239,950
Waller County	11,273	12,489	15,632	16,674	20,508	22,727	29,696
8-County Region	2,742,616	3,112,045	3,396,812	3,663,653	3,925,578	4,191,378	4,465,474
CDS Adjusted Forecast	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
Brazoria County	85,761	103,268	111,314	126,430	142,871	160,749	181,333
Chambers County	9,385	12,824	13,978	16,766	20,429	24,483	28,918
Fort Bend County	130,168	170,096	183,333	227,624	288,286	364,548	448,584
Galveston County	94,522	103,654	108,826	121,759	136,554	153,481	171,997
Harris County	1,993,657	2,288,404	2,360,724	2,522,767	2,680,015	2,828,295	2,977,091
Liberty County	16,201	16,428	17,119	21,180	27,266	37,399	52,209
Montgomery County	127,153	165,027	178,264	212,623	254,004	307,305	370,717
Waller County	13,041	15,823	17,207	20,669	25,453	31,741	40,178
8-County Region	2,469,888	2,875,524	2,990,765	3,269,818	3,574,878	3,908,001	4,271,027
Difference	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
Brazoria County	1.6%	12.6%	14.2%	22.0%	27.8%	29.0%	24.4%
Chambers County	-24.3%	-10.7%	-10.3%	0.5%	15.4%	30.8%	46.6%
Fort Bend County	-12.3%	-9.7%	-20.0%	-8.4%	11.1%	36.2%	58.4%
Galveston County	-1.0%	-0.9%	-0.8%	5.8%	4.2%	-0.3%	0.1%
Harris County	-10.9%	-9.1%	-13.0%	-14.1%	-14.7%	-15.7%	-16.2%
Liberty County	13.4%	14.5%	17.7%	43.1%	71.8%	122.7%	142.9%
Montgomery County	-9.1%	-2.0%	-12.0%	-0.2%	12.3%	32.0%	54.5%
Waller County	15.7%	26.7%	10.1%	24.0%	24.1%	39.7%	35.3%
8-County Region	-9.9%	-7.6%	-12.0%	-10.7%	-8.9%	-6.8%	-4.4%

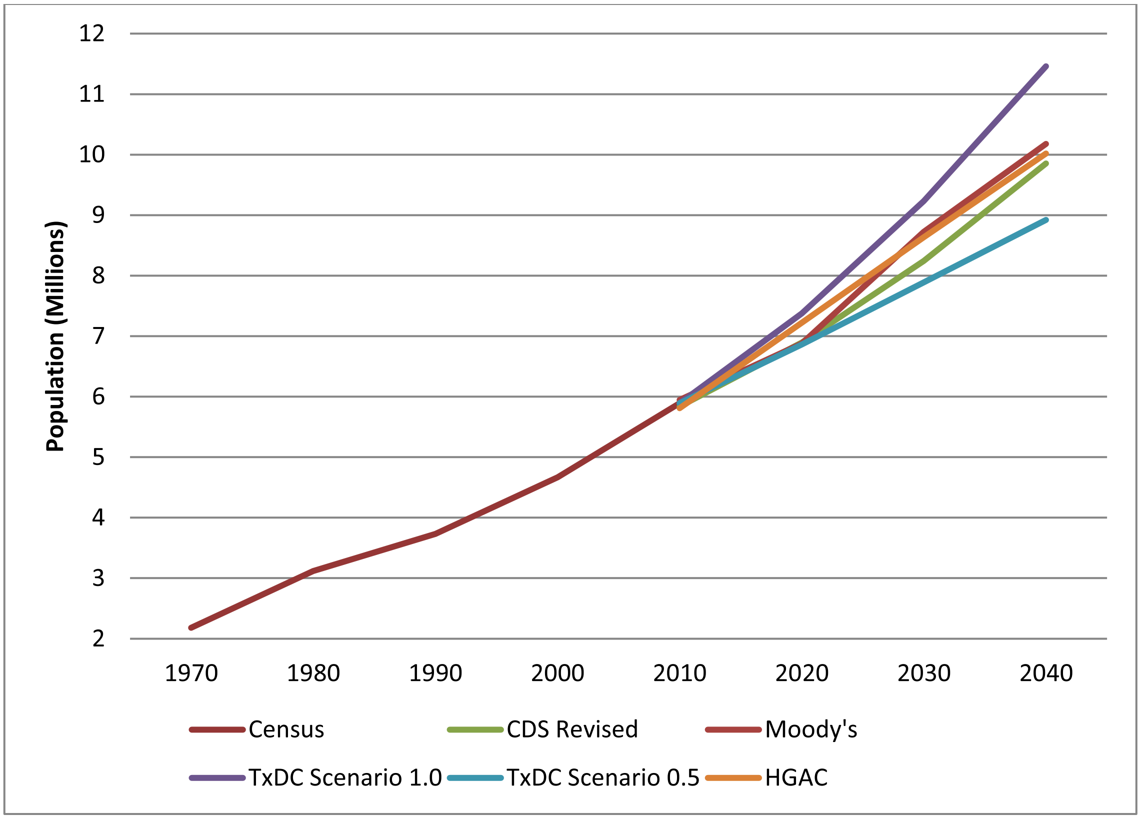

Figure 3-4
Historical and Forecasted Population: H-GAC Model Area

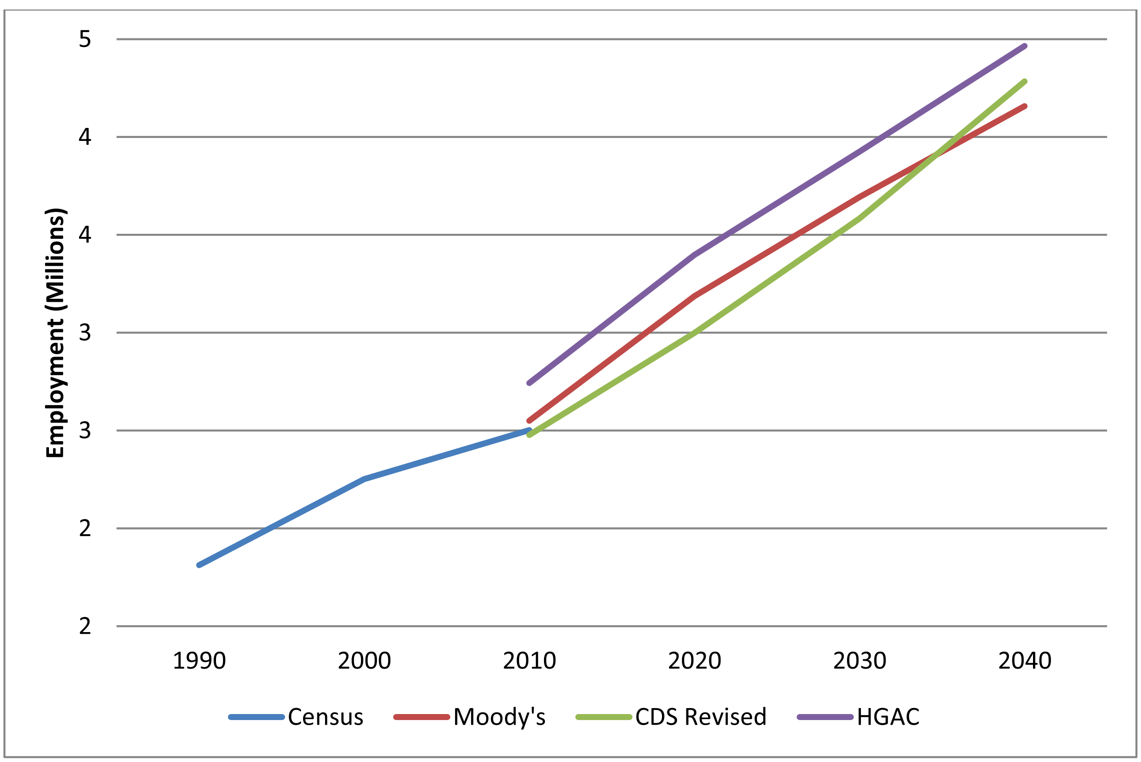

Figure 3-5
Historical and Forecasted Employment: H-GAC Model Area

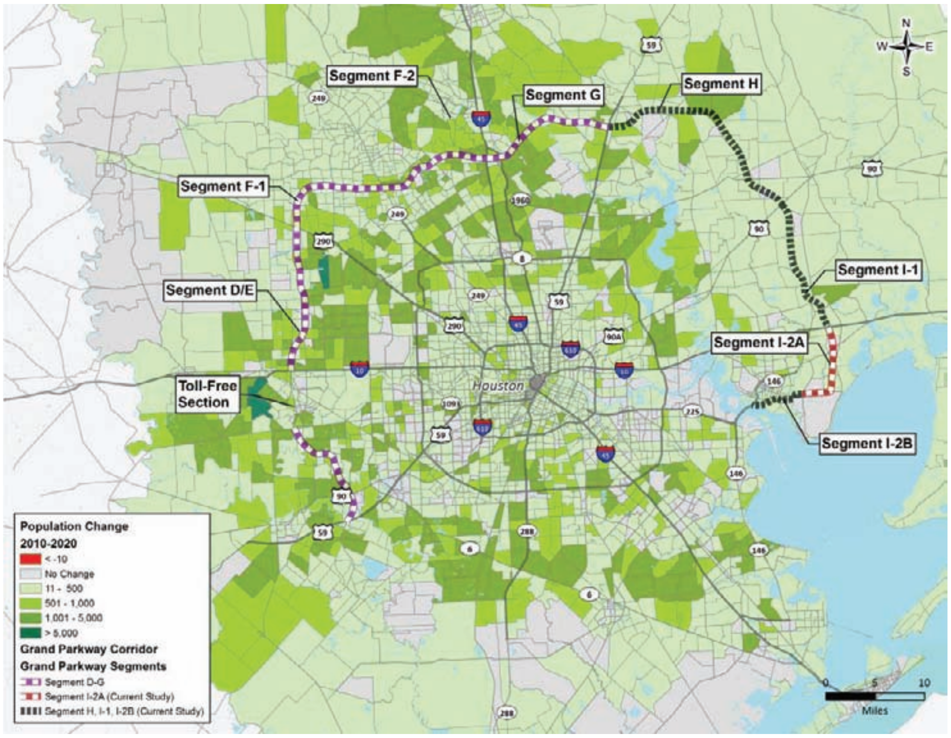

Figure 3-6
CDS Forecasted Population Growth 2010-2020

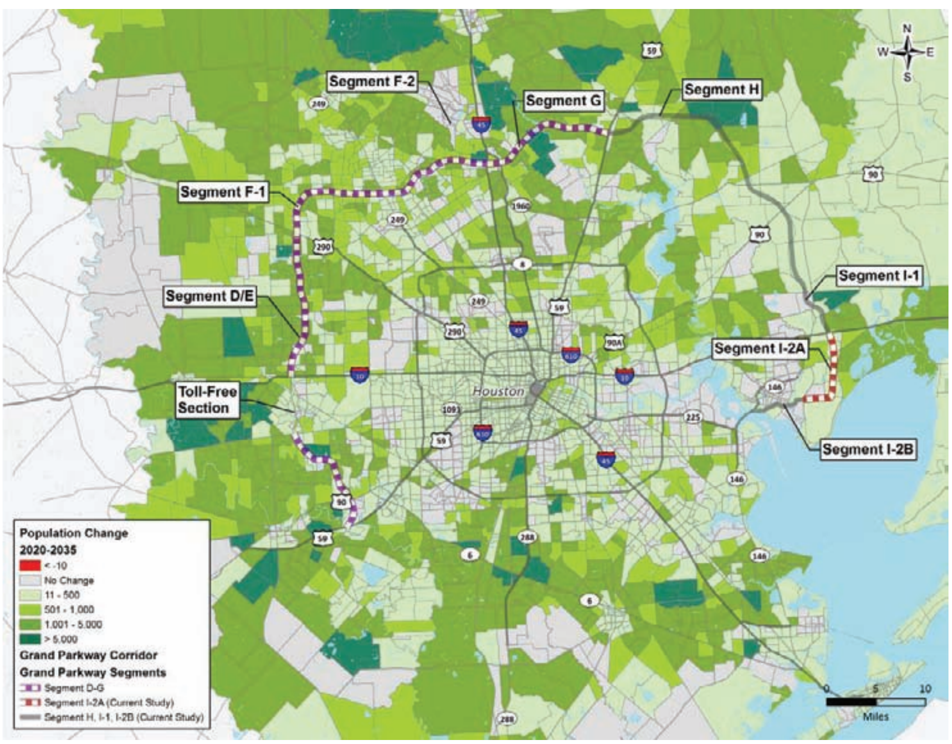

Figure 3-7
CDS Forecasted Population Growth 2020-2035

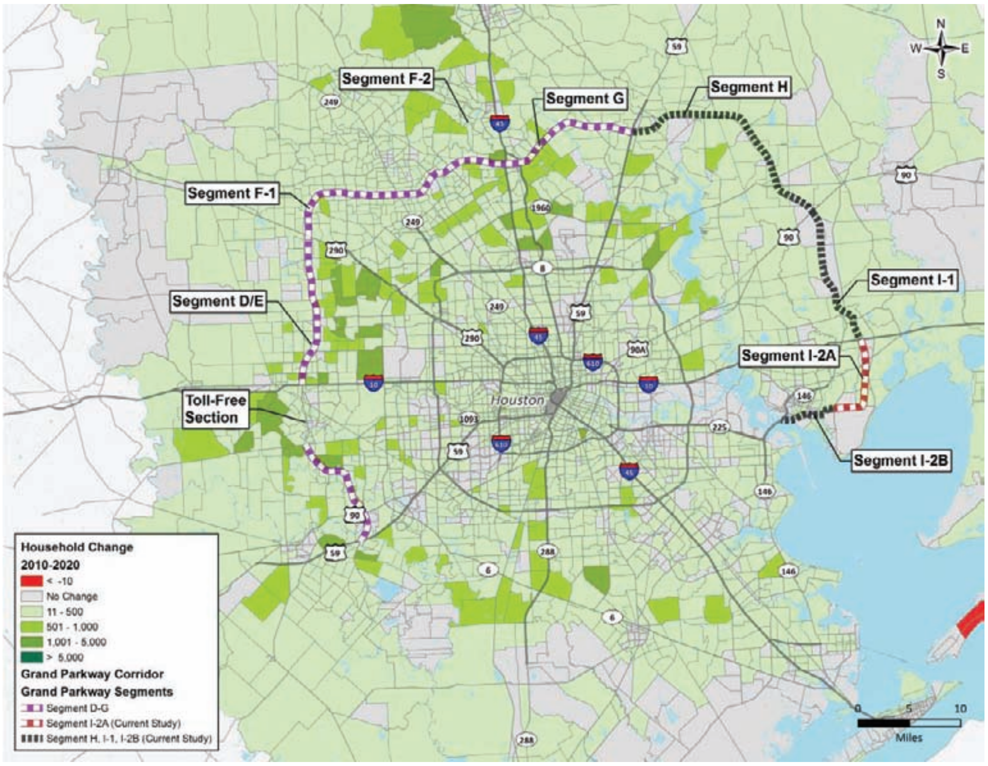

Figure 3-8
CDS Forecasted Households Growth 2010-2020

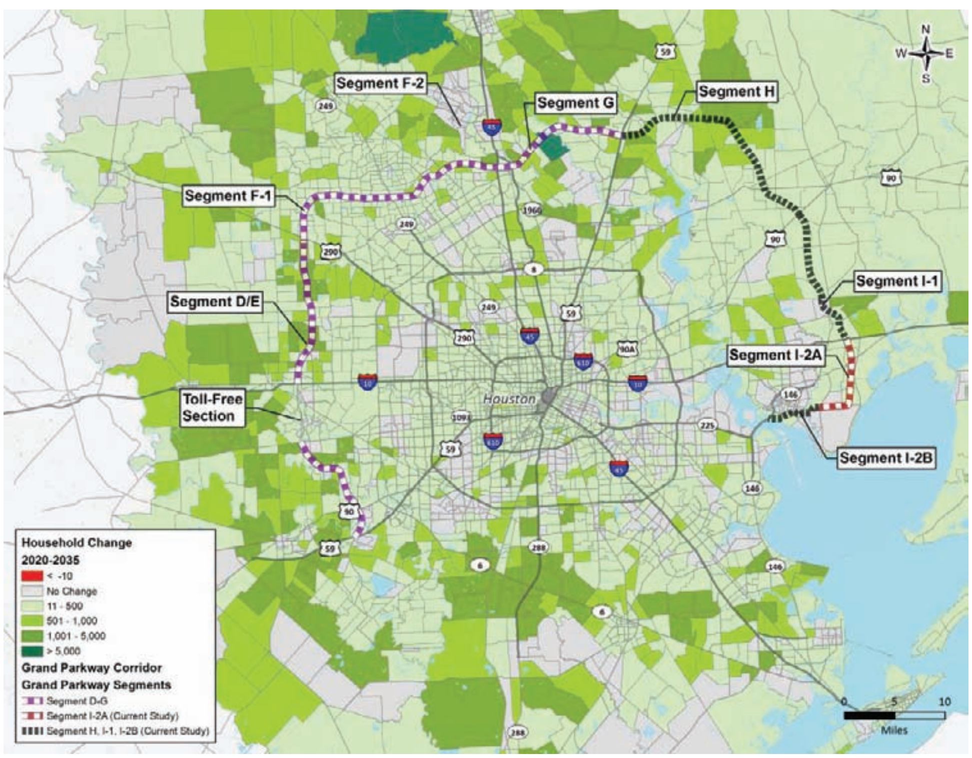

Figure 3-9
CDS Forecasted Households Growth 2020-2035

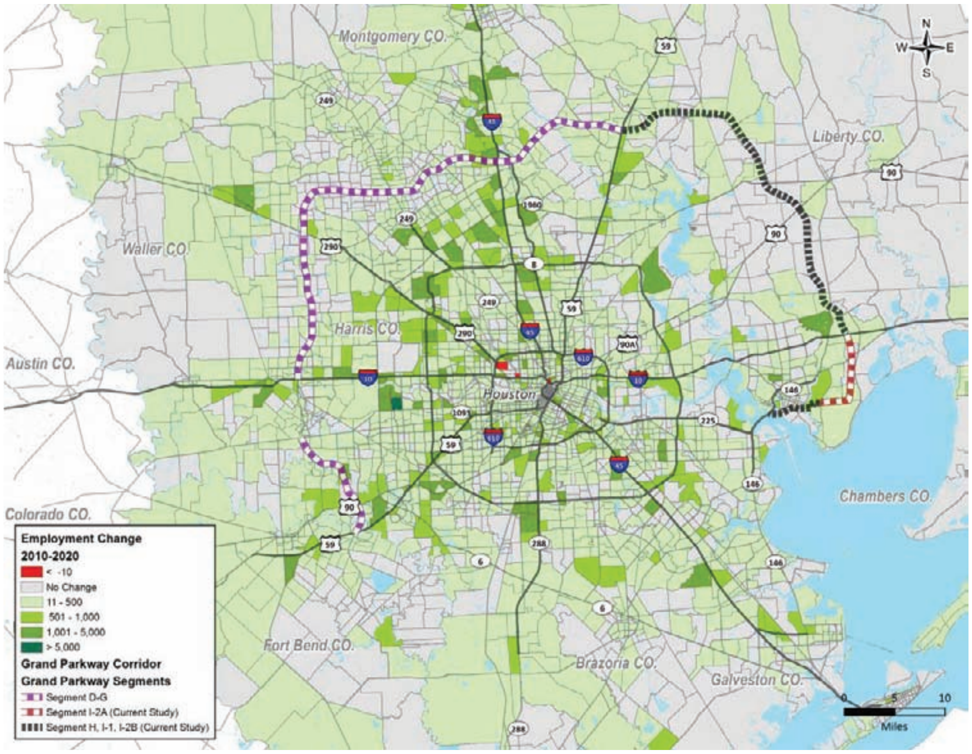

Figure 3-10
CDS Forecasted Employment Growth 2010-2020

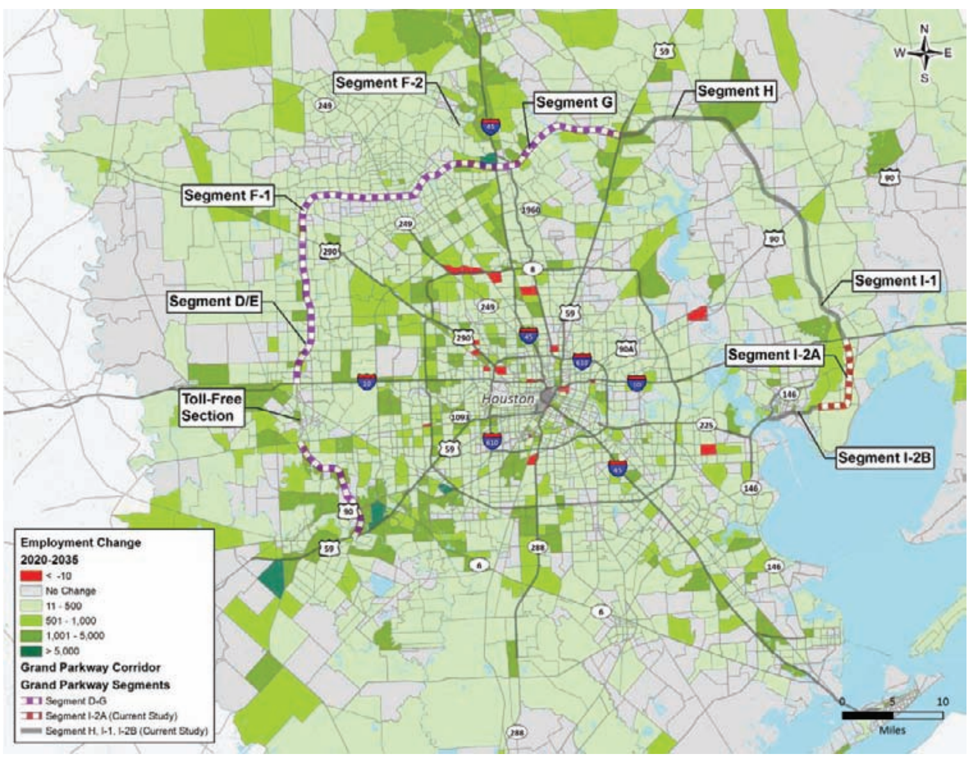

Figure 3-11
CDS Forecasted Employment Growth 2020-2035

3.5 CDS Forecast Revisions

Socioeconomic forecasts developed by CDS previously in 2012 during the previous initial Segments D through G T&R study (2013) are compared against the latest forecasts developed for the current study (2016) as shown below in **Tables 3-7 and 3-8**.

Table 3-7 Comparison of County-Level Population Forecasts by CDS (past 2012 and current 2016)

CDS 2012 Forecast	2010	2015	2020	2025	2030	2035	2040
Brazoria County	313,200	352,100	432,300	527,000	623,600	719,700	803,800
Chambers County	35,100	40,300	49,200	58,400	67,900	78,800	90,400
Fort Bend County	585,400	678,300	846,700	1,011,900	1,172,100	1,325,200	1,455,400
Galveston County	291,300	317,400	370,600	428,400	481,800	530,500	567,600
Harris County	4,092,500	4,356,600	4,757,900	5,049,700	5,283,400	5,436,500	5,547,300
Liberty County	75,600	80,900	98,600	123,400	153,900	188,700	225,700
Montgomery County	455,700	534,000	671,800	809,500	949,700	1,084,900	1,212,200
Waller County	43,200	48,500	66,900	109,900	156,700	202,900	243,400
8-County Region	**5,892,000**	**6,408,100**	**7,294,000**	**8,118,200**	**8,889,100**	**9,567,200**	**10,145,800**
CDS 2016 Forecast	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
Brazoria County	302,607	335,300	358,332	417,897	492,277	575,722	662,276
Chambers County	34,867	38,600	43,472	53,135	63,207	75,355	88,631
Fort Bend County	579,439	709,800	768,763	888,058	1,022,463	1,169,734	1,330,309
Galveston County	287,012	317,900	332,515	367,946	410,060	463,684	530,338
Harris County	4,047,935	4,491,200	4,656,482	4,932,177	5,181,124	5,404,635	5,628,281
Liberty County	70,499	74,500	81,081	101,732	131,520	171,146	219,303
Montgomery County	452,522	534,200	583,254	691,898	831,360	1,004,905	1,199,620
Waller County	39,502	44,900	48,191	61,380	83,467	116,379	159,512
8-County Region	**5,814,383**	**6,546,400**	**6,872,090**	**7,514,223**	**8,215,478**	**8,981,560**	**9,818,270**
Difference	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
Brazoria County	-3.4%	-4.8%	-17.1%	-20.7%	-21.1%	-20.0%	-17.6%
Chambers County	-0.7%	-4.2%	-11.6%	-9.0%	-6.9%	-4.4%	-2.0%
Fort Bend County	-1.0%	4.6%	-9.2%	-12.2%	-12.8%	-11.7%	-8.6%
Galveston County	-1.5%	0.2%	-10.3%	-14.1%	-14.9%	-12.6%	-6.6%
Harris County	-1.1%	3.1%	-2.1%	-2.3%	-1.9%	-0.6%	1.5%
Liberty County	-6.7%	-7.9%	-17.8%	-17.6%	-14.5%	-9.3%	-2.8%
Montgomery County	-0.7%	0.0%	-13.2%	-14.5%	-12.5%	-7.4%	-1.0%
Waller County	-8.6%	-7.4%	-28.0%	-44.1%	-46.7%	-42.6%	-34.5%
8-County Region	**-1.3%**	**2.2%**	**-5.8%**	**-7.4%**	**-7.6%**	**-6.1%**	**-3.2%**

Table 3-8 Comparison of County-Level Employment Forecasts by CDS in 2012 and 2016

CDS 2012 Forecast	2010	2015	2020	2025	2030	2035	2040
Brazoria County	85,100	92,900	106,800	121,300	137,400	152,300	166,100
Chambers County	10,300	12,500	16,600	21,300	27,000	32,300	37,000
Fort Bend County	145,600	198,200	260,600	318,200	374,100	425,500	470,500
Galveston County	97,600	106,300	120,300	133,500	148,100	161,000	172,200
Harris County	1,986,400	2,080,600	2,257,100	2,416,100	2,558,000	2,677,200	2,778,700
Liberty County	21,000	25,300	32,800	41,700	50,200	58,700	66,400
Montgomery County	143,400	192,400	250,600	304,900	359,000	410,600	458,700
Waller County	12,800	16,600	23,000	31,200	39,500	47,600	55,100
8-County Region	**2,502,200**	**2,724,800**	**3,067,800**	**3,388,200**	**3,693,300**	**3,965,200**	**4,204,700**
CDS 2016 Forecast	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
Brazoria County	85,761	103,268	111,314	126,430	142,871	160,749	181,333
Chambers County	9,385	12,824	13,978	16,766	20,429	24,483	28,918
Fort Bend County	130,168	170,096	183,333	227,624	288,286	364,548	448,584
Galveston County	94,522	103,654	108,826	121,759	136,554	153,481	171,997
Harris County	1,993,657	2,288,404	2,360,724	2,522,767	2,680,015	2,828,295	2,977,091
Liberty County	16,201	16,428	17,119	21,180	27,266	37,399	52,209
Montgomery County	127,153	165,027	178,264	212,623	254,004	307,305	370,717
Waller County	13,041	15,823	17,207	20,669	25,453	31,741	40,178
8-County Region	**2,469,888**	**2,875,524**	**2,990,765**	**3,269,818**	**3,574,878**	**3,908,001**	**4,271,027**
Difference	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**
Brazoria County	0.8%	11.2%	4.2%	4.2%	4.0%	5.5%	9.2%
Chambers County	-8.9%	2.6%	-15.8%	-21.3%	-24.3%	-24.2%	-21.8%
Fort Bend County	-10.6%	-14.2%	-29.6%	-28.5%	-22.9%	-14.3%	-4.7%
Galveston County	-3.2%	-2.5%	-9.5%	-8.8%	-7.8%	-4.7%	-0.1%
Harris County	0.4%	10.0%	4.6%	4.4%	4.8%	5.6%	7.1%
Liberty County	-22.9%	-35.1%	-47.8%	-49.2%	-45.7%	-36.3%	-21.4%
Montgomery County	-11.3%	-14.2%	-28.9%	-30.3%	-29.2%	-25.2%	-19.2%
Waller County	1.9%	-4.7%	-25.2%	-33.8%	-35.6%	-33.3%	-27.1%
8-County Region	**-1.3%**	**5.5%**	**-2.5%**	**-3.5%**	**-3.2%**	**-1.4%**	**1.6%**

3.6 Summary of Independent Socioeconomic Review

The region, and more specifically Montgomery and Fort Bend counties, have sustained very high growth rates in population, employment and other key demographic and economic variables over the past 40 years.

Relatively high levels of growth are expected to continue and the H-GAC 2040 Regional Growth Forecast release in 2016 estimates that the region will grow from below 6 million in 2010 to 10 million by 2040. This outlook is consistent with a number of key forecasting sources that were reviewed. CDS as part of this update found the H-GAC forecasts to be generally reasonable at the regional level, but further dampened the regional level growth rates in lieu of current and observed economic conditions within the Houston area. In addition, CDS was more divergent in their allocation of growth among the various small area and county-level regions compared to those indicated in H-GAC's 2040 Forecast to account for much more decentralization of both jobs and population. This pattern is consistent with what has happened locally with other surrounding counties within the Houston region and in almost every major urban area in

America, including both the older cities in the northeast and the newer ones in the south and west. This results in population and employment forecasts in the surrounding counties that are well above the H-GAC's and other independent source projections, and Harris County forecasts that are lower than the official H-GAC control totals. An important reason is that the model is sensitive to two significant factors: the presence of vacant developable land (and conversely the lack of it in existing built-up areas) and the qualitative factors and market forces which tend to favor the surrounding locations for many types of new development.

The CDS revised forecasts therefore assume a higher share of the growth for small area zones along the Grand Parkway corridor than the latest H-GAC forecasts that is consistent with observed trends within these respective regions. The population and employment forecasts by CDS in Chambers, Liberty and Montgomery counties are greater than the official H-GAC forecasts based on the historical growth trends and detailed growth profiling undertaken by CDS within the Houston region and along the Grand Parkway System segments. The adjustments were undertaken to better align the current base and future forecasts with current observed trends and existing development occurring within the corridor. CDM Smith used the CDS forecasts as an input for base case scenario T&R estimates presented in the subsequent Chapter 4.

3.7 Consumer Price Index

The consumer price index for all urban consumers (CPI-U) is the most widely used measure of inflation and serves as an economic indicator. The CPI-U determines the aggregate price level of a specific market basket of goods and services that are consumed by typical urban households. This is done by calculating the average going price of each item in the market basket. Food, clothing, housing, transportation (including tolls) and entertainment are all included in the basket. Income taxes and investment items such as stocks and bonds are not included. The Bureau of Labor and Statistics (BLS) of the U.S. Department of Labor calculates the CPI-U every month.

The consumer price index for Urban Wage Earners and Clerical Workers (CPI-W) is a variation of the consumer price index, as compiled by the BLS that measures the consumer prices certain workers are exposed to such as to reflect changes in the cost of benefits. CPI-W is calculated using the same data collected by BLS, but includes information from only certain demographics: those households with at least 50 percent of the household income coming from clerical or wage paying jobs and at least one of the household earners must have been employed for at least 70 percent of the year.

The consumer price index for the base time frame (1982-1984) is 100. Inflation is determined by finding the percentage change in the CPI-U or CPI-W from one year to the next. **Table 3-9** gives the historical trends for CPI-U and CPI-W from 1985 to 2016 for Houston-Galveston-Brazoria region and the United States. As indicated in Table 3-9, the CPI-U in Houston-Galveston-Brazoria region has continually increased at a similar rate to the CPI-U for the United States. This indicates that the inflation rate in Houston-Galveston-Brazoria is consistent with the rate of inflation seen nationwide. In Houston-Galveston-Brazoria, the CPI-U and CPI-W has grown at an average annual rate of 2.4 and 2.3 percent per year since 1985, which is a lower rate of growth experienced by the nation during that time. The assumptions regarding escalation of toll rates for future years is based on an agreement between the Texas Transportation Commission (TTC) and

GPTC, and this future year escalation is also applied to values-of-time and operating costs estimates that are presented in Chapter 4. The toll rate policy for the expanded Grand Parkway System (Segments D through I) prescribes the use of the most recently published non-revised index of CPI-W, before seasonal adjustment as published by the Bureau of Labor Statistics (BLS), prior to October 1 of each year for toll rate escalation. As shown in Table 3-9, Houston-Galveston-Brazoria CPI-W changed by 0.6 percent between August 2015 and August 2016. Since the calculated CPI-W annual growth rate between August 2015 and August 2016 was lower than 2.0 percent, the minimum growth rate of 2.0 percent was applied to escalate toll rates between 2016 and 2017. **Figure 3-12** shows year over year historical CPI-W growth for Houston-Galveston-Brazoria and United States.

Table 3-9 Consumer Price Index for All Urban Consumers

Year	CPI-U				CPI-W			
	Houston-Galveston-Brazoria, TX	Growth	United States	Growth	Houston-Galveston-Brazoria, TX	Growth	United States	Growth
1985	104.9	2.1%	107.6	3.5%	104.6	1.5%	106.9	3.5%
1986	104.0	-0.9%	109.6	1.9%	103.7	-0.9%	108.6	1.6%
1987	106.5	2.5%	113.7	3.7%	106.4	2.6%	112.5	3.5%
1988	109.6	2.9%	118.3	4.0%	109.7	3.1%	117.0	4.0%
1989	114.1	4.2%	124.0	4.9%	114.4	4.3%	122.6	4.8%
1990	120.6	5.7%	130.7	5.4%	120.9	5.7%	129.1	5.3%
1991	125.2	3.8%	136.2	4.2%	125.3	3.6%	134.3	4.0%
1992	129.1	3.2%	140.3	3.0%	129.0	2.9%	138.2	2.9%
1993	133.5	3.4%	144.5	3.0%	133.0	3.1%	142.1	2.8%
1994	137.9	3.3%	148.3	2.6%	137.5	3.3%	145.7	2.5%
1995	139.9	1.5%	152.4	2.8%	139.4	1.4%	149.8	2.8%
1996	142.7	2.0%	156.9	3.0%	142.1	1.9%	154.2	2.9%
1997	145.4	1.9%	160.6	2.4%	144.5	1.7%	157.6	2.2%
1998	146.8	1.0%	163.0	1.5%	145.4	0.6%	159.7	1.3%
1999	148.8	1.3%	166.6	2.2%	147.4	1.4%	163.3	2.3%
2000	154.2	3.7%	172.2	3.4%	152.8	3.7%	168.9	3.5%
2001	158.8	3.0%	177.1	2.8%	157.1	2.8%	173.5	2.7%
2002	159.3	0.3%	179.9	1.6%	157.2	0.1%	175.9	1.4%
2003	163.7	2.8%	184.0	2.3%	161.9	3.0%	179.8	2.2%
2004	169.5	3.5%	188.9	2.7%	167.2	3.3%	184.5	2.6%
2005	175.7	3.7%	195.3	3.4%	173.9	4.0%	191.0	3.5%
2006	180.7	2.8%	201.6	3.2%	179.3	3.1%	197.2	3.2%
2007	183.8	1.8%	207.3	2.8%	182.4	1.7%	202.8	2.8%
2008	190.0	3.3%	215.3	3.8%	189.2	3.8%	211.1	4.1%
2009	190.5	0.3%	214.5	-0.4%	188.0	-0.6%	209.6	-0.7%
2010	194.2	1.9%	218.1	1.6%	192.3	2.3%	214.0	2.1%
2011	200.5	3.3%	224.9	3.2%	199.5	3.8%	221.6	3.6%
2012	204.2	1.9%	229.6	2.1%	203.2	1.9%	226.2	2.1%
2013	207.6	1.6%	233.0	1.5%	205.8	1.2%	229.3	1.4%
2014	213.4	2.8%	236.7	1.6%	210.5	2.3%	232.8	1.5%
2015	213.0	-0.2%	237.0	0.1%	209.1	-0.7%	231.8	-0.4%
2015 (Jan-Aug)	212.8	-	236.8	-	209.0	-	231.8	-
2016 (Jan-Aug)	216.0	1.5%	239.3	1.0%	211.2	1.0%	233.4	0.7%
2015(Aug)	214.7	-	238.3	-	210.8	-	233.4	-
2016(Aug)	216.6	0.9%	240.8	1.1%	212.1	0.6%	234.9	0.7%
30-yr avg (1985-2015)	-	2.4%	-	2.7%	-	2.3%	-	2.7%
10-yr avg (2005-2015)	-	2.1%	-	2.1%	-	2.1%	-	2.1%

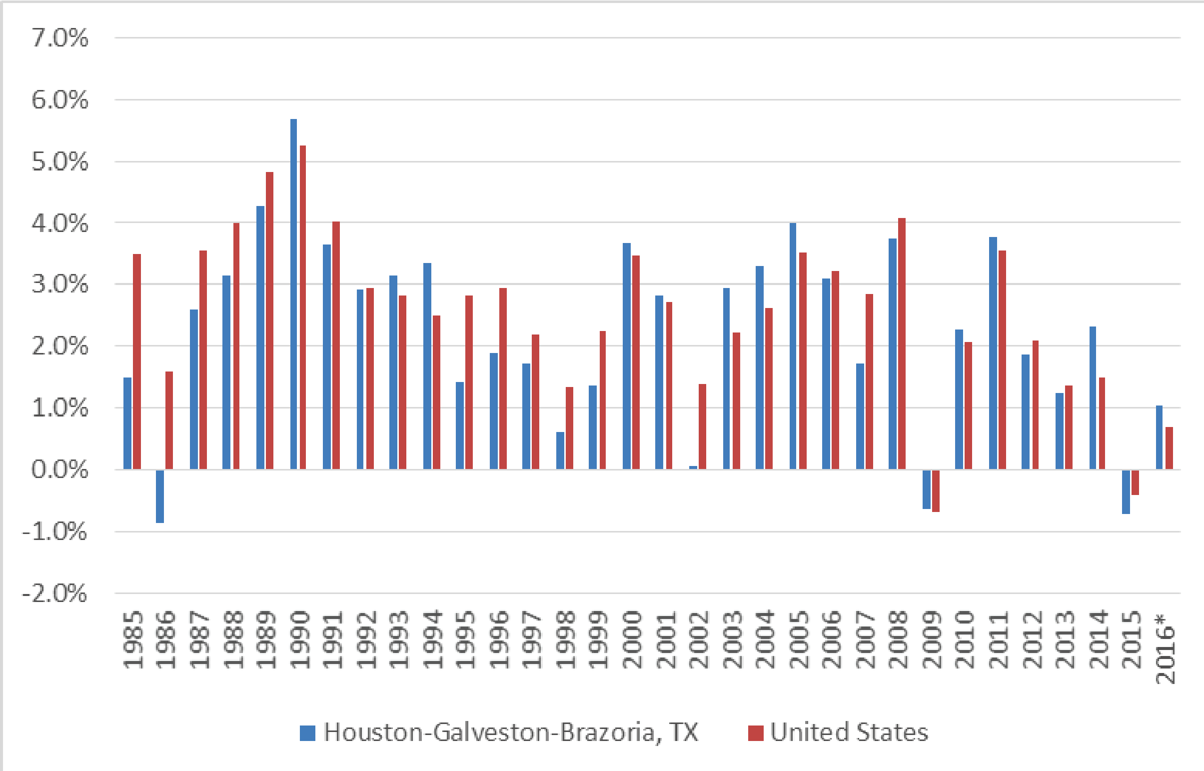

Figure 3-12
Historical CPI-W Growth Comparison
Note * - Year 2016 data is available partially

3.8 Summary of Key Economic Drivers in the Region

The following section provides a summary of the key influential regional economic drivers within the expanded Grand Parkway System corridor, that which also have an influence on the traffic and revenue performance of the facility. Based on data from the US Census, five of the nation's eleven fastest-growing cities are in Texas. Regionally, both Harris and Montgomery counties have experienced strong population growth, and Harris County is currently the most populous county in Texas. This proven and sustained historical growth in the Houston region, encompasses a large number of existing major employers in the area and other new announced and potential developments within the specific Segments H and I portion of the study corridor. Some of these announced developments include the Clay Development distribution centers (Chambers County), New Montgomery ISD campuses, Tomball Regional Hospital facility (Montgomery County), the Castle Hills development (Liberty County) and other anticipated developments near the Forestar and Kingwood tracts (Liberty County).

3.8.1 High Population Growth Area— Region wide Trends within the Segment H and I Study Corridor

Several counties in the Segments H and I study corridor are high population growth areas. Harris County is the third most populous county in the U.S. with over 4.5 million residents in 2015[1], and the population has increased nearly 32 percent since 2000. Montgomery County has experienced

[1] US Census Bureau

significant population growth, where it has increased approximately 82 percent since 2000. Over the past 15 years (2000-2015), the seven counties adjacent to Harris County have experienced population growth of almost 62 percent. These counties generate significant traffic flow supporting the region's toll roads.

Figure 3-13 summarizes the region wide historical population growth rates in the counties near the expanded Grand Parkway System corridor (Segments D through I) over the ten-period from 1990 to 2000 and the fifteen-year period from 2000 to 2015. **Figure 3-13** also provides a comparison of these to the historical population growth for the entire United States, the state of Texas and the City of Houston.

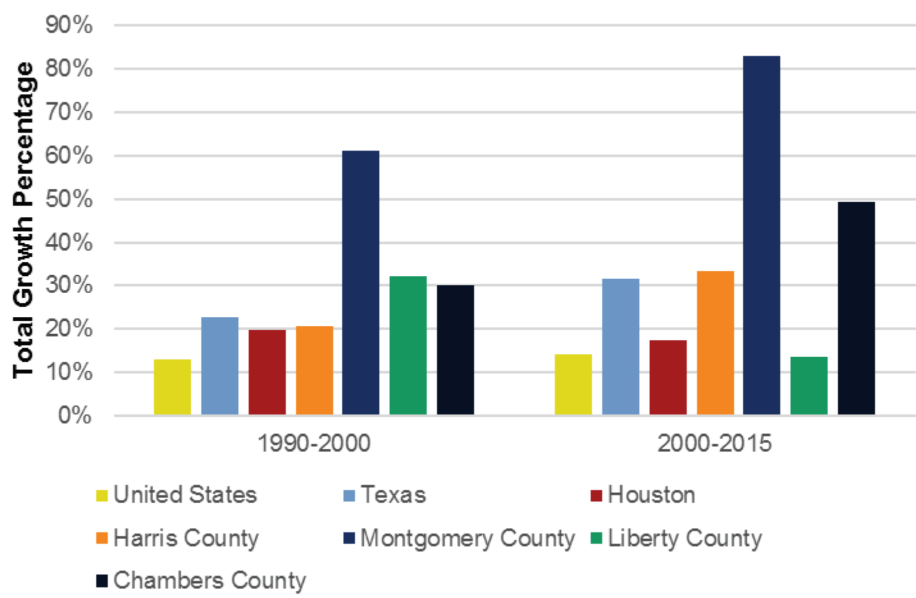

Figure 3-13
Regional and Local Population Growth Rates

3.8.2 High Population Growth Area— Trends within the Expanded Grand Parkway Study Corridor

The population in the eight-county region has historically been stable. The population was 5.9 million in 2010, with a historical average annual growth of 2.3 percent from 1990 to 2010. The projected average annual growth from 2010 to 2035 is approximately 1.8 percent for the eight-county region. The combined population of Fort Bend, Montgomery, Waller, and Harris counties was approximately 5.1 million in 2010, with an observed historical growth rate of 2.3 percent annually from 1990 to 2010, and is projected to grow at 1.6 percent annually from 2010 to 2035. The Montgomery, Liberty, and Chambers counties combined population was nearly 558,000 in 2010, having grown at a historical average annual growth rate of 4.0 percent from 1990-2010. These counties are projected to continue to grow at 3.3 percent from 2010 to 2035.

At the study area level, significant population growth has been forecasted from 2010 to 2035 as illustrated in **Figure 3-14**. The population within a five-mile buffer around the expanded Grand Parkway System corridor covering the entire corridor from Segments D through I was estimated to be three million in 2010. The historical growth rates within this five-mile buffer was 3.6 percent from 1990 to 2010. The future population growth in the study area corridor is 2.2 percent from 2010 to 2035.

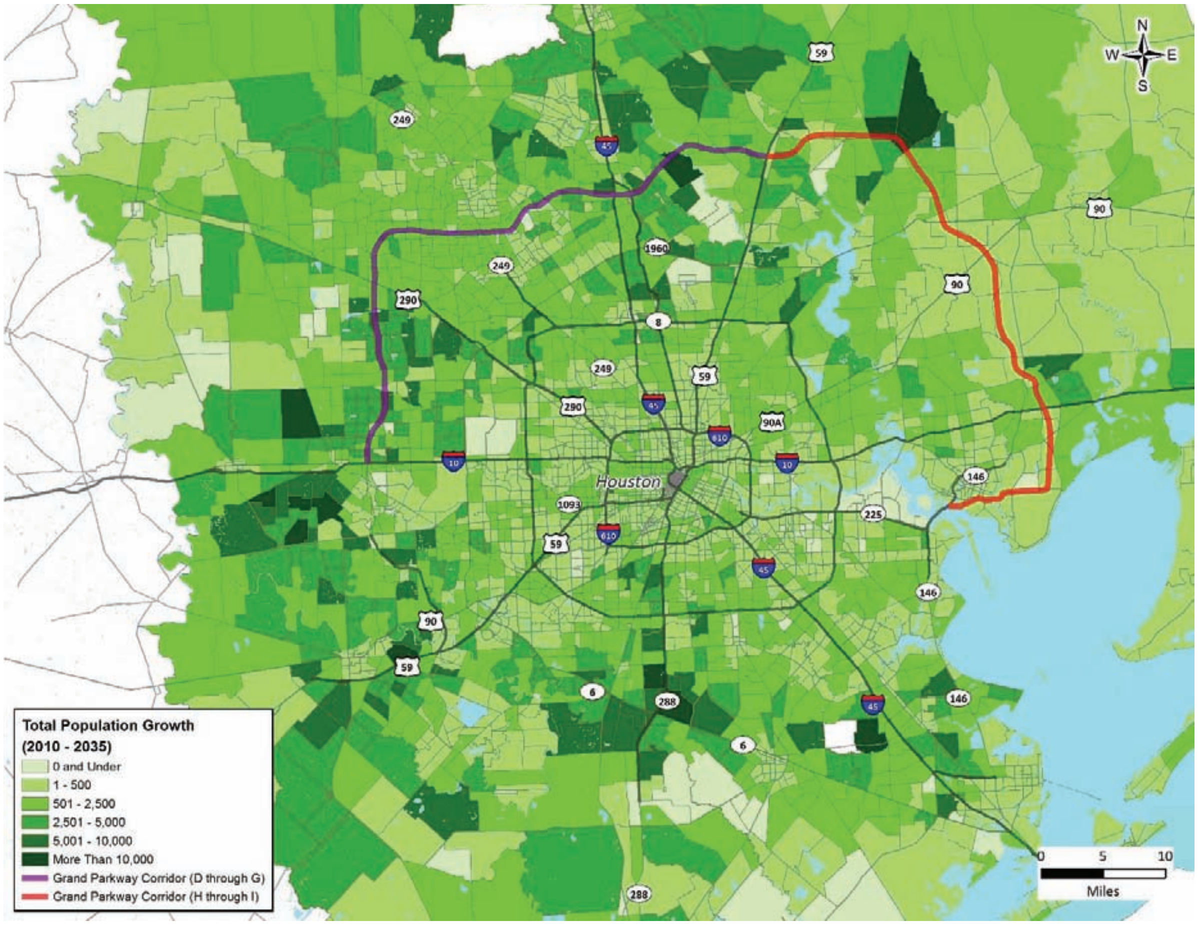

Figure 3-14
Total Population Growth from 2010 to 2035 in the Expanded Grand Parkway System Corridor

3.8.3 Economic Outlook for the Houston Region

Houston has historically shown positive economic trends and maintains a steady growth outlook. The Houston-Sugar Land-Baytown Metropolitan Area's ("Houston Area") GDP was $455 billion in 2014 (real dollars), and was ranked the fourth largest MSA in the United States in 2014 in terms of GDP[2]. Annual job growth has been 1.6 percent from 1990 to 2010 and projected to be 1.9 percent annually from 2010 through 2035[3].

Houston's leading economy continues to diversify, and is home to 24 Fortune 500 companies[4]. It also serves the second largest number of publicly-traded companies in U.S. outside of New York[5].

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[2] Bureau of Economic Analysis; Gross Domestic Product by Metropolitan Area

[3] CDS Forecast Update: Grand Parkway Segments D through I Economic and Demographic Forecast

[4] Forbes.com

[5] Houston Chronicle

In 2015, Port of Houston ranked #1 in foreign and #2 in domestic total tonnage[5]. Three of the top four medical research institutions in the state are located in Houston[5].

Oil and gas companies maintain strong footprint in the region, and the aerospace industry is also well established with NASA and Johnson Space Center.

The Greater Houston Area continues to attract new development, with some examples of recent developments being the Exxon Mobil corporate campus located near Segment G; BP and Anadarko Petroleum consolidation near Segments F-2 and G. Heavy industries such as those involved in manufacturing large and heavy products or equipment and facilities are clustered around the Houston Ship Channel and the Galveston Bay area. Other emerging clusters include Springwoods Village, Generation Park and Cedar Crossing, and anticipated developments near the Castle Hills, Forestar and Kingwoods tracts in Liberty County.

3.8.4 High Economic Growth Area—Trends in the Expanded Grand Parkway System Corridor

The total employment (number of jobs) in the eight-county region was 2.5 million in 2010, with a historical average annual growth of 1.6 percent in the preceding years from 1990 to 2010. The projected average annual growth from 2010-2035 is approximately 1.9 percent for the eight-county region. The combined employment of Fort Bend, Montgomery, Waller, and Harris counties was approximately 2.2 million in 2010, with an observed historical growth rate of 1.6 percent from 1990 to 2010. These counties are projected to grow at 1.8 percent annually from 2010 to 2035. The Montgomery, Liberty, and Chambers counties combined employment was nearly 153,000 in 2010, and grew at a historical average annual growth rate of 4.5 percent from 1990 to 2010, and is projected to grow at 3.6 percent from 2010 to 2035.

Employment statistics at the study area level were also summarized for a five-mile buffer around the expanded Grand Parkway System corridor. The employment within this buffer region was around 0.7 million in 2010, with future projections of 2.7 percent average annual growth from 2010 to 2035. **Figure 3-15** illustrates the total employment growth in the expanded Grand Parkway System corridor from 2010 to 2035.

3.8.5 Existing Economic Centers and High Growth Communities

Figure 3-16 illustrates the major existing economic centers and high growth communities in the region and summarizes the economic outlook for the Houston region's housing and employment markets.

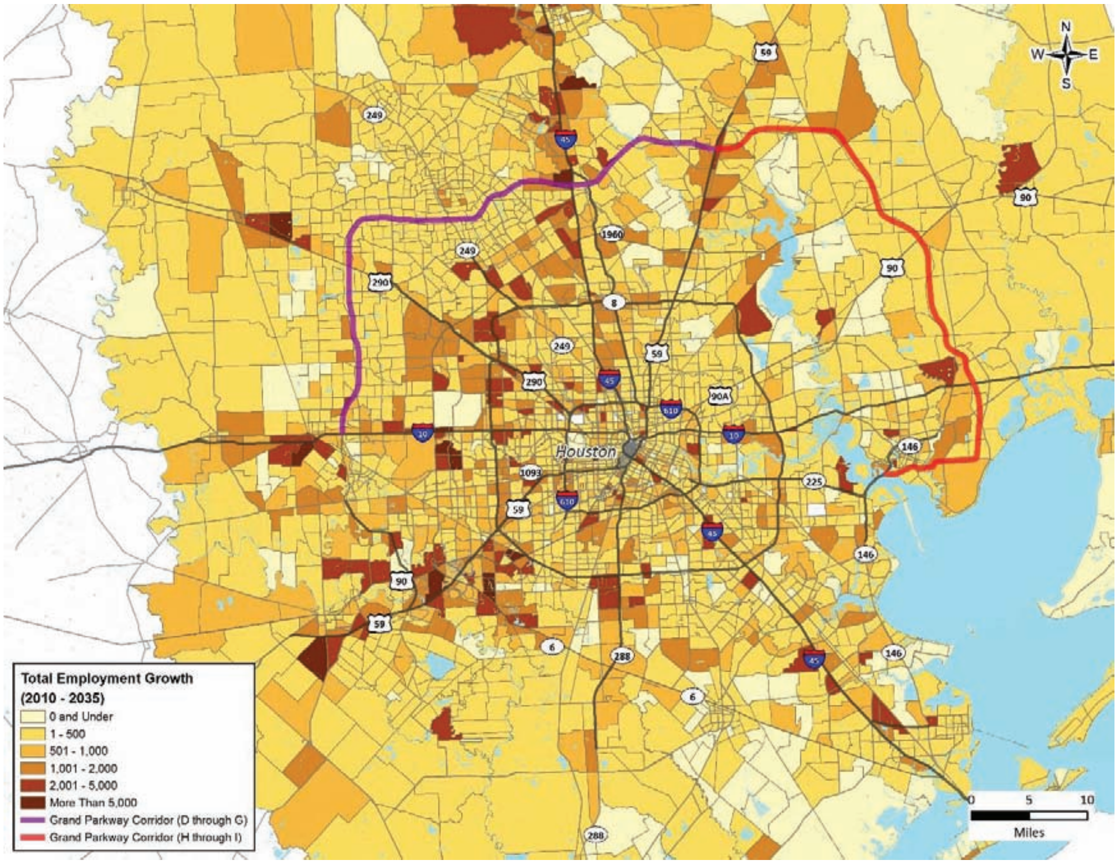
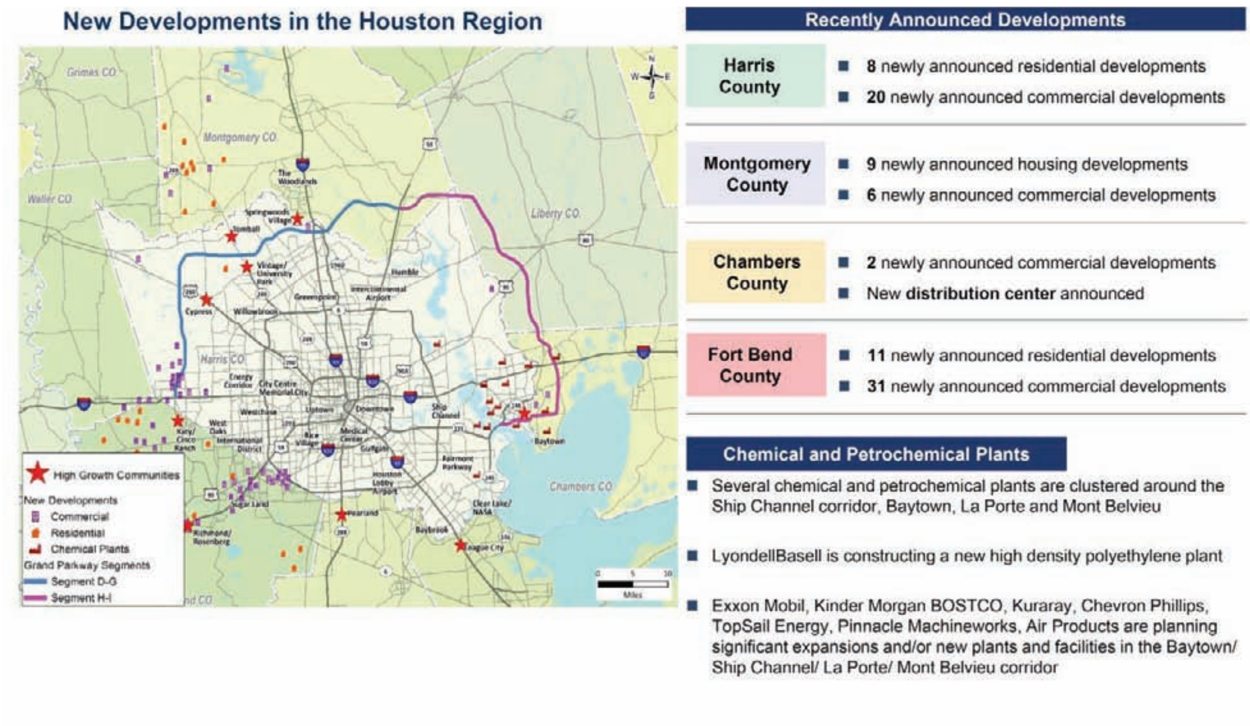


Figure 3-15
Total Employment Growth from 2010 to 2035 in the Expanded Grand Parkway System Corridor

Figure 3-16
Major Economic Activity Centers in the Houston Region

3.8.6 Additional Housing and Commercial Developments

Figure 3-17 illustrates new and recently announced developments in the expanded Grand Parkway System including residential and commercial developments as well as upcoming chemical and petrochemical plants near the Ship Channel, Baytown, La Porte and Mont Belvieu. A summary of additional housing and commercial developments near Segments D-G and Segments H-I is available in **Appendix C** (as **Exhibit C-1** and **Exhibit C-2**). Most of these economic developments were implicitly assumed in the socioeconomic forecasts developed by the independent economist, CDS Market Research, but were not explicitly listed in the T&R report earlier.



Source: CDS zone-level socioeconomic adjusted forecasts 2016

Figure 3-17
Additional Developments in the Houston Region

Chapter 4

Traffic and Toll Revenue Estimates

For the purposes of this study, the travel demand models that were developed for the Grand Parkway (Segments D through G) Comprehensive Traffic and Revenue Study Update completed in June 2013 were utilized as background models and were enhanced to incorporate the most recent network and model changes implemented by Houston-Galveston Area Council (H-GAC). Additional updates were also incorporated to reflect the recent trends observed within the Houston region and other refinements appropriate for a comprehensive level T&R study. This chapter includes a brief outline of the regional travel demand model update and the refinement process undertaken along with a description of the various key inputs and the base year model calibration efforts undertaken. The model calibration process included an extensive effort devoted to the refinement and validation of the regional travel demand model to closely match existing travel conditions within the study area. The various model data inputs included traffic counts, speed and delay, and origin/destination data (as described in Chapter 2), and updated socioeconomic datasets provided by the independent economist (as described in Chapter 3). A summary of the basic assumptions and adopted toll analysis methodology used to forecast the T&R for the expanded Grand Parkway System (Segments D through I) is provided. In addition, future year annual T&R forecasts, and the average weekday traffic forecasts are provided.

In addition to the base case scenario, several additional sensitivity tests were also performed as part of this study, which are discussed and summarized subsequently in Chapter 5.

Chapter 4 is divided into the following key sections:

- Traffic and Toll Revenue Forecasting Process
- Toll Rates
- Toll Sensitivity Analysis
- Basic Assumptions
- Estimated Average Weekday Traffic for Segments D through G
- Estimated Average Weekday Traffic for Segments H and I
- Corridor Share Analysis
- Estimated Annual Transactions and Toll Revenue

4.1 Traffic and Toll Revenue Forecasting Process

A regional travel demand model was utilized to develop the estimated T&R forecasts for this study, as depicted by the forecasting process flow chart in **Figure 4-1**. The regional transportation planning area is defined by the H-GAC that serves as Houston's Metropolitan Planning Organization (MPO). The H-GAC Travel Demand Model includes the eight-county Transportation Management Area (TMA) and is cooperatively developed and maintained by the H-GAC, the Texas Department of Transportation (TxDOT) and the Metropolitan Transit Authority of Harris County (METRO). The H-GAC regional travel demand model was used by CDM Smith as the foundation for developing a toll diversion model used as part of this study. For the purposes of the study, the H-GAC model was converted to CDM Smith's standard toll diversion modeling framework and calibrated for base year conditions through an application of appropriate industry standard measures, which were then applied to the future year networks and trip table model datasets.

Future year traffic assignments were conducted for the base case scenario and several sensitivity scenarios were undertaken as part of the study. For each scenario, the future year network and trip tables were developed from the calibrated base year toll diversion model to produce the estimated traffic demand for future years. Toll transactions at each of the tolling locations were extracted from various models run for the interim and horizon years of 2018, 2020, 2025 and 2035. Transactions and revenue for the interim years between these model years and for the forecast years beyond 2035 were interpolated and extrapolated, respectively. The annual toll revenue estimates were then calculated at each of the tolling zone locations by applying the appropriate toll rates and annualization factors. Toll collection at gantries along the proposed Segments H, I-1, I-2A and I-2B was assumed to commence on and May 9, 2022.

The following sections describe the regional travel demand model refinement process in further detail to highlight the development of the highway networks, the trip tables, and the toll diversion methodology adopted for this study, and provides an overview of key input parameters influencing the T&R forecasting process.

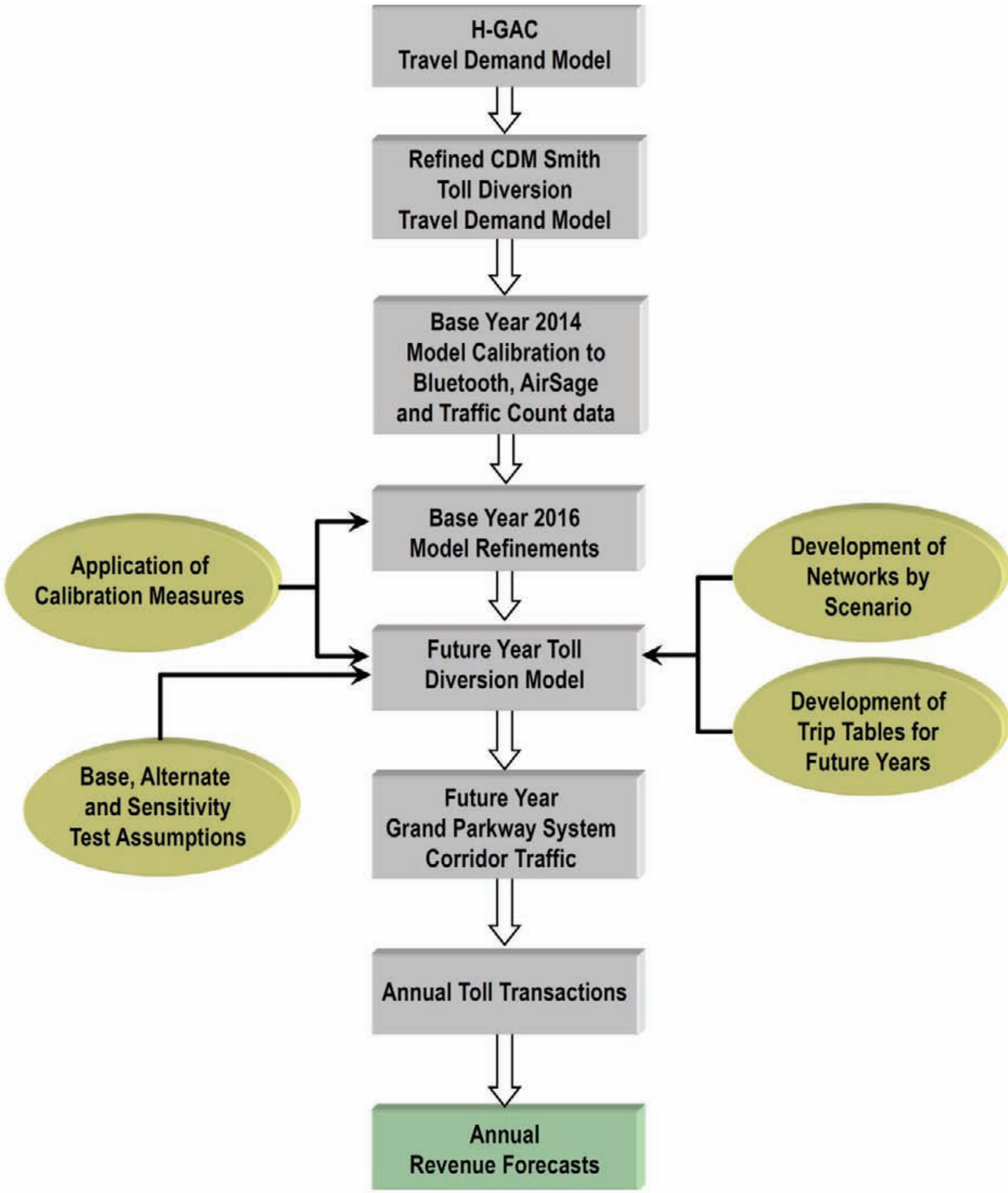


Figure 4-1
Traffic and Toll Revenue Forecasting Process

4.1.1 The H-GAC Regional Travel Demand Model

The eight-county Houston-Galveston-Brazoria Consolidated Metropolitan Statistical Area (CMSA) which has been federally designated as the TMA for the region includes Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller counties. The Houston-Galveston TMA extends over an area of 7,809 square miles and the land use and demographic forecasts for the TMA are developed by H-GAC.

The H-GAC has 3,000 designated detailed traffic analysis zones (TAZs) in the Houston-Galveston TMA. This includes 2,954 internal zones and 46 external stations. The internal zones are entirely within the TMA and the external stations are used to capture external-external and external-local trips into and through the TMA. For the purposes of this study, the travel demand models that were developed for the Grand Parkway (Segments D through G) Comprehensive Traffic and Revenue Study Update completed in June 2013 were utilized as background models and were enhanced to incorporate the most recent network and model changes implemented by H-GAC.

4.1.2 Base Year Model Calibration

Base year trip tables were developed using a combination of the H-GAC trip tables enhanced to better reflect the travel pattern information obtained from the origin-destination surveys collected as part of the Grand Parkway (Segments D through G) comprehensive study completed in June 2103.

An initial comprehensive model calibration was performed for model year 2014, and was refined further in 2016 following the opening of Segments F-1, F-2 and G. The results of the initial 2014 model calibration along with the updated 2016 model outputs compared to recent traffic counts and transaction data collected in 2016 are presented in this section.

The model calibration efforts aimed at testing the regional travel demand model's ability to replicate the existing travel patterns in the base year were undertaken prior to its use to estimate forecasts in the future years. The model was fine-tuned for the base year through an application of appropriate industry standard model calibration measures. These measures primarily included a detailed verification of the existing local road network in the vicinity of GPTC's Grand Parkway corridor. Other validation adjustments included refinement of posted and observed speeds and capacity along various key routes in the vicinity of the project corridor. Much of this was verified by comparing the base year (2014) model output speeds to speed and delay data collected along the expanded Grand Parkway System.

The initial model base year 2014 model calibration compared observed counts with the collected and estimated traffic volumes obtained from 2014. Various criteria, including minimizing the root mean square error (RMSE), volume count comparisons and R-Squared statistics were used to test the model refinements. **Figure 4-2 and Figure 4-3** show the defined traffic count screenlines and the resulting model calibration that was performed as part of this study.

Base year calibration adjustments were conducted to obtain reasonable matches between the observed and estimated traffic volumes along the screenlines. **Table 4-1** provides a detailed raw model screenline comparison to the corresponding counts and **Figure 4-4** illustrates a scatter graph comparing modeled versus observed traffic volumes. The regression line shows that the base year model was well calibrated and matches the observed traffic closely for the majority of the regional locations (i.e., the plot of model volumes compared to observed traffic volumes is close to the y=x line). Overall the model appears to have a very reasonable R^2 or goodness-of-fit of approximately 0.98.

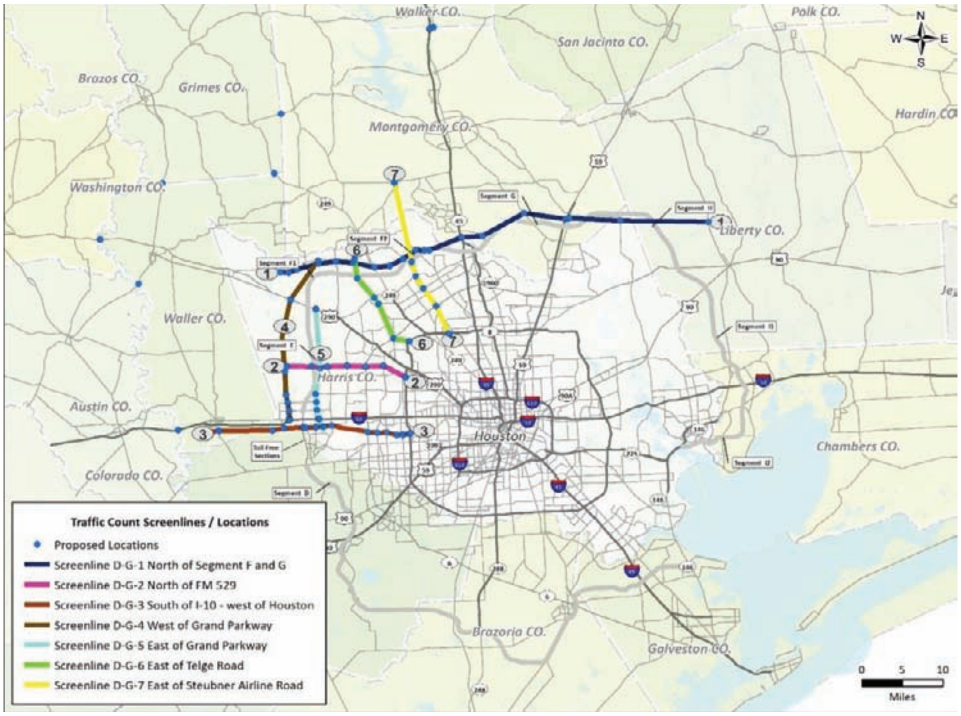


Figure 4-2
Calibration Screenlines for Segments D through G

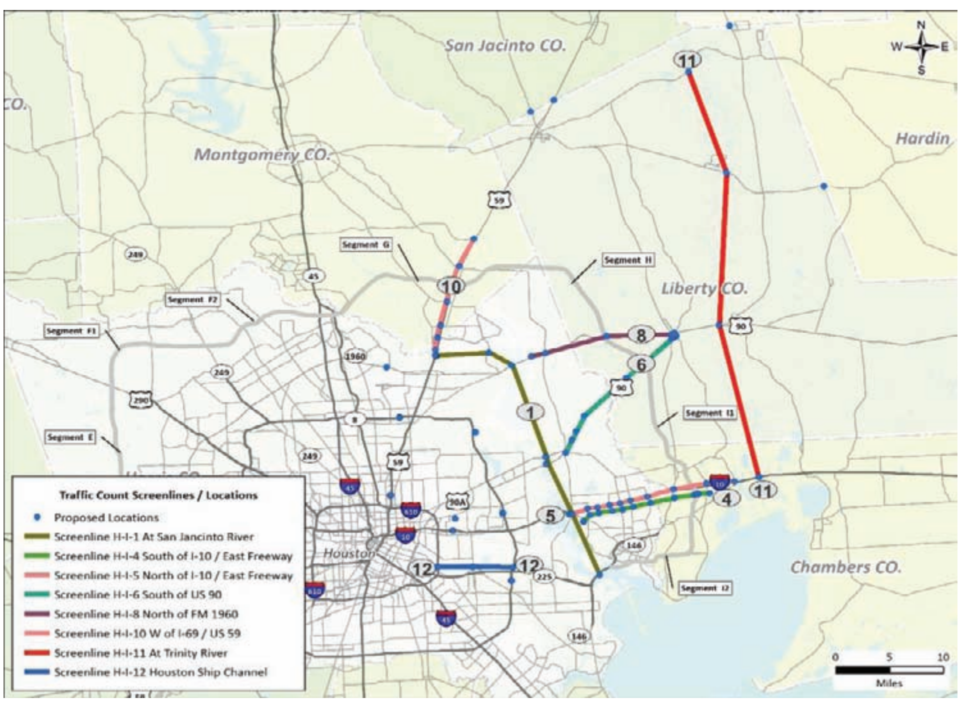


Figure 4-3
Calibration Screenlines for Segments H and I

Table 4-1 2014 Base Year Model Calibration Summary

Screenline	Traffic Count	Traffic Model Assignment	Difference	
			Absolute	Percent
D-G Screenlines				
1	649,222	665,413	16,191	**2.5%**
2	350,293	387,039	36,745	**10.5%**
3	630,908	648,869	17,961	**2.8%**
4	217,507	233,225	15,718	**7.2%**
5	317,701	318,406	705	**0.2%**
6	317,342	299,252	(18,090)	**-5.7%**
7	353,952	327,047	(26,905)	**-7.6%**
H&I Screenlines				
1	477,852	487,965	10,113	**2.1%**
4	181,344	179,929	(1,415)	**-0.8%**
5	124,254	131,686	7,432	**6.0%**
6	55,486	63,350	7,864	**14.2%**
8	38,470	35,638	(2,832)	**-7.4%**
10	103,036	116,657	13,621	**13.2%**
11	93,858	103,909	10,051	**10.7%**
12	234,779	247,051	12,272	**5.2%**

Sources:
1) CDM Smith traffic counts (2014)
2) Calibrated models for 2014 developed by CDM Smith using CDS' revised demographics that were applied to the H-GAC regional travel demand models.

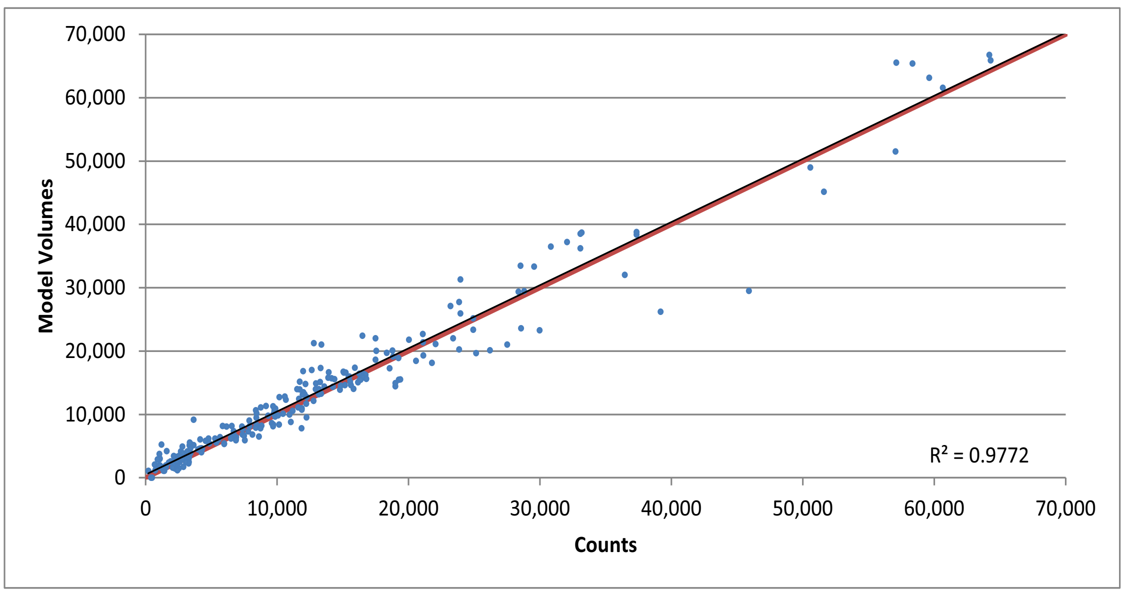


Figure 4-4
2014 Base Year Model Calibration Results

4.1.3 Travel Time Comparisons

In addition to comparing the model estimated traffic volumes to the observed traffic counts at the screenlines, the base year model congested speeds were also compared to observed 2014 speed data from INRIX data collection efforts (previously presented in Chapter 2), as shown in **Table 4-2**.

Table 4-2 Model Congested Speeds Comparisons to INRIX Speeds

Roadway	INRIX AM (mph)		INRIX PM (mph)		Model AM (mph)		Model PM (mph)		Speed Difference AM (mph)		Speed Difference PM (mph)	
EW Roadway	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
Sam Houston	55	59	54	58	57	57	56	57	2	-3	2	-2
US 90	60	61	61	60	62	56	57	61	2	-7	-5	0
IH 10	68	70	68	68	70	70	70	70	2	0	1	1
FM 1960	48	50	48	48	38	33	28	36	-6	-15	-18	-9
SH 105	57	58	57	58	58	58	58	58	1	0	1	0
NS Roadway	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
US 59	66	69	68	66	70	63	66	70	4	-11	-5	4
US 90	57	55	57	55	59	52	53	58	2	-5	-5	2
SH 146	57	59	57	52	53	49	49	52	-5	-12	-10	-1
SH 321	59	61	62	59	63	62	62	62	3	1	0	2
FM 2100	40	40	39	41	44	35	35	41	4	-8	-5	0
FM 563	54	52	56	54	55	55	55	55	1	3	-1	1
SH 61	54	56	57	57	57	57	57	57	3	1	0	0
SH 146 S of IH 10	45	45	39	42	53	51	49	52	8	4	7	8
SH 146 N of IH 10	43	48	48	30	54	53	53	53	10	5	4	22

In addition to the data received from INRIX, CDM Smith conducted a limited number of reconnaissance runs and collected speeds for several specific routes and cross-streets (actual routes are shown in Figure 2-46 in Chapter 2) in the vicinity of the expanded Grand Parkway System in October 2014. Time and location data were recorded using GPS units, and compared to model congested speeds the average observed operating speed, change in speed and distance traveled was estimated. **Table 4-3** summarizes the model congested speeds comparisons to the data collected from speed delay runs using GPS units along various routes.

Table 4-3 Model Congested Speeds Comparisons to GPS Speeds

	GPS AM Speed (mph)		GPS PM Speed (mph)		Model AM Speed (mph)		Model PM Speed (mph)		Speed Difference AM		Speed Difference PM	
EW Roadway	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**
Beltway 8 (SH 225 to US 69)	56	65	63	63	57	57	57	56	1	-8	-6	-7
Beltway 8 (US 69 to SH 249)	47	55	48	56	55	60	58	56	8	5	10	0
Beltway 8 (SH 249 to IH 10)	61	30	46	70	68	53	54	67	7	23	8	-3
FM 1960 (SH 321 to IH 45)	33	47	37	36	41	35	30	39	8	-12	-7	3
NS Roadway	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**
US 90 (SH 146 to Sam Houston	63	66	66	68	59	46	50	57	-4	-20	-16	-11
SH 146 (US 90 to IH 10)	56	52	58	50	53	44	45	53	-3	-8	-13	3
SH 146 (IH 10 to Red Bluff Road)	58	60	61	60	50	50	49	49	-8	-10	-12	-11
SH 99 (IH 10 to SH 146)	57	55	60	57	60	58	59	58	3	3	-1	1
SH 330 (SH 146 to IH 10)	65	66	69	66	66	66	62	65	1	0	-7	-1
FM 1960/SH 6 (IH 10 to IH 45)	23	20	19	19	28	25	25	27	5	5	6	8

In addition to the data received from the GPS speed and delay data, CDM Smith reviewed typical travel speeds using travel time data from Google Maps® for the same GPS routes along the Grand Parkway corridor. Time, distance and speed data were tabulated from Google Maps® in May 2015 to compare to model congested speeds. For several of routes including Beltway 8 routes, the speeds from Google Maps® were found to be very different compared to the GPS collected data. The model congested speeds were shown to be closer to the Google speeds as compared to the GPS recorded speeds from the limited route reconnaissance runs.

4.1.4 Bluetooth Comparisons (Segments H and I)

The Bluetooth data collected in the Segments H and I corridor was utilized as part of our model refinement to evaluate the origin-destination characteristics of the model (details of the data collection and location are summarized in Chapter 2 (Figure 2-50). A select link analysis was run and summarized at 3 key locations – BT01, BT03 and BT04 along US 59, IH 10 east of Grand Parkway and along SH 146 north of the Fred Hartman Bridge respectively. Through the select link analysis, the share of trips from the defined Bluetooth location travelling to the other Bluetooth locations was estimated and summarized.

Figure 4-5, Figure 4-6 and Figure 4-7 illustrate the share of trips that traverse the Bluetooth locations BT01, BT03 and BT04 respectively. The tables in each figure show a comparison of the Bluetooth and modeled trips (after Bluetooth and calibration adjustments were applied) at locations that are contributing 5 percent or more to the share of trips at each subject Bluetooth location based on the observed collected data. For example, as shown in Figure 4-5, location BT01 gets a 38 percent contribution of trips from the locations BT07 and a 14 percent contribution from BT10 based on the analysis of the data from Bluetooth sensors. By comparison, a summary of the select link analysis from the calibrated model (after Bluetooth and other adjustments) at the same location (BT01) indicated that 42 percent and 14 percent of trips that passed through BT01 also passed through BT07 and BT10 respectively. As the tables in Figure 4-5, Figure 4-6 and

Figure 4-7 illustrate, the model trip patterns from the select link analysis closely match the Bluetooth data for these three locations.

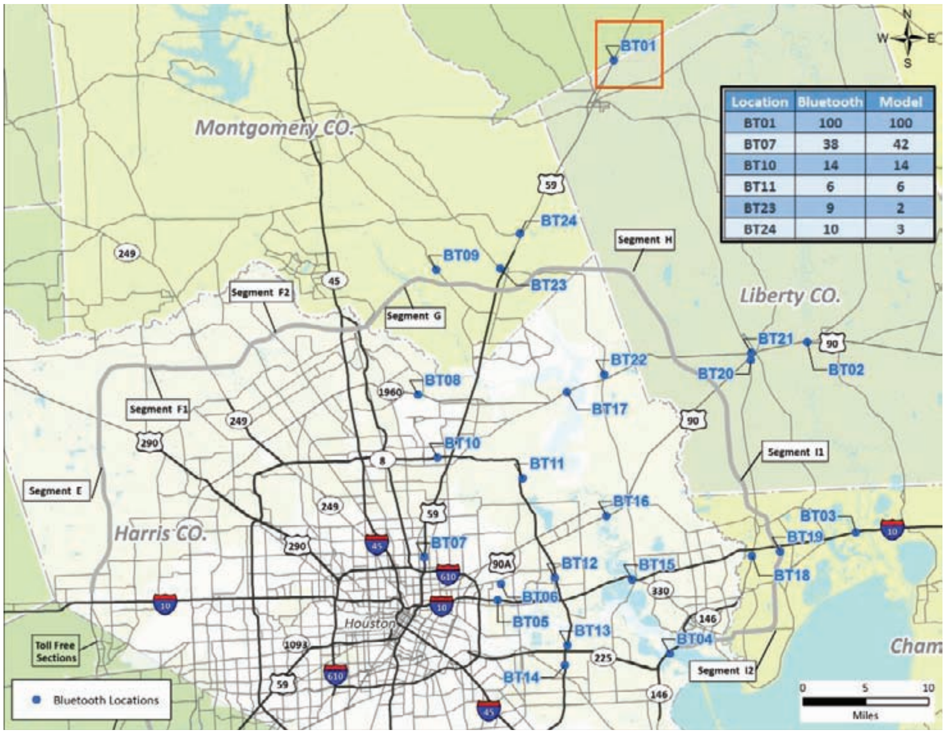


Figure 4-5
Share of Trips Contributing to Traffic at Location BT01 from other Bluetooth Locations

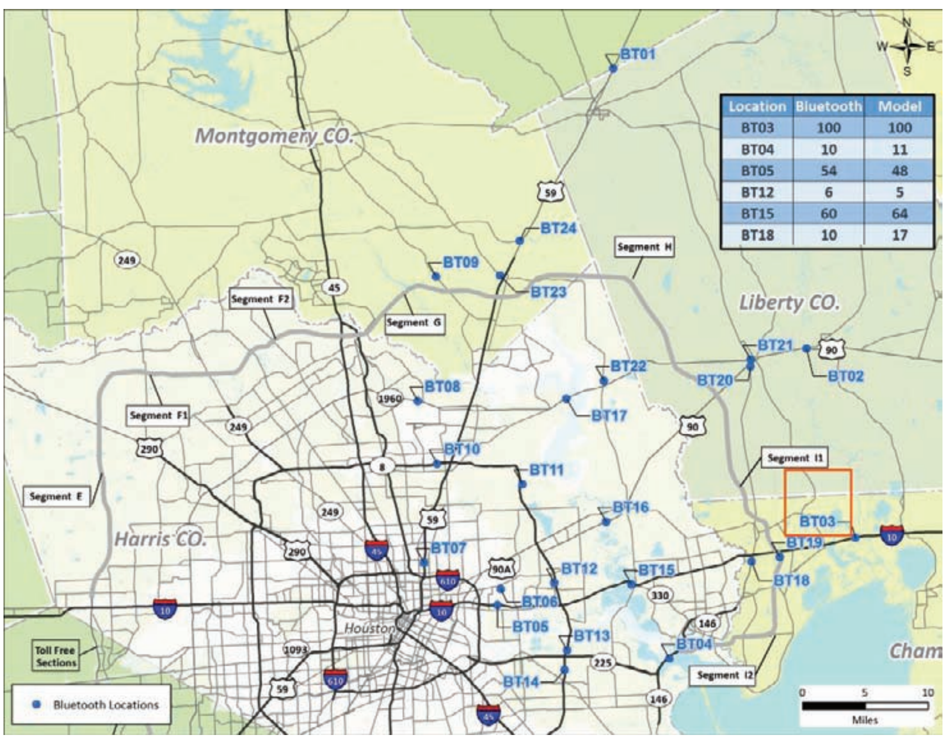


Figure 4-6
Share of Trips Contributing to Traffic at Location BT03 from other Bluetooth Locations

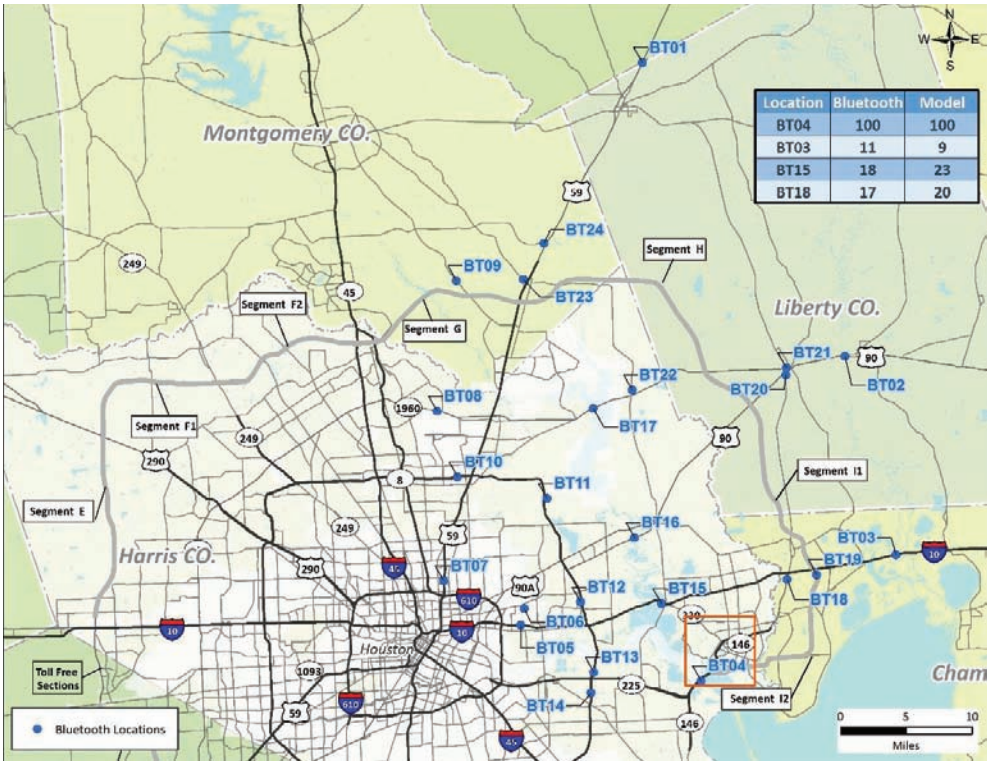


Figure 4-7
Share of Trips Contributing to Traffic at Location BT04 from other Bluetooth Locations

4.1.5 AirSage Data (Expanded Grand Parkway System - Segments D through I)

Figure 4-8 shows the super zones that were developed to summarize the origin-destination trip tables developed from the zonal level AirSage data**.**

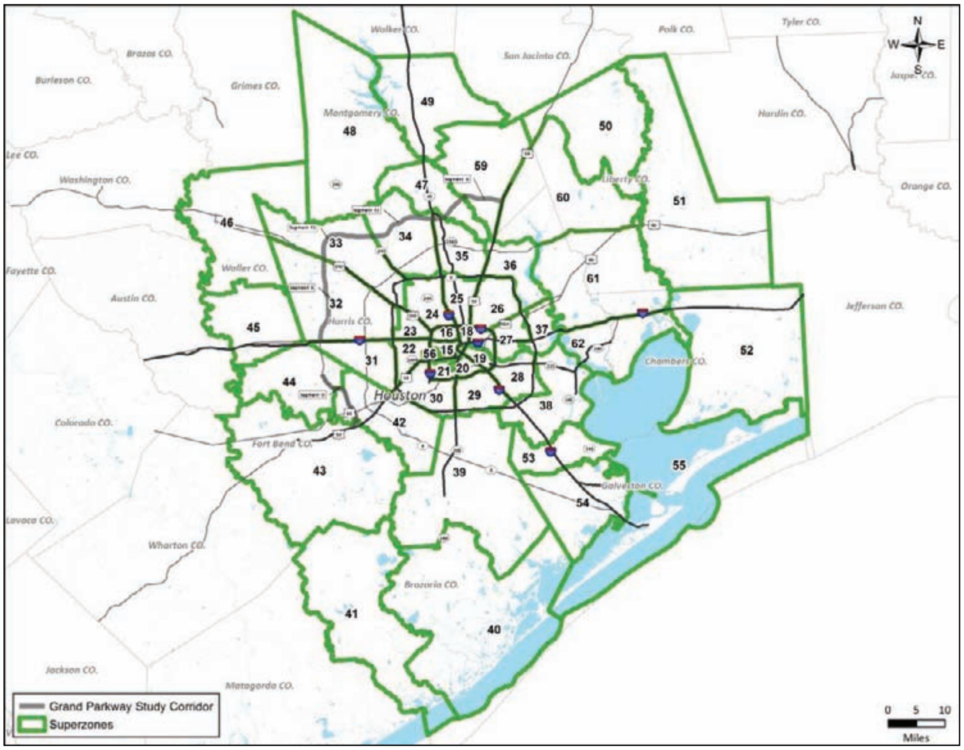


Figure 4-8
Super Zones to Summarize the AirSage Data

Table 4-4 illustrates the comparison between the model trip patterns (after calibration and Bluetooth model adjustments) and the AirSage data as an RMSE statistic for the major super zones that are in close proximity to Grand Parkway Segments D, E, F-1, F-2, G, H and I. As Table 4-4 illustrates, the RMSE was improved after the calibration and Bluetooth adjustment for a majority of the super zones.

Table 4-4 Comparison between RMSE of Model Trip Distribution Patterns and Airsage Data for 2014 Model Year

Super zone	RMSE Before Calibration	RMSE After Calibration
31	20%	12%
32	23%	20%
33	21%	27%
34	17%	19%
43	34%	36%
47	28%	14%
59	30%	27%
60	38%	15%
54	25%	24%
61	40%	56%

4.1.6 2016 Traffic Count Calibration

In addition to the traffic counts collected in 2014, additional spot traffic counts were collected in May 2016. These include several of the same screenline count locations, ramps and direct connectors along the existing GPTC's Grand Parkway System (Segments D through G). These counts combined with the traffic data obtained from all the currently open new tolled gantries along Segments D through G reflect the prevailing traffic conditions in 2016. Various criteria, including minimizing the RMSE, volume count comparisons and R-Squared statistics were used to test model refinements as subsequent calibration steps were performed. **Figure 4-9** depicts a comparison between the modeled traffic volumes and observed traffic volume data collected from 2016 at the selected screenline count locations along Segments H and I, the tolled gantries, ramps and direct connectors along the existing Grand Parkway Segments D (Harris County), E, F-1, F-2, G and I-2A.

The plot of model volumes compared to observed traffic volumes is close to the y=x line, indicating that the 2016 base year model closely matches the observed traffic at the majority of locations. Overall, the model appears to have a very reasonable R^2 or goodness-of-fit of approximately 0.98.

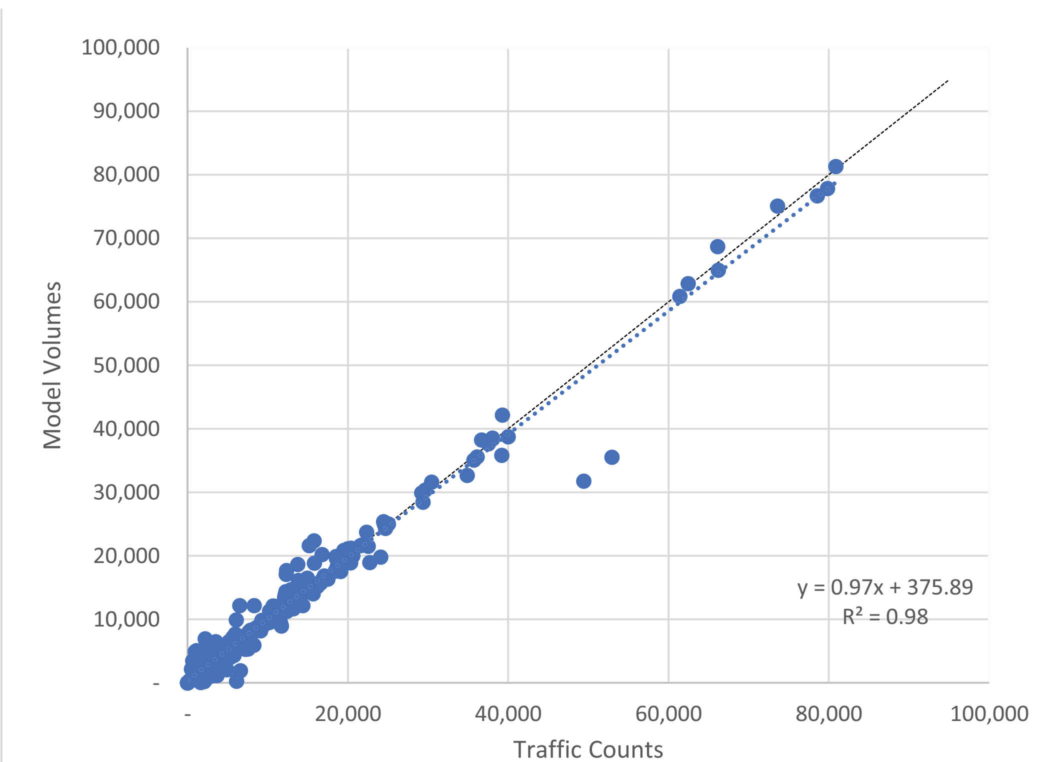


Figure 4-9
Calibration Results for 2016 Model Year

4.1.7 Future Highway Network Development

The regional travel demand model network that encompasses the eight counties is represented by more than 3,400 traffic analysis zones. The base year model network was reviewed and adjusted based on current speed observations, number of lanes, and other link attributes including facility type, capacity, and link distance. The future year networks were then reviewed against the current transportation improvement plans and other information to confirm that committed and funded improvements/enhancements were included in the model networks. Various sources of information were used to refine the future year networks including the latest proposed Grand Parkway Segments H and I planned configuration and alignment, and other significant transportation corridors in the regional model. The main source of information upon which the models were derived was the 2035 regional transportation plan (RTP), and the models were then updated to incorporate several key influential projects from the 2040 RTP. Relevant and updated information was also obtained through discussions with TxDOT, Harris County Toll Road Authority (HCTRA), Fort Bend County Toll Road Authority (FBCTRA), Fort Bend Grand Parkway Toll Road Authority (FBGPTRA) and H-GAC staff. The sources utilized for the future highway network development included:

1. SH 99 Business Terms and Conditions – Grand Parkway Project Description, as adopted by stakeholders;
2. Design plans from TxDOT and engaged engineering consultants including Jacobs and HNTB at the latest stage of design;
3. Major improvement projects from the Transportation Improvement Plans (TIP) from H-GAC; and,
4. 2035 Regional Transportation Plan from H-GAC; and 2040 Regional Transportation Plan (March 29, 2016 update) from H-GAC.

A major effort was made to review all TIP and RTP 2040 projects and to identify and select the projects that will potentially impact traffic along the Grand Parkway, interstate highways, and major arterials in the Houston Metropolitan Area. The selected projects mainly included new construction, managed lanes conversions and capacity expansion projects. **Figure 4-10** provides a summary of the planned roadway improvements projects including new construction and capacity improvement projects within the vicinity of the Grand Parkway project.

4.1.8 Future Trip Table Adjustments

The travel demand model used for the revenue estimation process is based on the forecasts of socioeconomic variables such as population, households, and employment. These socioeconomic forecasts are used to generate vehicular trips that, in turn, are assigned on the transportation network. CDM Smith appointed an independent economist firm, CDS Market Research (CDS), to review and adjust the population and employment growth along the expanded Grand Parkway System in five-year intervals beginning in 2010 from the H-GAC travel demand model. A summary of CDS's analysis is presented in Chapter 3 and a detailed report has been included as **Appendix A** of this report. These forecasts were then used as inputs into the H-GAC's four step model to obtain adjusted future year trip tables. In addition, the origin-destination survey related travel pattern adjustments that were established as part of the Grand Parkway System (Segments D through G) comprehensive Traffic and Revenue Study Update completed in June 2013, were incorporated into the travel demand models for use as part of this study. The origin and destination adjustments that were necessary to reasonably match the Bluetooth and Airsage data, as described earlier in this chapter, were also incorporated and considered. The refinements developed as part of the 2016 base year calibration were carried forward into future year models.

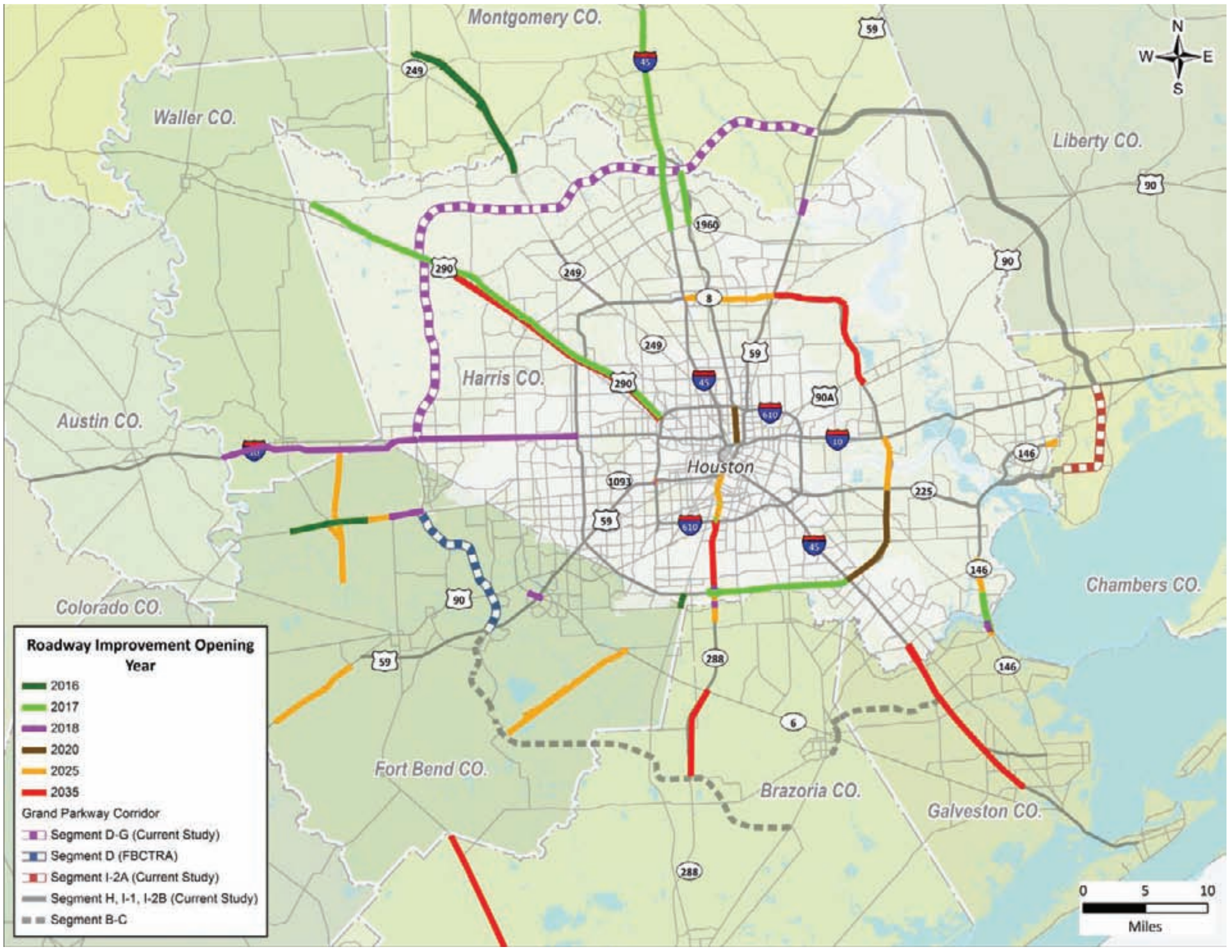


Figure 4-10
Roadway Improvement Projects

4.1.9 Toll Diversion Methodology

A toll diversion model was used to estimate the market share of toll and non-toll facilities based on factors such as value-of-time, operating cost, toll rate costs, and congestion levels. A CDM Smith-developed algorithm was used to determine the minimum time path between each zone pair. The minimum time path for each Origin-Destination (O-D) pair may or may not include the use of toll facilities. For those trips that may potentially use toll facilities, travel time and distance of the toll facility routing was compared with that of the best alternative route not involving a toll payment. A share of the total traffic moving between each pair of zones is then assigned to the toll facility routing, while the remaining portion is assigned to the best toll-free alternative route. The model's estimate of the toll facility's market share is a function of time savings, distance relationships, toll rates, and estimates of perceived value-of-time and vehicle operating costs by motorists. As the cost of the toll facility route increases compared to the toll-free route, the share of traffic using the toll road decreases.

4.1.10 Values of Time and Vehicle Operating Costs

Motorists' willingness-to-pay tolls is influenced by a combination of their perceived value-of-time (VOT) and their expected travel time savings. Values-of-time for drivers in the Houston area were estimated using stated-preference (SP) surveys conducted by Resource Systems Group (RSG) along the expanded Grand Parkway System corridor.

Table 4-5 summarizes the multinomial values-of-time as derived from the SP surveys by RSG. For passenger cars, a mean VOT of approximately $12.98 per hour in 2011 dollars was used. The VOT for the Segments D through G corridor is based on the 2013 RSG SP survey results conducted as part of the Grand Parkway System (Segments D through G) Traffic and Revenue Study completed in June 2013, while the results of the recent Segments H and I SP survey are applied along the Segments H and I corridor that is the expansion of the initial Grand Parkway System. As a further refinement, CDM Smith developed values-of-time for each TAZ for use in the model traffic assignment. In the base year, these were developed using normalized TAZ income distributions from Census data. The VOT for the Segments D through G corridor was also adjusted to account for CPI-W growth from 2011 to 2016. The VOT's for future years were estimated to the respective year using an annual average growth rate of 2.22 percent from 2014 to 2015, 2.00 percent from 2015 to 2018, and 2.20 percent thereafter. The average VOT for trucks from SP surveys conducted by RSG along Segments H and I is $37.39.

Table 4-5 Multinomial Values of Time by Segment and Income

Income	Segments D through G (1)	Segments H and I (2)		
	Aggregate VOT ($/hr)	Aggregate VOT ($/hr)	Peak VOT ($/hr)	Off Peak VOT ($/hr)
$10,000	$7.51	$8.28	$8.19	$6.96
22,500	$10.15	$9.74	$11.07	$9.41
30,000	$11.09	$10.26	$12.09	$10.28
42,500	$12.22	$10.89	$13.33	$11.34
62,500	$13.48	$11.58	$14.70	$12.50
87,500	$14.58	$12.18	$15.90	$13.52
112,500	$15.40	$12.64	$16.79	$14.28
137,500	$16.05	$13.00	$17.51	$14.89
175,000	$16.84	$13.43	$18.36	$15.61
225,000	$17.66	$13.88	$19.26	$16.37

Note: (1) Resource Systems Group, Inc. March 2011 (May 2013 Study)
(2) Resource Systems Group, Inc. December 2014 (Current Study)

In 2016, the average VOT for all origins and destinations in the model area was $13.76 per hour for peak periods, increasing to $14.96 per hour by 2020 and $20.73 per hour by 2035. It is worth noting that these increases reflect inflation adjustments and no real increase in values of time were assumed for the various travel markets.

The vehicle operating cost used in the analysis was calculated by taking into account the average per-mile costs of gasoline and oil, and to a less extent on maintenance, and wear and tear of tires for vehicles in the area. For this study, it was assumed that fuel efficiency of vehicles will improve in future years. The average fuel efficiency of passenger cars was assumed to increase from approximately 27 miles per gallon in 2011 to 47 miles per gallon in 2035. Future gasoline prices are assumed to be increasing to $3.00 (in 2014 dollars) by year 2020. The resulting vehicle operating costs adopted for this study are shown in **Table 4-6**. The truck operating cost was assumed to be 5.26 times the passenger car vehicle operating costs and are consistent with the assumptions in the Grand Parkway (Segments D through G) Comprehensive Traffic and Revenue Study completed in June 2013.

Table 4-6 Vehicle Operating Costs ($/mile in Nominal Dollars)

Year	Passenger Cars	Commercial Vehicles
2016	$0.17	$0.90
2020	$0.19	$1.00
2025	$0.20	$1.03
2035	$0.22	$1.16

4.2 Toll Rates

TxDOT's Minute Order No. 113486 establishes the toll rates on the Grand Parkway Segments D, E, F-1, F-2, G and I-2A. A preceding Minute Order No. 113399 provides the methodology for the annual toll rate escalation on the Grand Parkway Segments D, E, F-1, F-2, G and I-2A. The toll rates on Grand Parkway are increased effective January 1 of each year based on the determination of the "Toll Rate Escalation Percentage." The "Toll Rate Escalation Percentage", as defined in TxDOT Minute Order No. 113399, is a percentage amount equal to the greater of (1) [(CPI^{t} – CPI^{t-12})/CPI^{t-12}] and (2) 2.00 percent, consistent with the 2009 tolling policy of Harris County Toll Road Authority and the Market Valuation Waiver Agreement, subject in all instances relating to elements comprising the Grand Parkway System to the provisions, requirements and restrictions of the Toll Rate Agreement between the Texas Transportation Commission and Grand Parkway Transportation Corporation. To determine CPI^{t}, Minute Order No. 113399 prescribes the use of the most recently published non-revised index of Consumer Prices for Urban Wage Earners and Clerical Workers, also referred to as the CPI-W, before seasonal adjustment as published by the Bureau of Labor Statistics (BLS), prior to October 1 of each year. The CPI^{t-12} is the CPI-W published by the BLS in the month that is 12 months prior to the month used to establish CPI^{t} (where "t" corresponds to the month of August in the previous year).

Future toll rates for Grand Parkway System Segments D through G were computed using the following parameters:

- Toll rate per mile of $0.1769 per mile in 2012
- Toll rate rounding to the nearest cent;
- Minimum base year toll rate per transaction of $0.40 (2012$); and
- Toll rate escalation is as follows:
  - 2012-2014: 2.00 percent per year (implemented)
  - 2014-2015: 2.22 percent per year (implemented)
  - 2015-2016: 2.00 percent per year (implemented)
  - 2016-2018: 2.00 percent per year (assumed)

- 2018 onwards: 2.20 percent per year (assumed)

Figures 4-11 through 4-14 show the toll rates on the existing Grand Parkway System (Segments D through G), and the proposed expansion of the Grand Parkway System (Segments H and I), for the years 2020 and 2035, respectively. The Segments H and I toll rates are anticipated to follow the same toll escalation policy adopted for the initial Grand Parkway System. Toll rates were based on the centerline distances (revised distances provided by HNTB in January 2015 are reflected here). Based on the above escalation rates, the assumed future year toll rates per mile for future model are as follows: $0.209 per mile in 2020, $0.233 per mile in 2025 and $0.289 per mile in 2035.

Toll rates for the existing and future HCTRA and FBCTRA systems were also reviewed including known assumptions regarding existing and future toll rate and the toll escalation policies of the respective toll agencies.

Figure 4-15 provides a comparison of the average per mile toll rates of other Texas and national toll roads compared to GPTC's 2016 rates.

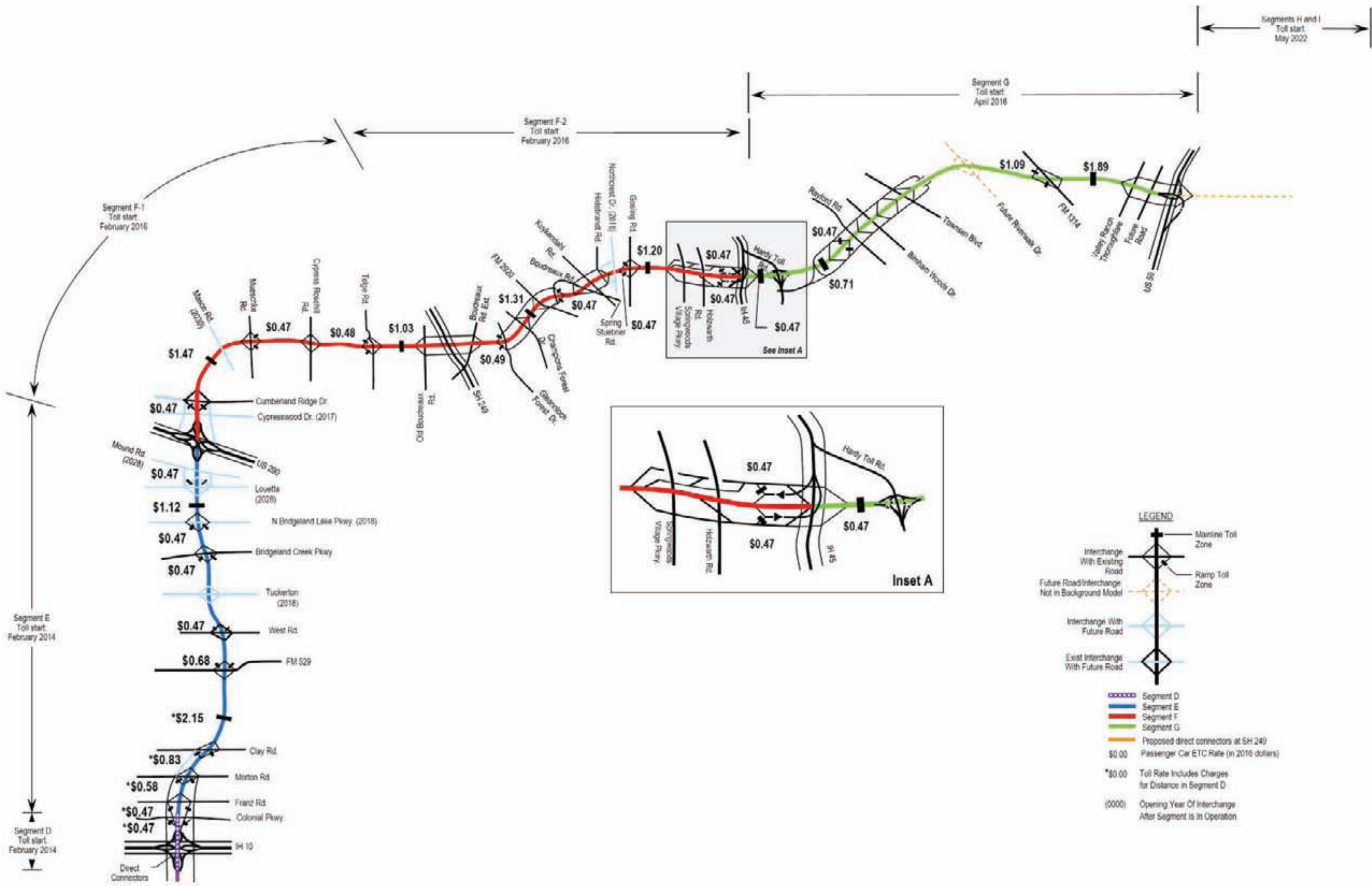


Figure 4-11
2020 Toll Rates – Segments D through G

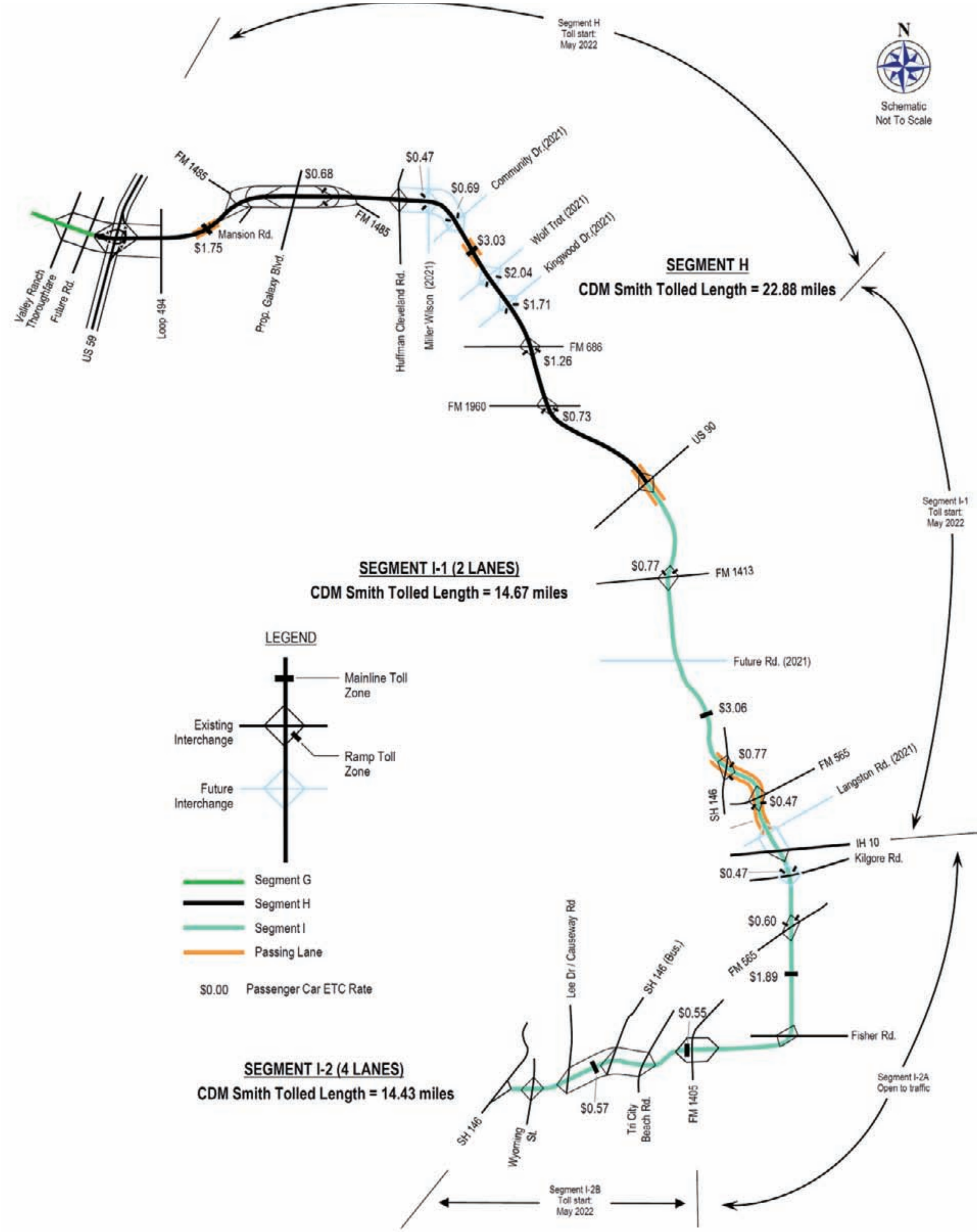


Figure 4-12
2020 Toll Rates – Segments H and I

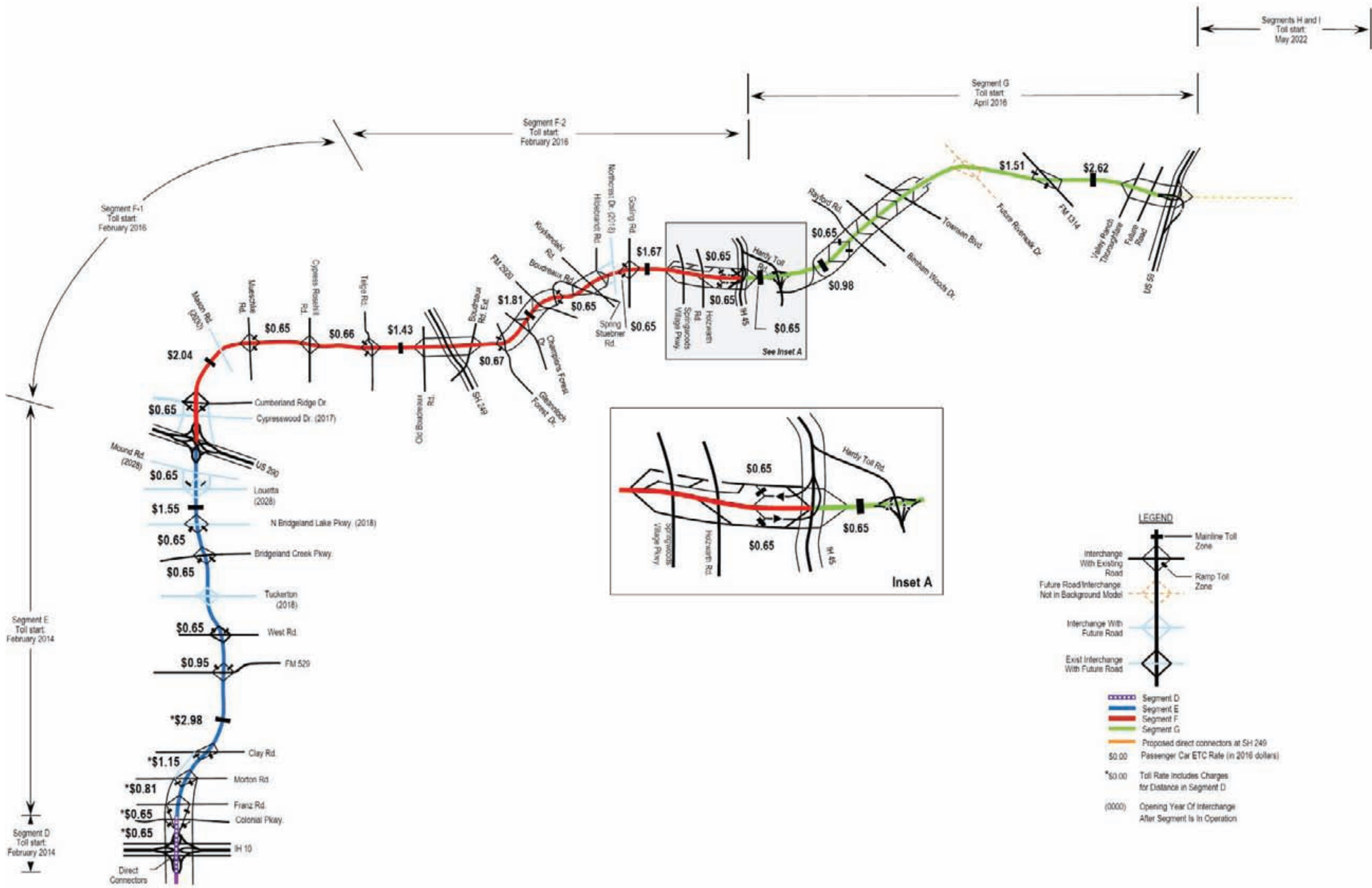


Figure 4-13
2035 Toll Rates – Segments D through G

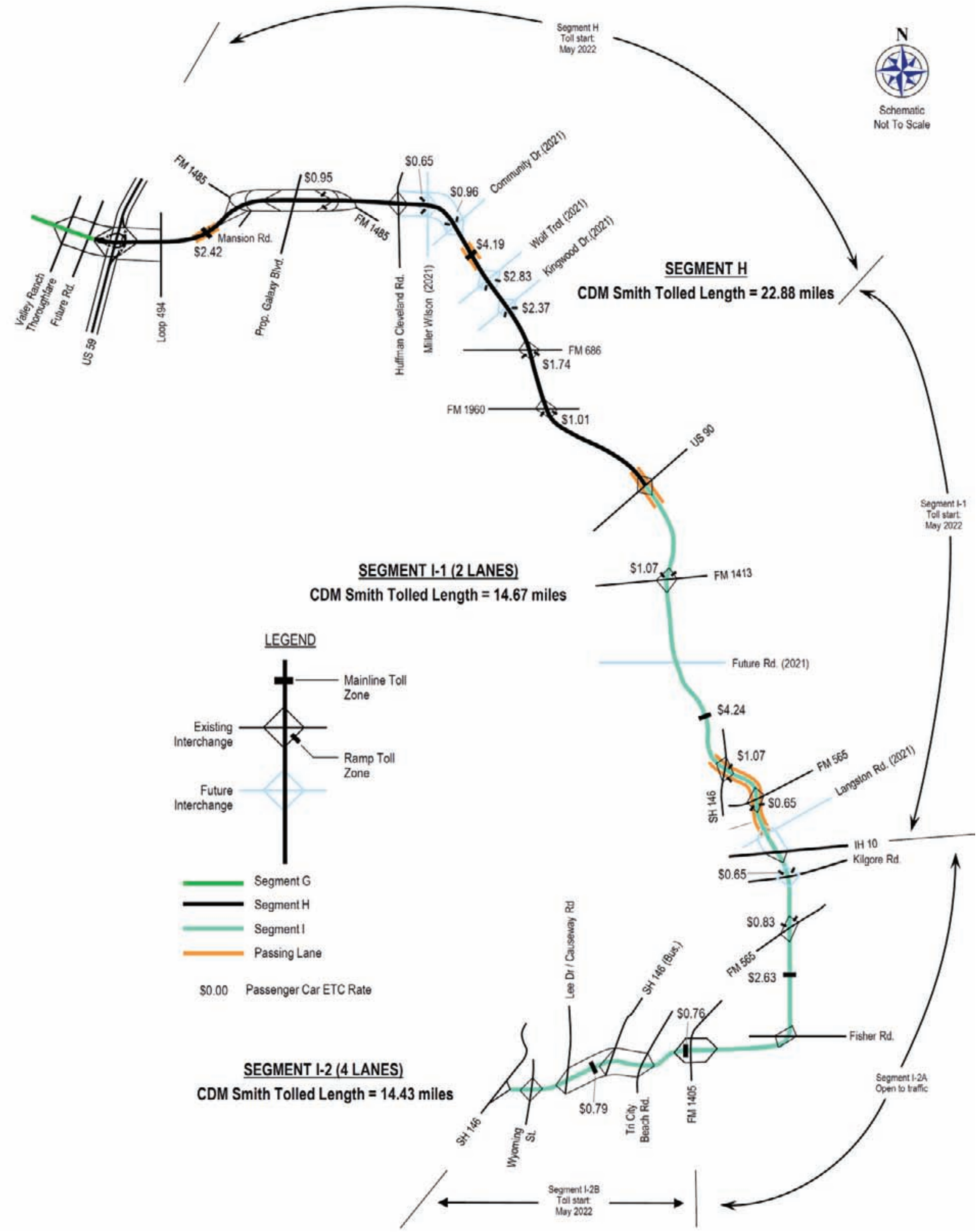


Figure 4-14
2035 Toll Rates – Segments H and I

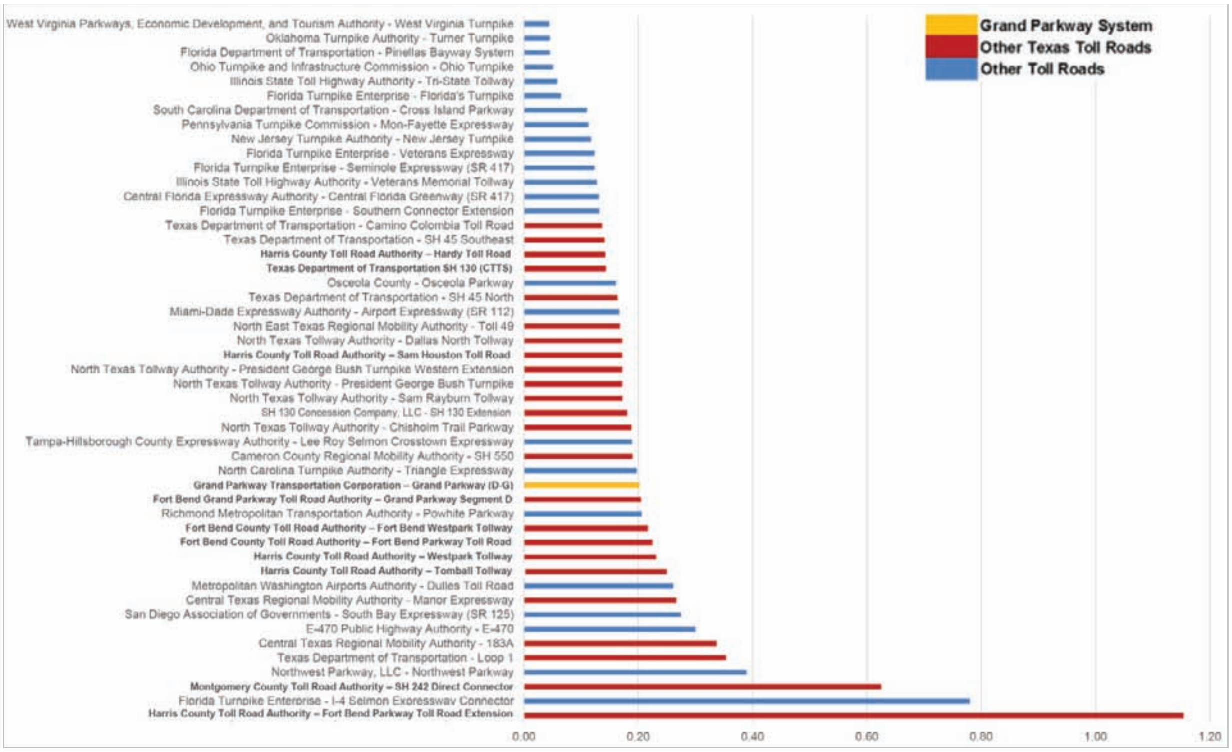


Figure 4-15
Average Passenger Car Electronic Toll Rates Per Mile (as of July 2016)

4.3 Toll Sensitivity Analysis

Toll sensitivity analysis involves testing a series of toll rates to determine how price affects traffic demand along the toll facility, taking into account future characteristics of the transportation network and future willingness-to-pay tolls.

In general, a toll sensitivity curve suggests that when toll rates increase, a portion of travelers will divert from the toll facility in favor of other routes and thus decrease the captured toll transactions. The initial increases from a low toll rate level typically result in increased toll revenues until an optimal point where the maximum revenue is generated. Increases beyond this optimal toll rate level yields diminished toll revenues as the magnitude of diverted traffic exceeds the net return generated by the toll rate increase.

CDM Smith evaluated the traffic and revenue potential under a range of alternative toll rates for current (2016) and future years 2020 and 2035. **Figure 4-16** illustrates the revenue toll sensitivity over a range of toll rates, and shows the revenue maximization point for the base year (2016) relative to the 2016 average toll rates for the existing Grand Parkway System. **Figures 4-17 and 4-18** illustrate the toll sensitivity curves for the existing Grand Parkway System (Segments D through G) for total weekday transactions and revenue for future years 2020 and 2035 respectively. These were estimated by testing the uniform impact of toll rate changes at all toll gantries along the existing Grand Parkway System. Also shown as black dots are the estimated nominal toll rates for the existing Grand Parkway System in 2020 and 2035 based on the escalation assumptions highlighted earlier. These curves demonstrate that overall, there is considerable potential for revenue enhancement through toll increases above the assumed toll rate levels for the existing Grand Parkway System, if warranted.

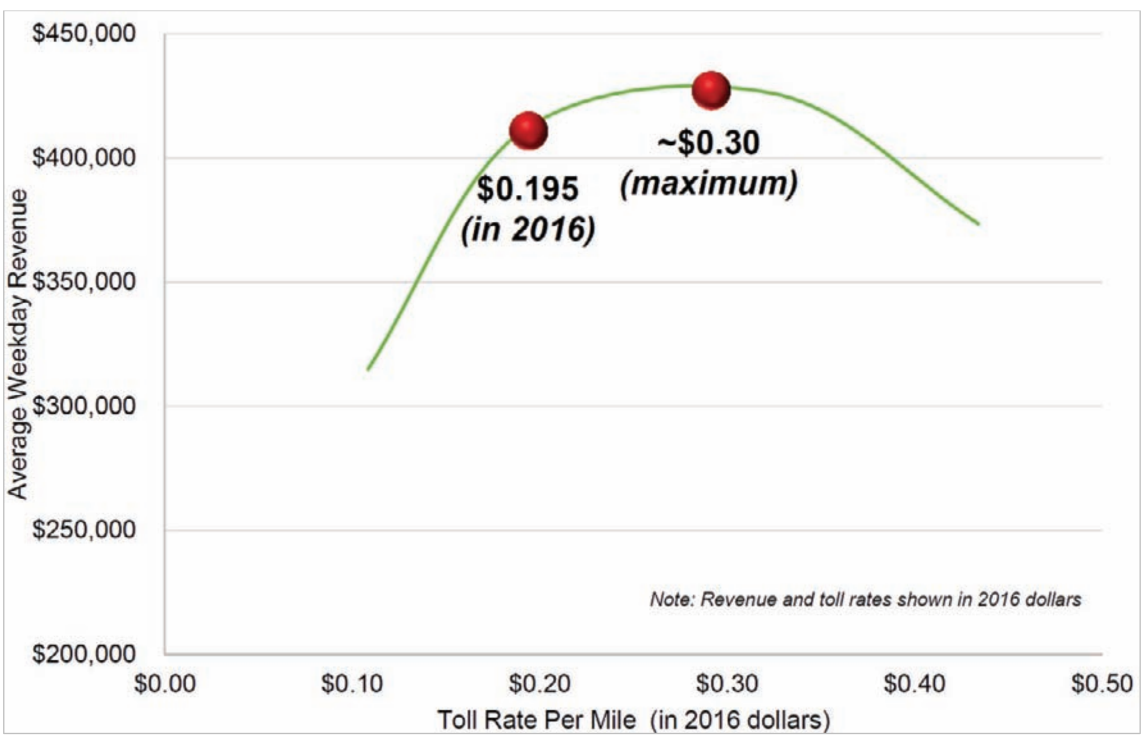


Figure 4-16
Current (2016) Revenue Toll Sensitivity for Segments D through G

Similarly, **Figures 4-19 and 4-20** illustrate the toll sensitivity curves for 2020 and 2035 for the proposed Grand Parkway System expansion (Segments H and I) for total weekday transactions and revenue, assuming that the existing Grand Parkway System toll rates are kept constant at the assumed base toll rates. Even though the opening year for the proposed Grand Parkway System expansion (Segments H and I) is 2022 for traffic and revenue estimation purposes, 2020 is the first year to model traffic for the proposed Grand Parkway System expansion. Therefore, the toll sensitivity analysis for the proposed Grand Parkway System expansion was performed in model year 2020.

Figures 4-21 and 4-22 illustrate the toll sensitivity curves for 2020 and 3035 for the entire expanded Grand Parkway System (Segments D through I) for total weekday transactions and revenue, assuming different toll rates per mile for all segments of the expanded Grand Parkway System.

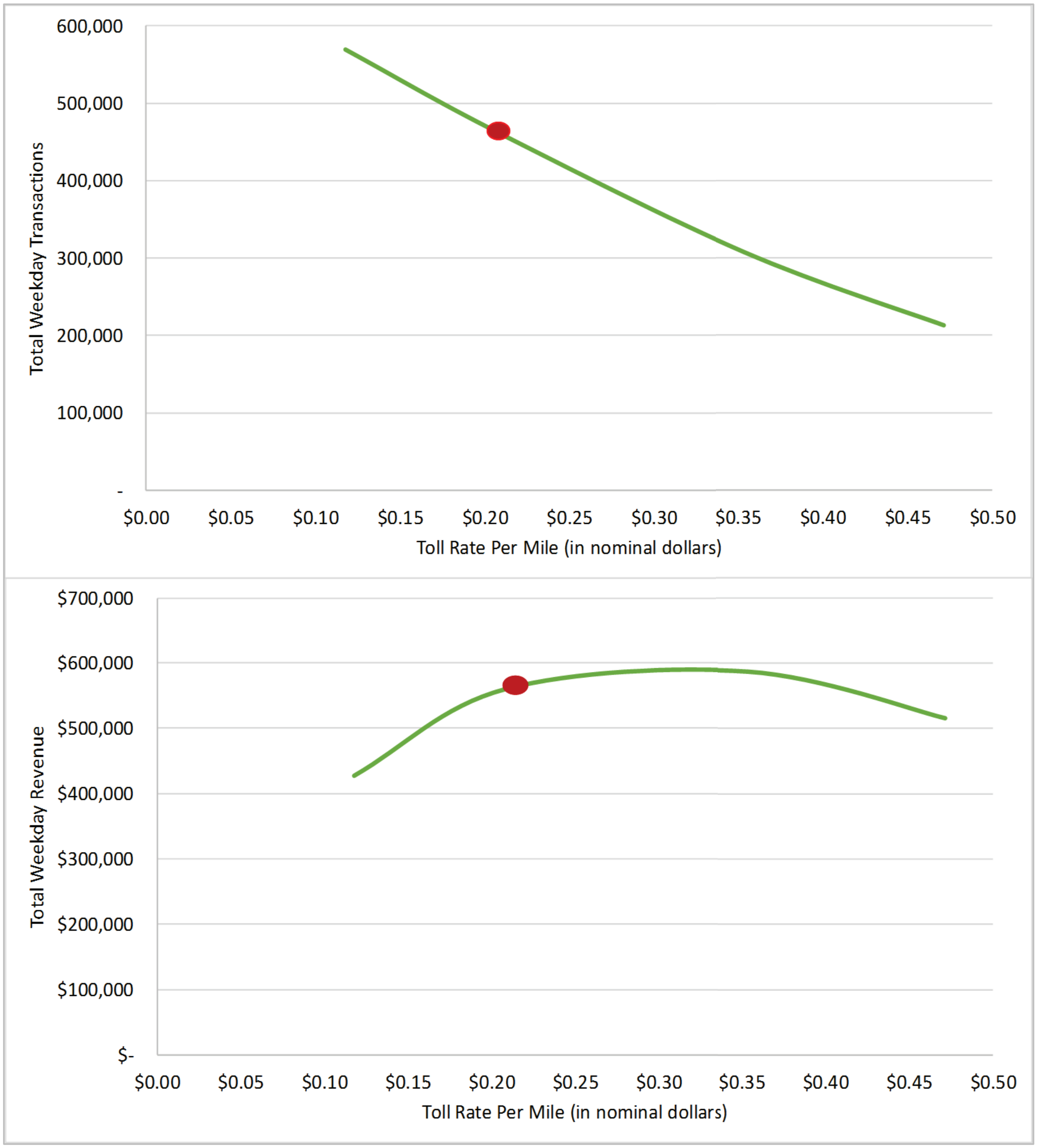


Figure 4-17
2020 Toll Sensitivity Analysis Results for Segments D through G

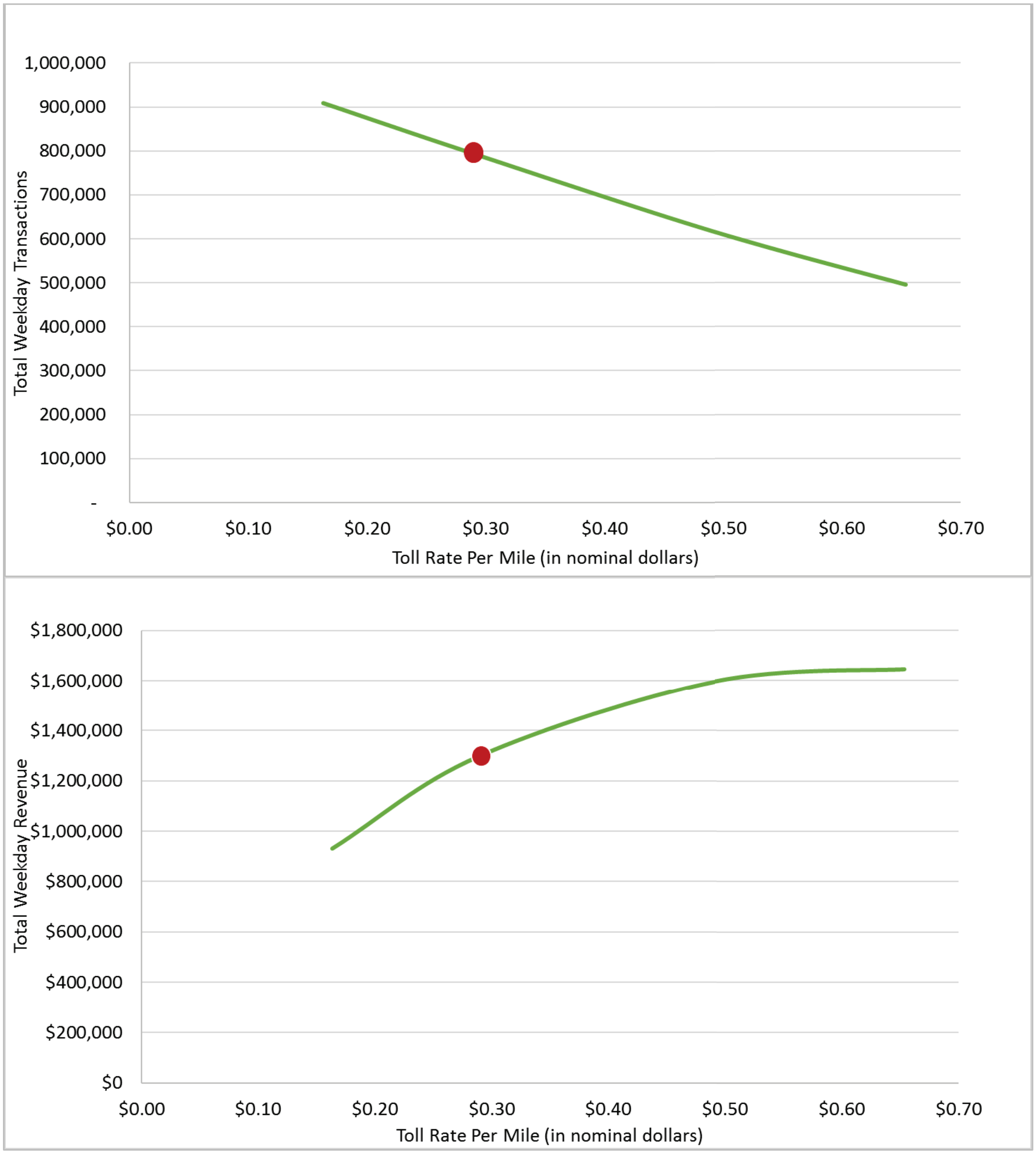


Figure 4-18
2035 Toll Sensitivity Analysis Results for Segments D through G

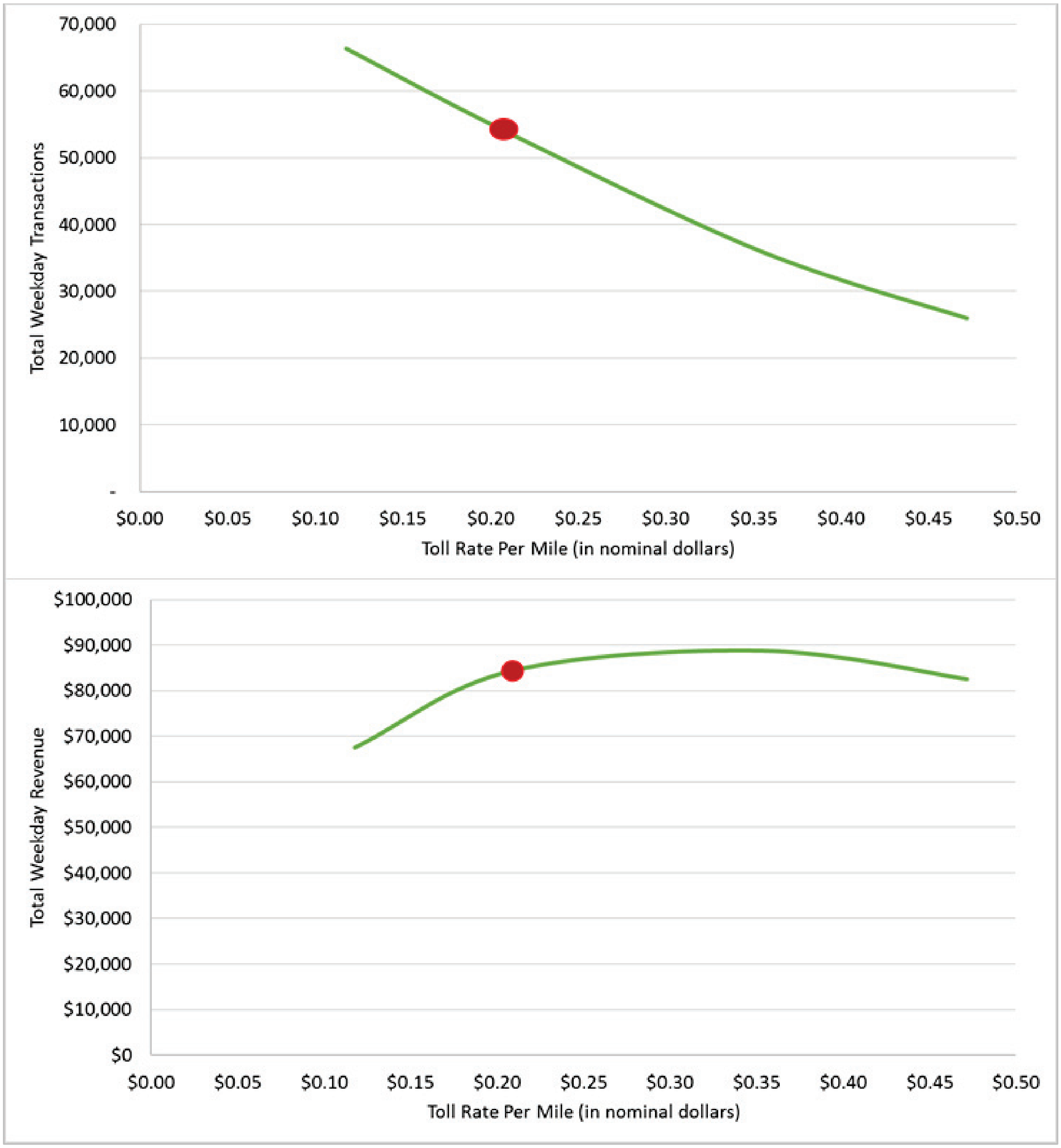


Figure 4-19
2020 Toll Sensitivity Analysis Results for Segments H and I

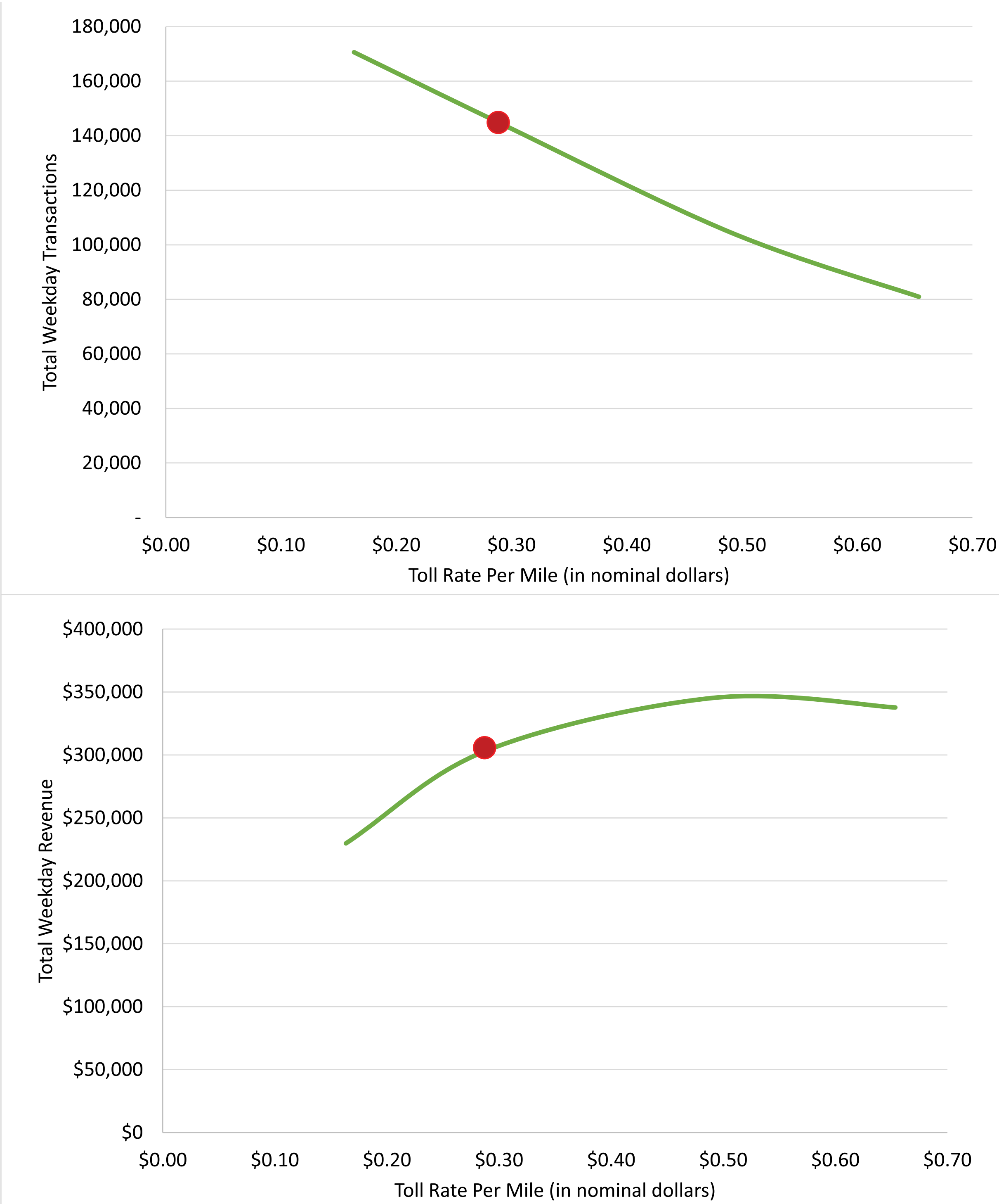


Figure 4-20
2035 Toll Sensitivity Analysis Results for Segments H and I

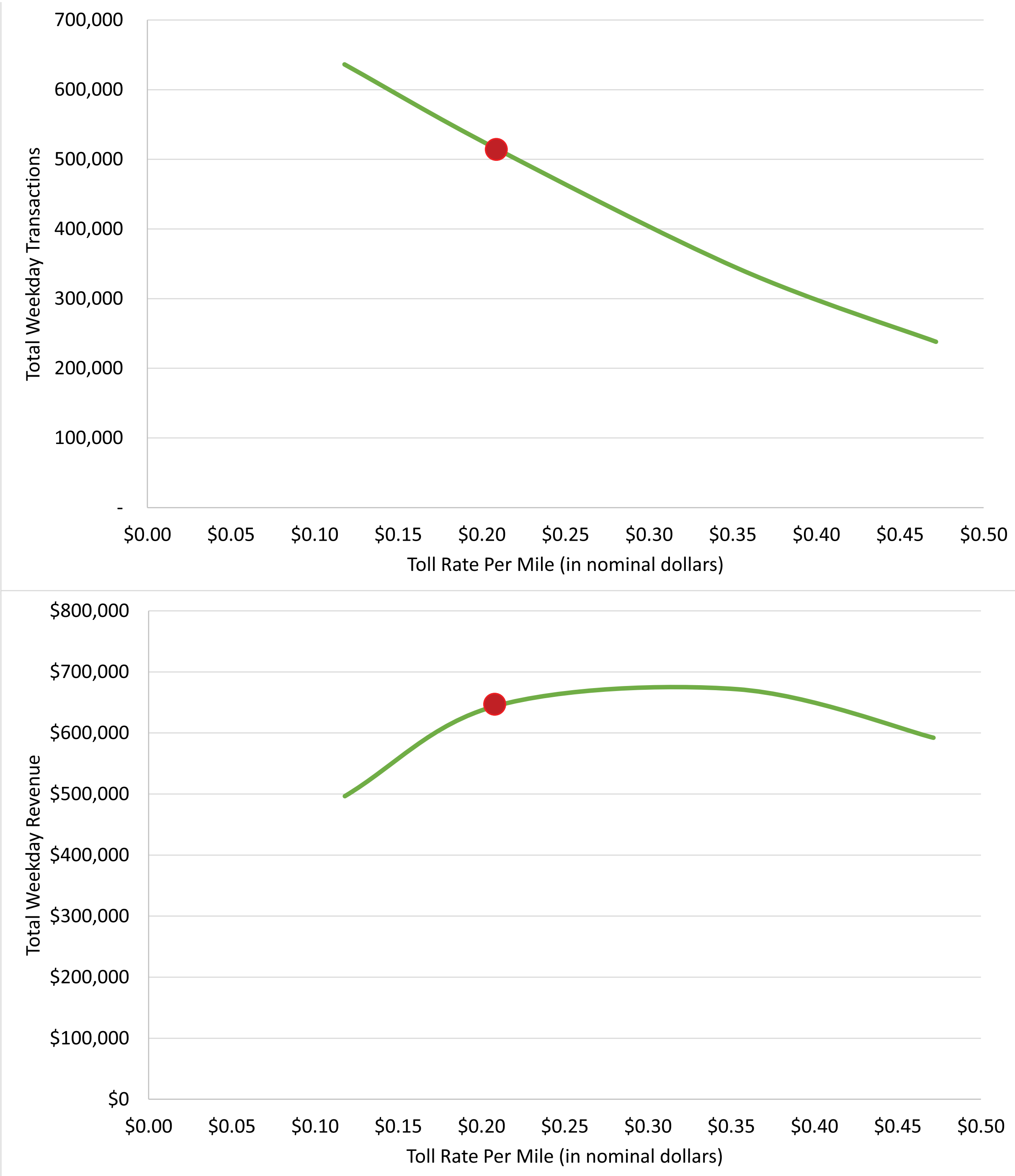


Figure 4-21
2020 Toll Sensitivity Analysis Results for Segments D through I

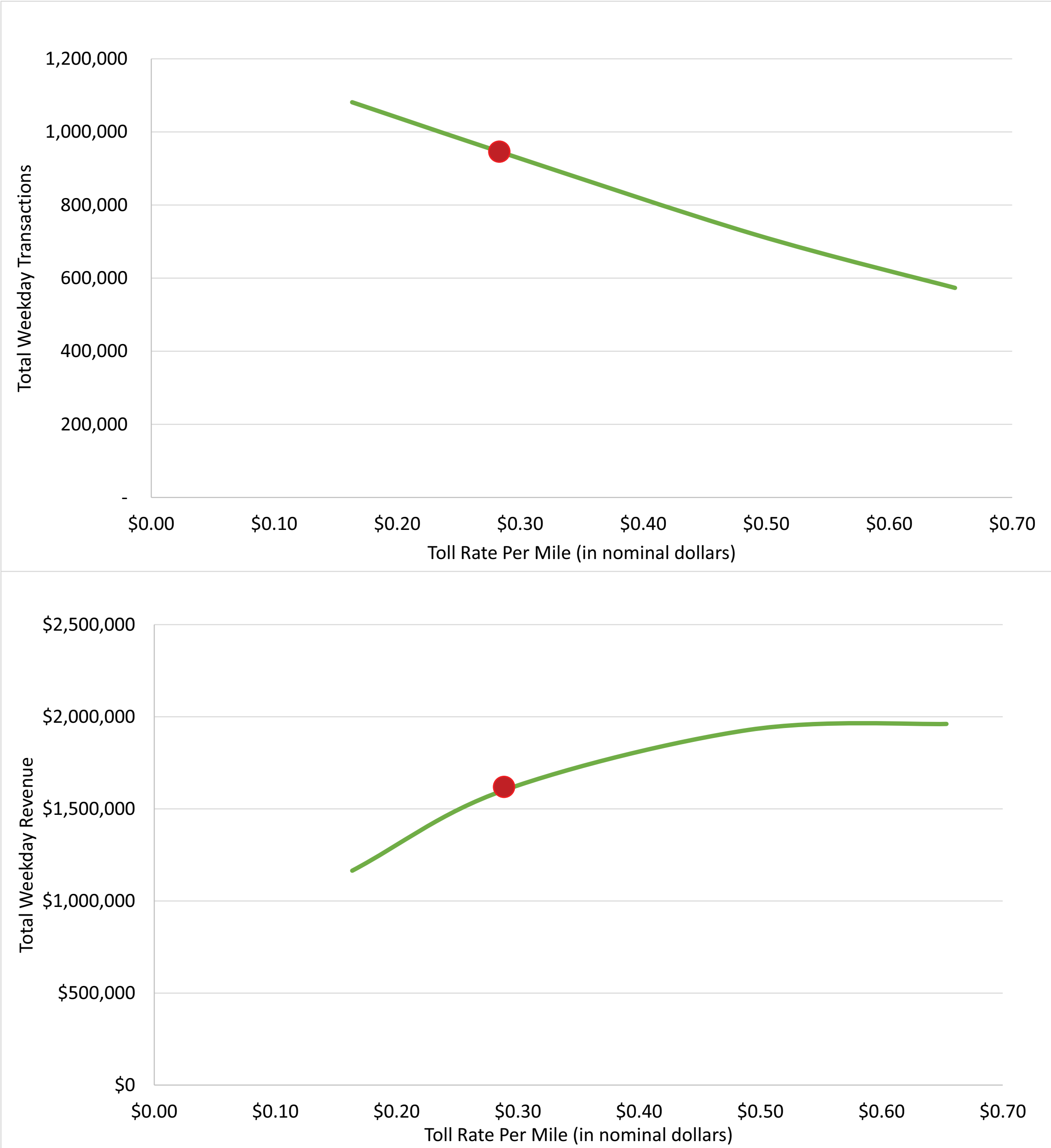


Figure 4-22
2035 Toll Sensitivity Analysis Results for Segments D through I

4.4 Basic Assumptions

Base case traffic and toll revenue estimates for the entire expanded Grand Parkway System were predicated on the following basic assumptions, which CDM Smith considers reasonable for the purposes of traffic and revenue forecasting:

1. The various segments of entire Grand Parkway System will be opened by the dates shown in Figure 1-1. Currently, the Grand Parkway System expanded segments (Segments H,I-1, I-2A and I-2B) are assumed to open to tolling on May 9, 2022.

2. The entire expanded Grand Parkway System will be an Automatic Vehicle Identification (AVI)-only toll facility. There will not be video tolling or cash tolling on this facility.

3. Tolls on the existing HCTRA, FBCTRA and FBGPTRA toll systems, along with those on future expansion sections and new toll road facilities, are all assumed to be increased annually at the rates consistent with the Grand Parkway System toll rates.

4. The Automated Vehicle Identification (AVI) market share used in the vehicle trip tables was assumed as shown below:

    - 2015: 85 percent
    - 2020: 90 percent
    - 2025: 95 percent
    - 2035: 95 percent

    For other regional toll roads, it is assumed that the transponder usage will continue to grow as toll agencies move towards all-electronic tolling and as cash collection is eventually phased out.

5. Trucks and passenger cars are both modeled in the toll diversion models for this study.

6. It is assumed that no capacity improvements will be directly made along the mainlanes of the expanded Grand Parkway System corridor throughout the forecast period; therefore, capacity constraints have been applied in the outer years when demand of the future facility exceeds the available capacity. However, additional cross-streets and roadways from development like Castle Hills near Segment H are assumed. In addition as noted in the footnotes to the traffic and revenue estimate tables in Section 4.10 of this document, several new cross-streets, frontage roads and ramps are assumed along the expanded Grand Parkway System corridor.

7. Future population and employment will be in line with those estimated by the independent economist, CDS Market Research, both in scale and distribution.

8. The revenue leakage estimates are provided to reflect the actual revenue leakage experience on Grand Parkway System Segments D (Harris County) and E, and indicate the transaction and revenue leakage prior to the application of administration and

violation fees. Optimization of these fees with the associated collection and processing costs is likely to lessen the net revenue leakage impact. The parameters have been updated to reflect the most recent observed leakage trends along the open Segments D (Harris County) and E, which have been operational for more than two years.

9. No other competing facilities, toll or toll-free, beyond those included in the H-GAC regional transportation plan, and/or the toll road expansion programs of TxDOT, HCTRA and FBCTRA, shall be implemented within the forecast period.

10. The entire expanded Grand Parkway System is assumed to be properly maintained, efficiently operated and appropriately promoted and signed to encourage maximum usage.

11. No national, regional or local emergency will occur which will abnormally restrict the use of motor vehicles for the duration of the forecast period.

12. Motor fuel will remain in adequate supply for the forecast period, and overall long-term increases in price will not be substantially greater than the rate of inflation.

CDM Smith anticipates that any significant departure from these key assumptions could have a material impact on traffic and toll revenue forecasts for the expanded Grand Parkway System.

Table 4-7 provides a catalogued summary of the various key assumptions considered for the purposes of T&R forecasting.

Table 4-7 Summary of Assumptions

Grand Parkway Segments D through I Level 3 Traffic and Toll Revenue Study Assumptions	
Type of Study:	Level 3 Study
Opening Date	Segments F-1 and F-2 tolling started on February 15, 2016 Segment G tolling started on April 4, 2016 Segments H and I tolling starts on May 9, 2022
Project limits for T&R estimation:	From I-10 in the southwest (Segment D) to SH 146 in the southeast (Segment I-2B)
Length of the Corridor	55 miles for Segments D through G, 51.98 miles for Segments H and I
Toll Collection	AVI and Video with no cash option
AVI Toll Rate (2 Axle):	$0.177 per mile in 2012, escalated for future years
Administrative Fee and convenience fee	Not included in the estimated revenue
Toll Rate Adjustment:	2012-2014: 2.00 percent per year (implemented) 2014-2015: 2.22 percent per year (implemented) 2015-2016: 2.00 percent per year (implemented) 2016-2018: 2.00 percent per year (assumed) 2019 onwards: 2.20 percent per year (assumed)
Toll Adjustment Frequency (Yrs):	Assumed January 1st of every year
Transaction Type Split: **AVI Market Share Assumption**	85% in 2015, increasing gradually to 95% by year 2025 and beyond
Video Toll/Video billing	Video tolling will not be used along the Segments D through I.
Toll Violation (Leakage) %:	In 2020, leakage will account for 4.5 percent of transactions. By 2035, leakage will account for 2.2 percent of transactions.
Truck Traffic %:	Varying from 1.6 percent to 9.2 percent at different gantries
Posted Speed Limit (mph):	70 mph for Segments D through G, 65 mph for Segments H and I-1, 70 mph on Segments I-2A and I-2B
Additional Corridor Details:	
1.0 Capacity Assumptions of Other Relevant Roadways: 1.1 2035 Regional Transportation Plan from H-GAC; and updated 2040 Regional Transportation Plan (March 29, 2016 update) from H-GAC 1.2 Segments D through G are assumed to have four mainlines. Segment H and I-1 operate as two lane facility with passing lanes. Segment I-2 operates with four mainlines.	
2.0 Demographic Assumptions: 2.1 Revised Demographics based on independent socioeconomic review by CDS completed in June 2016.	
3.0 Toll Rate Assumptions 3.1 Three or more axle average Toll Rate Factor: 3 from year 2020 onwards. 3.2 Tolls charged to users are rounded to the nearest penny.	
4.0 Revenue Days: Annualization factor is assumed to be 325 days a year for facilities that are not currently open. For existing facilities, the current annualization factor is used; beyond year 2025, 325 revenue days are assumed.	
5.0 Annual traffic growth rate beyond 2035 is assumed as follows: 5.1 Between 2035 - 2040: 3 percent per year for Segments H and I-1, 2.5 percent per year for Segments D through G, I-2A and I-2B 5.2 Between 2040 - 2045: 2.0 percent per year 5.3 Between 2045 - 2050: 1.5 percent per year 5.4 Between 2050 - 2055: 1.0 percent per year 5.5 Beyond 2055: 0.5 percent per year	
6.0 Annual T&R stream is being shown through 2064 on a calendar year basis and fiscal year basis.	

4.5 Estimated Weekday Traffic for Segments D through G (Existing Grand Parkway System)

Future year model traffic assignments were made using the refined model and modeling approach described earlier. Model assignments were made for several future model years. Traffic assignments reflected average "weekday" conditions; traffic volumes on weekends tend to be lower, as will the overall full seven-day average daily traffic conditions.

4.5.1 Estimated 2025 Weekday Traffic for Segments D through G (Existing Grand Parkway System)

Figure 4-23 and Table 4-8 present the estimated 2025 average weekday traffic on the existing Grand Parkway Segments D through G.

Table 4-8 indicates that the average weekday traffic on the mainlane sections between Clay Road and FM 529 along Segment E is forecasted to reach nearly 53,700 vehicles per weekday by 2025. The traffic on the mainlane section of Segment F-2 between Gosling Road and Spring Valley Road is anticipated to carry 66,400 weekday vehicles by 2025 while the Segment G estimated average weekday traffic is approximately 24,000 vehicles along the mainlanes just west of US 59. The annual transactions from Segments D through G are estimated to be 185.5 million in 2025 and annual revenue is estimated to be $251.1 million.

4.5.2 Estimated 2035 Weekday Traffic for Segments D through G (Existing Grand Parkway System)

Figure 4-24 and Table 4-9 present estimated 2035 weekday traffic along Grand Parkway Segments D through G (Existing Grand Parkway System). Similar to the 2025 average weekday traffic estimates, these reflect the model traffic outputs under the assumed 2035 nominal dollar toll rate escalation assumptions. The 2035 traffic volumes along the mainlane sections between Clay Road and FM 529 on Segment E is estimated to be approximately 73,600 vehicles per weekday. The 2035 traffic along the section between Gosling Road and Spring Valley Road in Segment F-2 is estimated to reach 82,900 weekday vehicles while the Segment G weekday traffic is estimated to be over 32,000 along the mainlane section immediately west of US 59. The highest volume 2035 mainlane section occurs to the east of Hardy Toll Road and is estimated to capture over 97,100 vehicles per weekday.

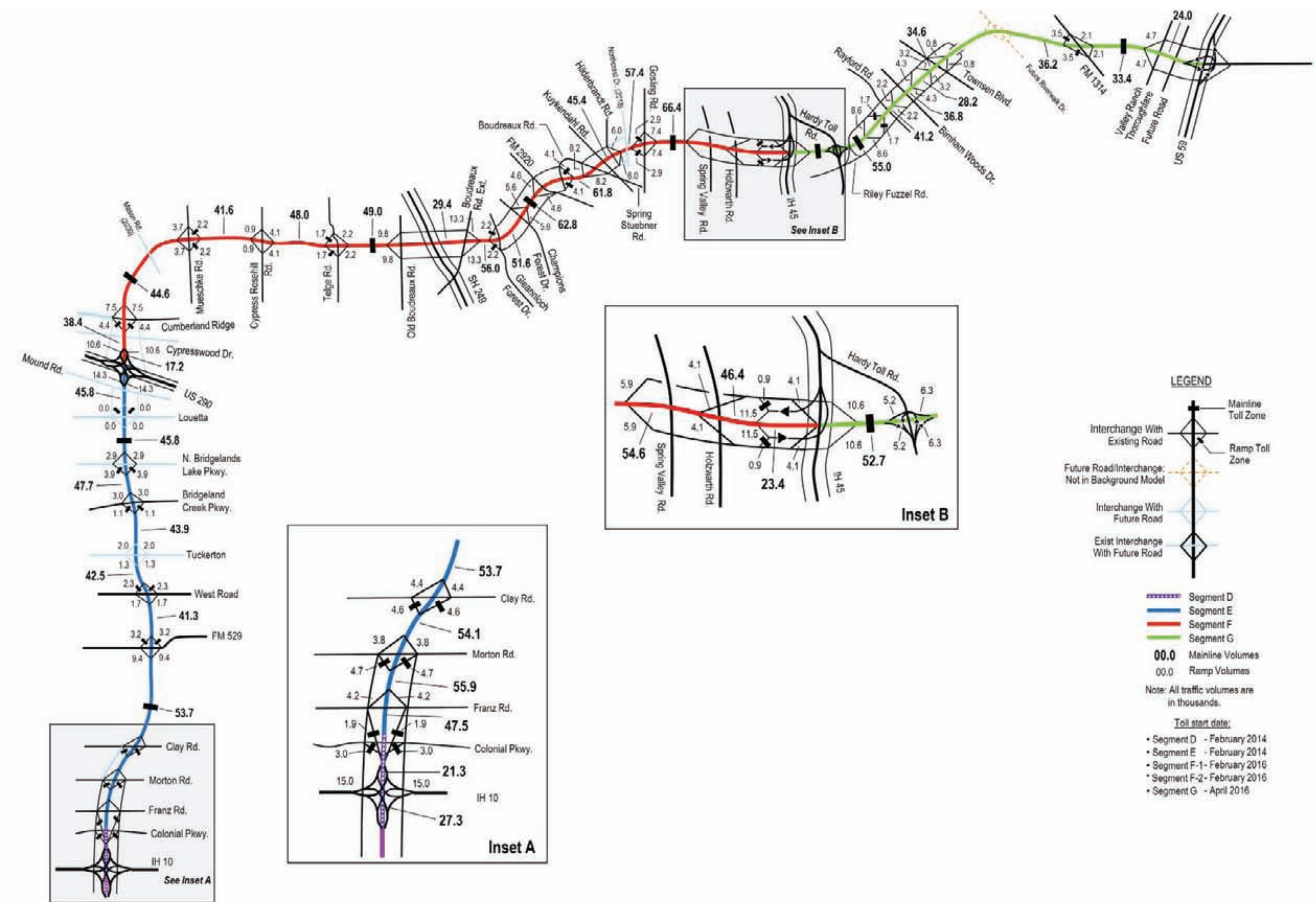


Figure 4-23
2025 Estimated Weekday Traffic – Segments D through G

Table 4-8 2025 Estimated Weekday Traffic and Revenue – Segments D through G

Plaza Location		Passenger Car (PC) Volume	Toll	Revenue	Commercial Vehicle (CV) Volume	Toll	Revenue	Total T&R Transactions	Revenue	Revenue Contribution Seg. E to Seg. D
Colonial Pkwy	NB	2,900	$ 0.53	$ 1,540	100	$ 1.41	$ 140	3,000	$ 1,680	
Colonial Pkwy	SB	2,900	0.53	1,540	100	1.41	140	3,000	1,680	
SEGMENT D TOTAL		5,800		$ 3,080	200		$ 280	6,000	$ 3,360	
							Annual Subtotal:	1,963,000	$ 1,107,000	
Franz Rd.	NB	1,800	$ 0.12	$ 210	50	$ 0.33	$ 20	1,850	$ 230	$810
Franz Rd.	SB	1,800	0.12	210	50	0.33	20	1,850	230	810
Morton Rd.	NB	4,550	0.34	1,550	200	0.97	190	4,750	1,740	1,570
Morton Rd.	SB	4,550	0.34	1,550	200	0.97	190	4,750	1,740	1,570
Clay Rd.	NB	4,400	0.62	2,730	150	1.73	260	4,550	2,990	1,500
Clay Rd.	SB	4,400	0.62	2,730	150	1.73	260	4,550	2,990	1,500
Mainline Plaza 1	NB	25,650	2.09	53,630	1,200	6.26	7,520	26,850	61,150	9,050
Mainline Plaza 1	SB	25,650	2.09	53,630	1,200	6.26	7,520	26,850	61,150	9,050
FM 529	NB	3,050	0.76	2,320	100	1.86	190	3,150	2,510	
FM 529	SB	3,050	0.76	2,320	100	1.86	190	3,150	2,510	
West Road	NB	2,250	0.53	1,190	50	1.59	80	2,300	1,270	
West Road	SB	2,250	0.53	1,190	50	1.59	80	2,300	1,270	
Bridgelands Creek Pkwy.	NB	1,050	0.53	560	50	1.44	70	1,100	630	
Bridgelands Creek Pkwy.	SB	1,050	0.53	560	50	1.44	70	1,100	630	
N. Bridgelands Lake Pkwy.	NB	3,700	0.53	1,960	150	1.59	240	3,850	2,200	
N. Bridgelands Lake Pkwy.	SB	3,700	0.53	1,960	150	1.59	240	3,850	2,200	
Mainline Plaza 2	NB	21,950	1.24	27,220	1,000	3.72	3,720	22,950	30,940	
Mainline Plaza 2	SB	21,950	1.24	27,220	1,000	3.72	3,720	22,950	30,940	
Louetta	NB	---	0.53	0	---	1.59	0	---	---	
Louetta	SB	---	0.53	0	---	1.59	0	---	---	
SEGMENT E TOTAL		136,800		$ 182,740	5,900		$ 24,580	142,700	$ 207,320	$ 25,860
							Annual Subtotal:	48,489,000	$ 70,915,000	$ 8,782,000
Cumberland Bridge	NB	4,250	$ 0.53	$ 2,250	150	$ 1.48	$ 220	4,400	$ 2,470	
Cumberland Bridge	SB	4,250	0.53	2,250	150	1.48	220	4,400	2,470	
Mainline Plaza 1	NB	21,250	1.64	34,850	1,050	4.93	5,180	22,300	40,030	
Mainline Plaza 1	SB	21,250	1.64	34,850	1,050	4.93	5,180	22,300	40,030	
Mueschke Rd.	EB	2,100	0.53	1,110	50	1.52	80	2,150	1,190	
Mueschke Rd.	WB	2,100	0.53	1,110	50	1.52	80	2,150	1,190	
Telge Rd.	EB	1,650	0.53	870	50	1.50	70	1,700	940	
Telge Rd.	WB	1,650	0.53	870	50	1.50	70	1,700	940	
Mainline Plaza 2	EB	23,550	1.15	27,080	1,000	3.40	3,400	24,550	30,480	
Mainline Plaza 2	WB	23,550	1.15	27,080	1,000	3.40	3,400	24,550	30,480	
Gleannloch Forest Dr.	EB	2,150	0.54	1,160	100	1.50	150	2,250	1,310	
Gleannloch Forest Dr.	WB	2,150	0.54	1,160	100	1.50	150	2,250	1,310	
Mainline Plaza 3	EB	30,200	1.46	44,090	1,250	4.18	5,220	31,450	49,310	
Mainline Plaza 3	WB	30,200	1.46	44,090	1,250	4.18	5,220	31,450	49,310	
FM 2920	EB	3,950	0.53	2,090	100	1.50	150	4,050	2,240	
FM 2920	WB	3,950	0.53	2,090	100	1.50	150	4,050	2,240	
Gosling Rd.	EB	2,750	0.53	1,460	100	1.41	140	2,850	1,600	
Gosling Rd.	WB	2,750	0.53	1,460	100	1.41	140	2,850	1,600	
Mainline Plaza 4	EB	32,000	1.34	42,880	1,250	3.90	4,870	33,250	47,750	
Mainline Plaza 4	WB	32,000	1.34	42,880	1,250	3.90	4,870	33,250	47,750	
IH 45 DC Ramp	EB	850	0.53	450	50	1.45	70	900	520	
IH 45 DC Ramp	WB	850	0.53	450	50	1.45	70	900	520	
SEGMENT F TOTAL		249,400		$ 316,580	10,300		$ 39,100	259,700	$ 355,680	
							Annual Subtotal:	84,843,000	$ 116,177,000	
Mainline Plaza 0	EB	25,450	$ 0.53	$ 13,490	900	$ 1.53	$ 1,380	26,350	$ 14,870	
Mainline Plaza 0	WB	25,450	0.53	13,490	900	1.53	1,380	26,350	14,870	
Mainline Plaza 1	EB	26,600	0.79	21,010	950	2.27	2,160	27,550	23,170	
Mainline Plaza 1	WB	26,600	0.79	21,010	950	2.27	2,160	27,550	23,170	
Ramp Plaza1 (w/o Rayford)	EB	1,650	0.53	870	50	1.41	70	1,700	940	
Ramp Plaza1 (w/o Rayford)	WB	1,650	0.53	870	50	1.41	70	1,700	940	
FM 1314	EB	3,400	1.21	4,110	150	3.80	570	3,550	4,680	
FM 1314	WB	3,400	1.21	4,110	150	3.80	570	3,550	4,680	
Mainline Plaza 2	EB	15,950	2.11	33,650	750	6.25	4,690	16,700	38,340	
Mainline Plaza 2	WB	15,950	2.11	33,650	750	6.25	4,690	16,700	38,340	
SEGMENT G TOTAL		146,100		$ 146,260	5,600		$ 17,740	151,700	$ 164,000	
							Annual Subtotal:	50,170,000	$ 54,187,000	
Note: Totals may be subject to rounding differences.							Segm. D, E, F, G Annual Total:	185,465,000	$ 242,386,000	$ 8,782,000
								Combined Revenue Total:	$ 251,168,000	

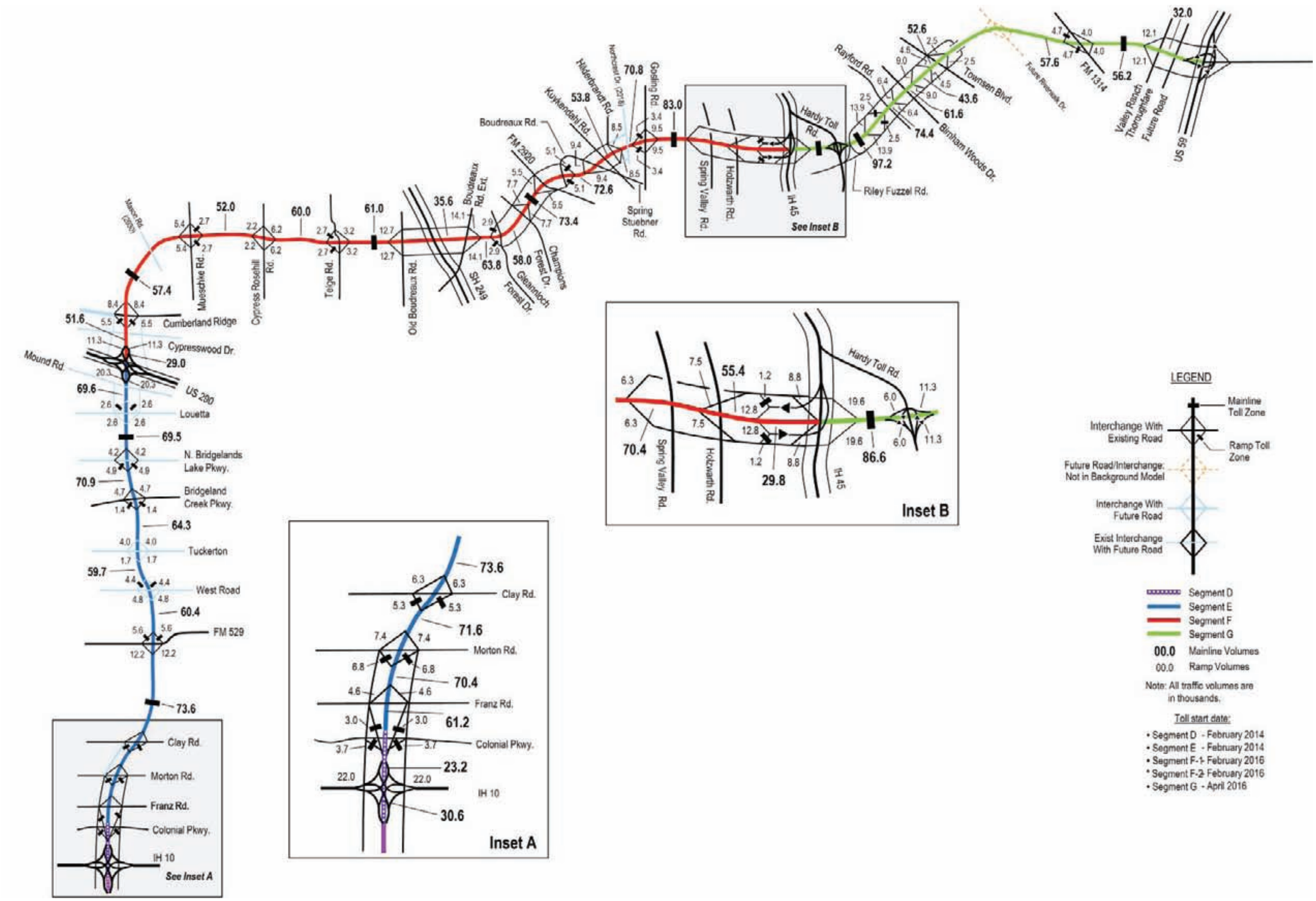


Figure 4-24
2035 Estimated Weekday Traffic – Segments D through G

Table 4-9 2035 Estimated Weekday Traffic and Revenue – Segments D through G

Plaza Location		Passenger Car (PC) Volume	Toll	Revenue	Commercial Vehicle (CV) Volume	Toll	Revenue	Total T&R Transactions	Revenue	Revenue Contribution Seg. E to Seg. D
Colonial Pkwy	NB	3,500	$ 0.65	$ 2,280	150	$ 1.73	$ 260	3,650	$ 2,540	
Colonial Pkwy	SB	3,500	0.65	2,280	150	1.73	260	3,650	2,540	
SEGMENT D TOTAL		**7,000**		**$ 4,560**	**300**		**$ 520**	**7,300**	**$ 5,080**	
							Annual Subtotal:	**2,385,000**	**$ 1,652,000**	
Franz Rd.	NB	2,900	$ 0.14	$ 420	100	$ 0.40	$ 40	3,000	$ 460	$1,610
Franz Rd.	SB	2,900	0.14	420	100	0.40	40	3,000	460	1,610
Morton Rd.	NB	6,600	0.43	2,810	250	1.20	300	6,850	3,110	2,810
Morton Rd.	SB	6,600	0.43	2,810	250	1.20	300	6,850	3,110	2,810
Clay Rd.	NB	5,150	0.77	3,950	200	2.14	430	5,350	4,380	2,190
Clay Rd.	SB	5,150	0.77	3,950	200	2.14	430	5,350	4,380	2,190
Mainline Plaza 1	NB	35,300	2.60	91,640	1,500	7.78	11,660	36,800	103,300	15,280
Mainline Plaza 1	SB	35,300	2.60	91,640	1,500	7.78	11,660	36,800	103,300	15,280
FM 529	NB	5,450	0.95	5,180	200	2.33	470	5,650	5,650	
FM 529	SB	5,450	0.95	5,180	200	2.33	470	5,650	5,650	
West Road	NB	4,250	0.65	2,760	150	1.95	290	4,400	3,050	
West Road	SB	4,250	0.65	2,760	150	1.95	290	4,400	3,050	
Bridgelands Creek Pkwy.	NB	1,350	0.65	880	50	1.77	90	1,400	970	
Bridgelands Creek Pkwy.	SB	1,350	0.65	880	50	1.77	90	1,400	970	
N. Bridgelands Lake Pkwy.	NB	4,700	0.65	3,060	150	1.95	290	4,850	3,350	
N. Bridgelands Lake Pkwy.	SB	4,700	0.65	3,060	150	1.95	290	4,850	3,350	
Mainline Plaza 2	NB	33,400	1.55	51,770	1,400	4.65	6,500	34,800	58,270	
Mainline Plaza 2	SB	33,400	1.55	51,770	1,400	4.65	6,500	34,800	58,270	
Louetta	NB	2,500	0.65	1,630	50	1.95	100	2,550	1,730	
Louetta	SB	2,500	0.65	1,630	50	1.95	100	2,550	1,730	
SEGMENT E TOTAL		**203,200**		**$ 328,200**	**8,100**		**$ 40,340**	**211,300**	**$ 368,540**	**$ 43,780**
							Annual Subtotal:	**68,663,000**	**$ 119,811,000**	**$ 14,236,000**
Cumberland Bridge	NB	5,250	$ 0.65	$ 3,410	200	$ 1.81	$ 360	5,450	$ 3,770	
Cumberland Bridge	SB	5,250	0.65	3,410	200	1.81	360	5,450	3,770	
Mainline Plaza 1	NB	27,450	2.04	56,000	1,200	6.13	7,360	28,650	63,360	
Mainline Plaza 1	SB	27,450	2.04	56,000	1,200	6.13	7,360	28,650	63,360	
Mueschke Rd.	EB	2,600	0.65	1,690	100	1.87	190	2,700	1,880	
Mueschke Rd.	WB	2,600	0.65	1,690	100	1.87	190	2,700	1,880	
Telge Rd.	EB	2,650	0.66	1,750	100	1.87	190	2,750	1,940	
Telge Rd.	WB	2,650	0.66	1,750	100	1.87	190	2,750	1,940	
Mainline Plaza 2	EB	29,350	1.43	41,970	1,150	4.22	4,860	30,500	46,830	
Mainline Plaza 2	WB	29,350	1.43	41,970	1,150	4.22	4,860	30,500	46,830	
Gleannloch Forest Dr.	EB	2,850	0.67	1,910	100	1.86	190	2,950	2,100	
Gleannloch Forest Dr.	WB	2,850	0.67	1,910	100	1.86	190	2,950	2,100	
Mainline Plaza 3	EB	35,250	1.81	63,800	1,400	5.18	7,250	36,650	71,050	
Mainline Plaza 3	WB	35,250	1.81	63,800	1,400	5.18	7,250	36,650	71,050	
FM 2920	EB	4,950	0.65	3,220	150	1.84	280	5,100	3,500	
FM 2920	WB	4,950	0.65	3,220	150	1.84	280	5,100	3,500	
Gosling Rd.	EB	3,300	0.65	2,150	150	1.73	260	3,450	2,410	
Gosling Rd.	WB	3,300	0.65	2,150	150	1.73	260	3,450	2,410	
Mainline Plaza 4	EB	39,950	1.67	66,720	1,500	4.86	7,290	41,450	74,010	
Mainline Plaza 4	WB	39,950	1.67	66,720	1,500	4.86	7,290	41,450	74,010	
IH 45 DC Ramp	EB	1,100	0.65	720	50	1.78	90	1,150	810	
IH 45 DC Ramp	WB	1,100	0.65	720	50	1.78	90	1,150	810	
SEGMENT F TOTAL		**309,400**		**$ 486,680**	**12,200**		**$ 56,640**	**321,600**	**$ 543,320**	
							Annual Subtotal:	**104,639,000**	**$ 176,780,000**	
Mainline Plaza 0	EB	41,950	$ 0.65	$ 27,270	1,400	$ 1.88	$ 2,630	43,350	$ 29,900	
Mainline Plaza 0	WB	41,950	0.65	27,270	1,400	1.88	2,630	43,350	29,900	
Mainline Plaza 1	EB	47,000	0.98	46,060	1,550	2.82	4,370	48,550	50,430	
Mainline Plaza 1	WB	47,000	0.98	46,060	1,550	2.82	4,370	48,550	50,430	
Ramp Plaza1 (w/o Rayford)	EB	2,450	0.65	1,590	50	1.73	90	2,500	1,680	
Ramp Plaza1 (w/o Rayford)	WB	2,450	0.65	1,590	50	1.73	90	2,500	1,680	
FM 1314	EB	4,500	1.51	6,800	200	4.74	950	4,700	7,750	
FM 1314	WB	4,500	1.51	6,800	200	4.74	950	4,700	7,750	
Mainline Plaza 2	EB	27,000	2.62	70,740	1,100	7.76	8,540	28,100	79,280	
Mainline Plaza 2	WB	27,000	2.62	70,740	1,100	7.76	8,540	28,100	79,280	
SEGMENT G TOTAL		**245,800**		**$ 304,920**	**8,600**		**$ 33,160**	**254,400**	**$ 338,080**	
							Annual Subtotal:	**82,828,000**	**$ 110,059,000**	
							Segm. D, E, F, G Annual Total:	**258,515,000**	**$ 408,302,000**	**$ 14,236,000**
								Combined Revenue Total:	**$ 422,538,000**	

Note: Totals may be subject to rounding differences.

4.6 Estimated Weekday Traffic for Segments H and I (Grand Parkway System Expansion)

Future year model weekday traffic volumes for years 2025 and 2035 along the Grand Parkway Segments H and I are presented in this section.

4.6.1 Estimated 2025 Weekday Traffic and Revenue for Segments H and I (Grand Parkway System Expansion)

Figure 4-25 and Table 4-10 present estimated 2025 weekday traffic along the proposed Grand Parkway Segments H and I. The mainlane traffic along Segment H is expected to range between 4,000 and 15,100 vehicles per weekday while traffic along Segment I-1 is estimated to be 9,200 weekday vehicles near IH 10 and almost 12,600 vehicles per weekday on Segment I-2 near SH 146.

The truck transaction share along Segment H is expected to be approximately 5.0 percent in 2025, with an equivalent truck toll revenue share of 15.9 percent. The truck transaction and revenue shares on Segment I are expected to be 7.5 percent and 22.3 percent, respectively. The annual transactions from Segments H and I are estimated to be 26.5 million in 2025 and annual revenue is estimated to be $46.7 million.

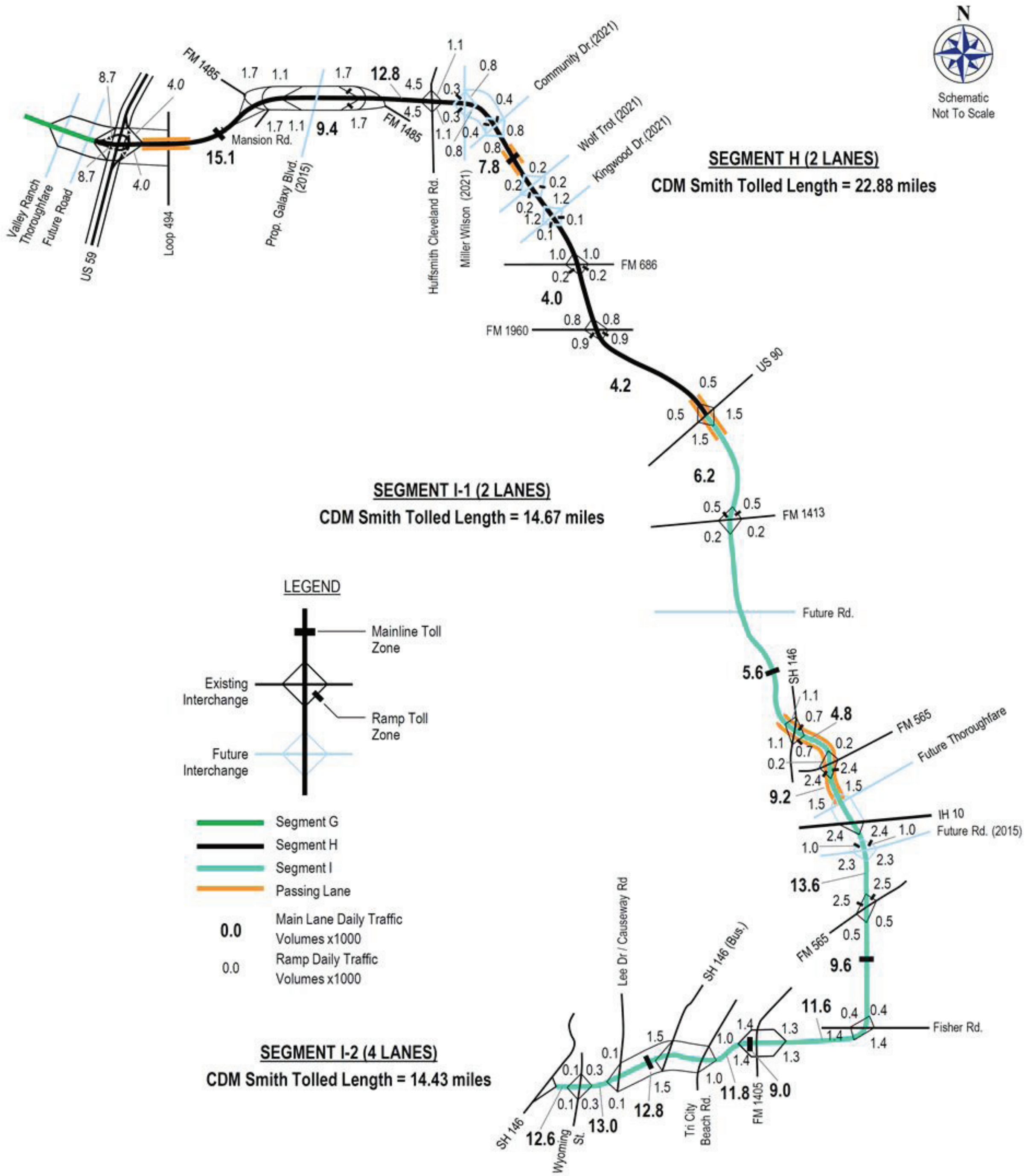


Figure 4-25
2025 Estimated Weekday Traffic – Segments H and I

Table 4-10 2025 Estimated Weekday Traffic and Revenue – Segments H and I

Plaza Location		Passenger Car (PC) Volume	Toll	Revenue	Commercial Vehicle (CV) Volume	Toll	Revenue	Total T&R Transactions	Revenue
Galaxy Blvd. Mainlane	EB	7,250	$ 1.95	$ 14,100	300	$ 5.85	$ 1,800	7,550	$ 15,900
Galaxy Blvd. Mainlane	WB	7,250	1.95	14,100	300	5.85	1,800	7,550	15,900
Galaxy Blvd. Ramp	EB	1,600	0.76	1,200	50	2.28	100	1,650	1,300
Galaxy Blvd. Ramp	WB	1,600	0.76	1,200	50	2.28	100	1,650	1,300
FM 686 Mainlane	EB	3,600	3.37	12,100	350	10.11	3,500	3,950	15,600
FM 686 Mainlane	WB	3,600	3.37	12,100	350	10.11	3,500	3,950	15,600
FM 686 Ramp	SB	200	1.40	300	---	4.20	0	200	300
FM 686 Ramp	NB	200	1.40	300	---	4.20	0	200	300
FM 1960 Ramp	SB	850	0.81	700	50	2.43	100	900	800
FM 1960 Ramp	NB	850	0.81	700	50	2.43	100	900	800
Miller Wilson Rd	SB	250	0.53	100	---	1.59	0	250	100
Miller Wilson Rd	NB	250	0.53	100	---	1.59	0	250	100
Community Dr	SB	350	0.77	300	---	2.31	0	350	300
Community Dr	NB	350	0.77	300	---	2.31	0	350	300
Wolf Trot Rd	SB	200	1.69	300	---	5.07	0	200	300
Wolf Trot Rd	NB	200	1.69	300	---	5.07	0	200	300
Kingwood Dr	SB	50	1.32	100	---	3.96	0	50	100
Kingwood Dr	NB	50	1.32	100	---	3.96	0	50	100
SEGMENT H TOTAL		**28,700**		**$ 58,400**	**1,500**		**$ 11,000**	**30,200**	**$ 69,400**
							Annual Subtotal:	**9,815,000**	**$ 22,847,000**
FM 1413 Ramp	SB	450	0.86	400	50	2.58	100	500	500
FM 1413 Ramp	NB	450	0.86	400	50	2.58	100	500	500
SH 146 Mainlane	SB	2,550	3.41	8,700	250	10.23	2,600	2,800	11,300
SH 146 Mainlane	NB	2,550	3.41	8,700	250	10.23	2,600	2,800	11,300
SH 146 Ramp	SB	650	0.86	600	---	2.58	0	650	600
SH 146 Ramp	NB	650	0.86	600	---	2.58	0	650	600
FM 565 N. Ramp	SB	2,350	0.53	1,200	50	1.59	100	2,400	1,300
FM 565 N. Ramp	NB	2,350	0.53	1,200	50	1.59	100	2,400	1,300
Future Rd. Ramp	SB	950	0.53	500	50	1.59	100	1,000	600
Future Rd. Ramp	NB	950	0.53	500	50	1.59	100	1,000	600
FM 565 S. Ramp	SB	2,400	0.67	1,600	50	2.15	100	2,450	1,700
FM 565 S. Ramp	NB	2,400	0.67	1,600	50	2.15	100	2,450	1,700
Fisher Rd. Mainlane	SB	4,300	2.11	9,100	500	6.74	3,400	4,800	12,500
Fisher Rd. Mainlane	NB	4,300	2.11	9,100	500	6.74	3,400	4,800	12,500
FM 1405 Mainlane	WB	4,050	0.61	2,500	450	1.83	800	4,500	3,300
FM 1405 Mainlane	EB	4,050	0.61	2,500	450	1.83	800	4,500	3,300
SH 146 (Bus.) Mainlane	WB	5,850	0.63	3,700	500	1.89	900	6,350	4,600
SH 146 (Bus.) Mainlane	EB	5,850	0.63	3,700	500	1.89	900	6,350	4,600
SEGMENT I-1 TOTAL		**12,000**		**$ 21,800**	**700**		**$ 5,600**	**12,700**	**$ 27,400**
SEGMENT I-2A TOTAL		**15,300**		**$ 22,400**	**1,200**		**$ 7,200**	**16,500**	**$ 29,600**
SEGMENT I-2B TOTAL		**19,800**		**$ 12,400**	**1,900**		**$ 3,400**	**21,700**	**$ 15,800**
SEGMENT I TOTAL		**47,100**		**$ 56,600**	**3,800**		**$ 16,200**	**50,900**	**$ 72,800**
							Annual Subtotal:	**16,585,000**	**$ 23,712,000**
Note: Totals may be subject to rounding differences.							**Segm. H & I Annual Total:**	**26,400,000**	**$ 46,559,000**

4.6.2 Estimated 2035 Weekday Traffic and Revenue for Segments H and I

Figure 4-26 and Table 4-11 present estimated 2035 weekday traffic on the proposed Grand Parkway Segments H and I. As shown in the figure, traffic along Segment H near US 59 is expected to reach 26,000 vehicles per weekday in 2035. Weekday traffic along Segment I-1 north of IH 10 is estimated to reach 15,800 vehicles, while mainlane weekday traffic along Segment I-2 near SH 146 is forecasted to reach 20,800 by 2035. The truck transaction and revenue shares on Segment H are expected to be 4.3 percent and 13.2 percent respectively, and on Segment I are expected to be 6.6 percent and 19.6 percent, respectively. The annual transactions and revenue from Segments H and I in 2035 are estimated to be 47.1 million and \$98.7 million respectively.

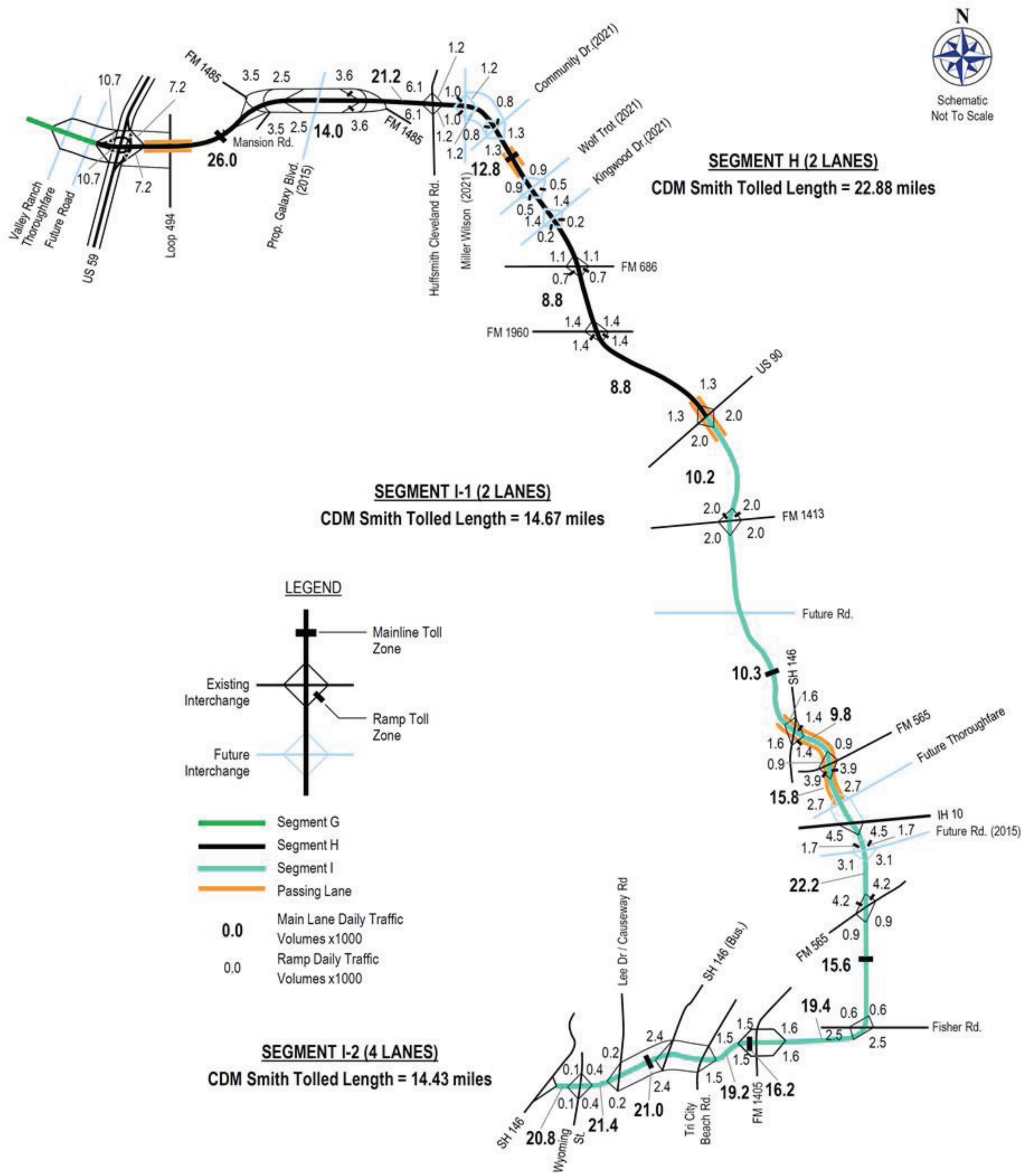


Figure 4-26
2035 Estimated Weekday Traffic – Segments H and I

Table 4-11 2035 Estimated Weekday Traffic and Revenue – Segments H and I

Plaza Location		Passenger Car (PC) Volume	Toll	Revenue	Commercial Vehicle (CV) Volume	Toll	Revenue	Total T&R Transactions	Revenue
Galaxy Blvd. Mainlane	EB	12,500	$ 2.42	$ 30,300	450	$ 7.26	$ 3,300	12,950	$ 33,600
Galaxy Blvd. Mainlane	WB	12,500	2.42	30,300	450	7.26	3,300	12,950	33,600
Galaxy Blvd. Ramp	EB	3,450	0.95	3,300	150	2.85	400	3,600	3,700
Galaxy Blvd. Ramp	WB	3,450	0.95	3,300	150	2.85	400	3,600	3,700
FM 686 Mainlane	EB	6,050	4.19	25,300	450	12.57	5,700	6,500	31,000
FM 686 Mainlane	WB	6,050	4.19	25,300	450	12.57	5,700	6,500	31,000
FM 686 Ramp	SB	750	1.74	1,300	---	5.22	0	750	1,300
FM 686 Ramp	NB	750	1.74	1,300	---	5.22	0	750	1,300
FM 1960 Ramp	SB	1,350	1.01	1,400	50	3.03	200	1,400	1,600
FM 1960 Ramp	NB	1,350	1.01	1,400	50	3.03	200	1,400	1,600
Miller Wilson Rd	EB	1,000	$ 0.65	700	50	$ 1.95	$ 100	1,050	$ 800
Miller Wilson Rd	WB	1,000	0.65	700	50	1.95	100	1,050	800
Community Dr	EB	800	0.96	800	50	2.88	100	850	900
Community Dr	WB	800	0.96	800	50	2.88	100	850	900
Wolf Trot Rd	EB	500	2.10	1,100	---	6.30	0	500	1,100
Wolf Trot Rd	WB	500	2.10	1,100	---	6.30	0	500	1,100
Kingwood Dr	SB	150	1.64	200	---	4.92	0	150	200
Kingwood Dr	NB	150	1.64	200	---	4.92	0	150	200
SEGMENT H TOTAL		**53,100**		**$ 128,800**	**2,400**		**$ 19,600**	**55,500**	**$ 148,400**
							Annual Subtotal:	**18,015,000**	**$ 48,353,000**
FM 1413 Ramp	SB	1,900	1.07	2,000	50	3.21	200	1,950	2,200
FM 1413 Ramp	NB	1,900	1.07	2,000	50	3.21	200	1,950	2,200
SH 146 Mainlane	SB	4,750	4.24	20,100	400	12.72	5,100	5,150	25,200
SH 146 Mainlane	NB	4,750	4.24	20,100	400	12.72	5,100	5,150	25,200
SH 146 Ramp	SB	1,350	1.07	1,400	50	3.21	200	1,400	1,600
SH 146 Ramp	NB	1,350	1.07	1,400	50	3.21	200	1,400	1,600
FM 565 N. Ramp	SB	3,800	0.65	2,500	100	1.95	200	3,900	2,700
FM 565 N. Ramp	NB	3,800	0.65	2,500	100	1.95	200	3,900	2,700
Future Rd. Ramp	SB	1,650	0.65	1,100	50	1.95	100	1,700	1,200
Future Rd. Ramp	NB	1,650	0.65	1,100	50	1.95	100	1,700	1,200
FM 565 S. Ramp	SB	4,100	0.83	3,400	100	2.66	300	4,200	3,700
FM 565 S. Ramp	NB	4,100	0.83	3,400	100	2.66	300	4,200	3,700
Fisher Rd. Mainlane	SB	7,100	2.63	18,700	650	8.40	5,500	7,750	24,200
Fisher Rd. Mainlane	NB	7,100	2.63	18,700	650	8.40	5,500	7,750	24,200
FM 1405 Mainlane	SB	7,400	0.76	5,600	700	2.28	1,600	8,100	7,200
FM 1405 Mainlane	NB	7,400	0.76	5,600	700	2.28	1,600	8,100	7,200
SH 146 (Bus.) Mainlane	WB	9,650	0.79	7,600	850	2.37	2,000	10,500	9,600
SH 146 (Bus.) Mainlane	EB	9,650	0.79	7,600	850	2.37	2,000	10,500	9,600
SEGMENT I-1 TOTAL		**23,600**		**$ 52,000**	**1,200**		**$ 11,400**	**24,800**	**$ 63,400**
SEGMENT I-2A TOTAL		**25,700**		**$ 46,400**	**1,600**		**$ 11,800**	**27,300**	**$ 58,200**
SEGMENT I-2B TOTAL		**34,100**		**$ 26,400**	**3,100**		**$ 7,200**	**37,200**	**$ 33,600**
SEGMENT I TOTAL		**83,400**		**$ 124,800**	**5,900**		**$ 30,400**	**89,300**	**$ 155,200**
							Annual Subtotal:	**29,055,000**	**$ 50,355,000**
Note: Totals may be subject to rounding differences.							**Segm. H & I Annual Total:**	**47,070,000**	**$ 98,708,000**

4.7 Corridor Share Analysis

The model traffic assignment results were reviewed for reasonableness, using a screenline corridor share analysis. As part of this screenline review, special attention was paid to the overall level of growth in traffic throughout the projection period, and the relative share of total screenline demand expected to be captured by the expanded Grand Parkway System.

Figure 4-27 shows the screenlines evaluated as part of the corridor share analysis for Segments D through G and for Segments H and I. **Table 4-12** summarizes the results of the corridor share analysis for Segments D through G, while **Table 4-13** summaries the corridor share results for Segments H and I. As expected, the relative share of the screenline traffic carried by various mainlane sections of Grand Parkway increases from future year 2020 to future year 2035 due to increased corridor growth as well as congestion along the competing arterials and freeways.

The corridor share analysis at Screenlines 2, 6, 7 and 10 indicates that the mainlane sections of Segments E, F-1, F-2 and G will carry 11, 10, 14.9 and 11.8 percent of the screenline traffic in 2020. By 2035, these mainlane sections of Segments E, F-1, F-2 and G will carry 14.6, 12.3, 15.5 and 17.3 percent of the traffic for the respective screenlines.

The Segments H and I corridor share analysis at Screenlines 6 and 4 indicates that the mainlane sections of Segments I-1 and I-2 will carry 9.1 and 5.7 percent of the screenline traffic in 2020, increasing to 16.5 and 7.8 percent of screenline traffic by 2035. Even though Segment H and I's opening year is 2022 for traffic and revenue estimation purposes, 2020 is the first year to model Segment H and I's traffic. Therefore, the corridor share analysis for Segments H and I is shown for model year 2020.

Figures 4-28 and **4-29** provide a graphical illustration of the total screenline and Grand Parkway traffic growth, and also depict the market shares estimated to be captured by the Grand Parkway System at each screenline.

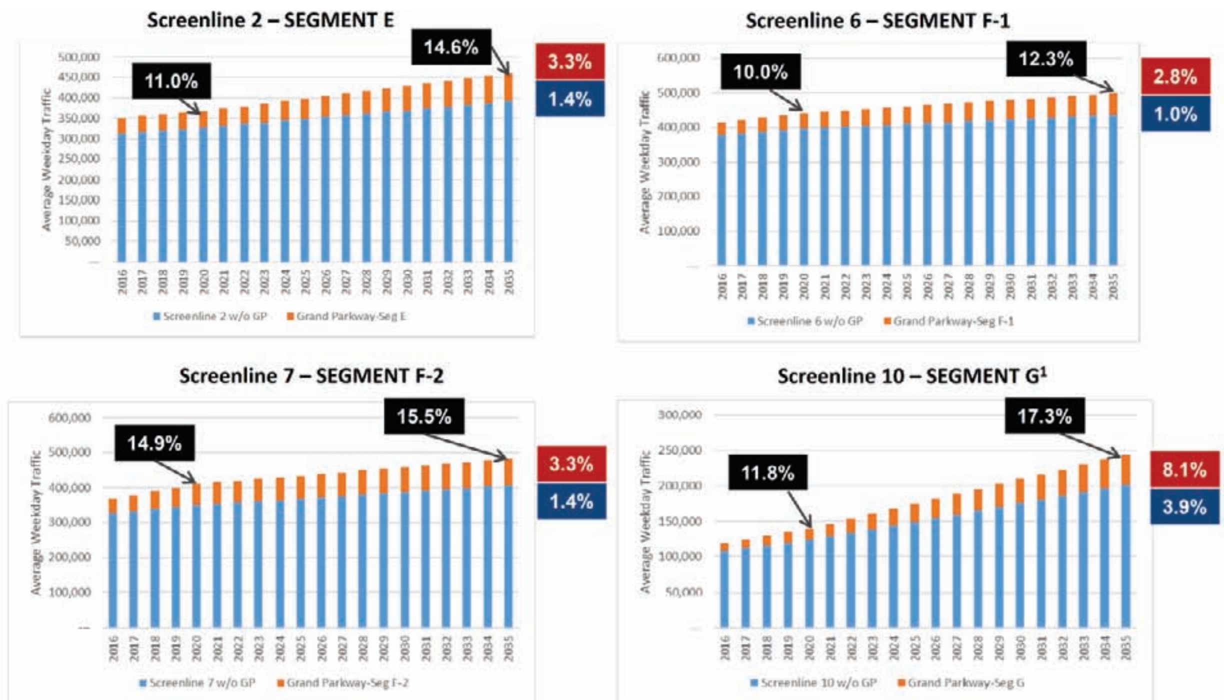
Figure 4-27
Corridor Share Analysis Screenlines

Table 4-12 Corridor Share Analysis Results – Segments D through G – Screenlines 2, 6, 7 and 10

	Year					
Screenline 2	2016		2020		2035	
Road Name	Volume	Market Share	Volume	Market Share	Volume	Market Share
Katy Hockley	1,900	0.5%	8,300	2.3%	15,700	3.4%
N. Fry Rd	17,500	5.0%	17,675	4.8%	21,700	4.7%
Barker Cypress Rd	30,900	8.8%	31,209	8.5%	35,400	7.7%
SH 6	30,900	8.8%	31,209	8.5%	43,100	9.4%
Eldridge Parkway	9,400	2.7%	12,400	3.4%	18,300	4.0%
Sam Houston Tollway	224,000	63.9%	227,100	61.7%	258,200	56.2%
Grand Parkway-Seg E	***36,000***	***10.3%***	***40,400***	***11.0%***	***67,300***	***14.6%***
Total Screenline	**350,600**	**100.0%**	**368,293**	**100.0%**	**459,700**	**100.0%**
	Year					
Screenline 6	2016		2020		2035	
Road Name	Volume	Market Share	Volume	Market Share	Volume	Market Share
FM 2920	26,500	6.4%	32,300	7.3%	42,400	8.5%
Boudreaux Rd	8,000	1.9%	8,000	1.8%	8,400	1.7%
Spring Cypress Rd	34,600	8.3%	34,946	7.9%	39,500	7.9%
Louetta Rd	28,400	6.8%	28,684	6.5%	33,100	6.6%
FM 1960	71,800	17.3%	71,800	16.2%	72,518	14.5%
Sam Houston Tollway	209,600	50.5%	222,500	50.3%	241,500	48.4%
Grand Parkway-Seg F-1	***36,400***	***8.8%***	***44,100***	***10.0%***	***61,100***	***12.3%***
Total Screenline	**415,300**	**100.0%**	**442,330**	**100.0%**	**498,518**	**100.0%**
	Year					
Screenline 7	2016		2020		2035	
Road Name	Volume	Market Share	Volume	Market Share	Volume	Market Share
FM 1488	25,900	7.0%	27,100	6.6%	33,100	6.9%
FM 2920	31,800	8.6%	34,500	8.4%	39,000	8.1%
Spring Cypress Rd	28,700	7.8%	27,300	6.6%	32,800	6.8%
Louetta Rd	37,400	10.2%	37,500	9.1%	42,000	8.7%
FM 1960	28,600	7.8%	39,000	9.5%	44,900	9.3%
Sam Houston Tollway	175,500	47.7%	185,200	45.0%	215,900	44.8%
Grand Parkway-Seg F-2	***40,400***	***11.0%***	***61,200***	***14.9%***	***74,500***	***15.5%***
Total Screenline	**368,300**	**100.0%**	**411,800**	**100.0%**	**482,200**	**100.0%**
	Year					
Screenline 10	2016		2020		2035	
Road Name	Volume	Market Share	Volume	Market Share	Volume	Market Share
Sorters McClellan Road	2,900	2.5%	1,600	1.1%	4,300	1.8%
Kingwood Drive	18,400	15.6%	20,100	14.4%	30,900	12.7%
Northpark Drive	17,000	14.4%	17,000	12.2%	22,900	9.4%
FM 1314	38,700	32.7%	46,000	32.9%	60,700	24.9%
FM 1485	22,700	19.2%	25,600	18.3%	49,400	20.2%
SH 242	8,800	7.4%	13,100	9.4%	33,700	13.8%
Grand Parkway-Seg G	***9,700***	***8.2%***	***16,500***	***11.8%***	***42,300***	***17.3%***
Total Screenline	**118,200**	**100.0%**	**139,900**	**100.0%**	**244,200**	**100.0%**

Table 4-13 Corridor Share Analysis Results – Segments H and I – Screenlines 4 and 6

Screenline 4	Year					
	2016		2020		2035	
Road Name	Volume	Market Share	Volume	Market Share	Volume	Market Share
Decker Dr.	19,300	9.9%	23,200	10.4%	29,900	10.5%
SH 330	37,100	19.0%	39,400	17.6%	44,200	15.5%
Thompson Rd.	22,200	11.4%	24,800	11.1%	29,800	10.5%
Wade Rd.	6,400	3.3%	7,800	3.5%	8,200	2.9%
John Martin Rd.	5,000	2.6%	8,000	3.6%	12,600	4.4%
Garth Rd.	33,600	17.2%	34,300	15.3%	38,900	13.6%
N Main St.	18,900	9.7%	20,400	9.1%	25,900	9.1%
Sjolander Dr.	5,000	2.6%	5,000	2.2%	8,500	3.0%
Route 146	25,500	13.1%	25,300	11.3%	35,100	12.3%
FM 3180	18,300	9.4%	23,100	10.3%	29,900	10.5%
Grand Parkway-Seg I-2	***3,600***	***1.8%***	***12,700***	***5.7%***	***22,100***	***7.8%***
Total Screenline	**194,900**	**100.0%**	**224,000**	**100.0%**	**285,100**	**100.0%**
Screenline 6	**Year**					
	2016		**2020**		**2035**	
Road Name	**Volume**	**Market Share**	**Volume**	**Market Share**	**Volume**	**Market Share**
Crosby Landing Rd.	26,200	72.0%	31,000	61.1%	41,900	53.5%
Kennings Rd.	2,200	6.0%	2,100	4.1%	1,800	2.3%
Runneburg Rd.	2,200	6.0%	2,100	4.1%	1,800	2.3%
Bohemian Hall Rd.	2,000	5.5%	4,700	9.3%	5,400	6.9%
FM 1413	3,800	10.4%	6,200	12.2%	14,500	18.5%
Grand Parkway-Seg I-1	**---**	**---**	**4,600**	**9.1%**	**12,900**	**16.5%**
Total Screenline	**36,400**	**100.0%**	**50,700**	**100.0%**	**78,300**	**100.0%**



[1]*Screenline 10 -Segment G was in close proximity to Segment H, so no separate screenline count data was collected for Segment H*

LEGEND

SH 99 Corridor Market Share	X.X%
SH 99 (2016-2035 AAGR)	X.X%
Screenline (2016-2035 AAGR)	X.X%

Figure 4-28
Screenline Growth and Projected 2035 Corridor Shares – Segments E, F-1, F-2 and G

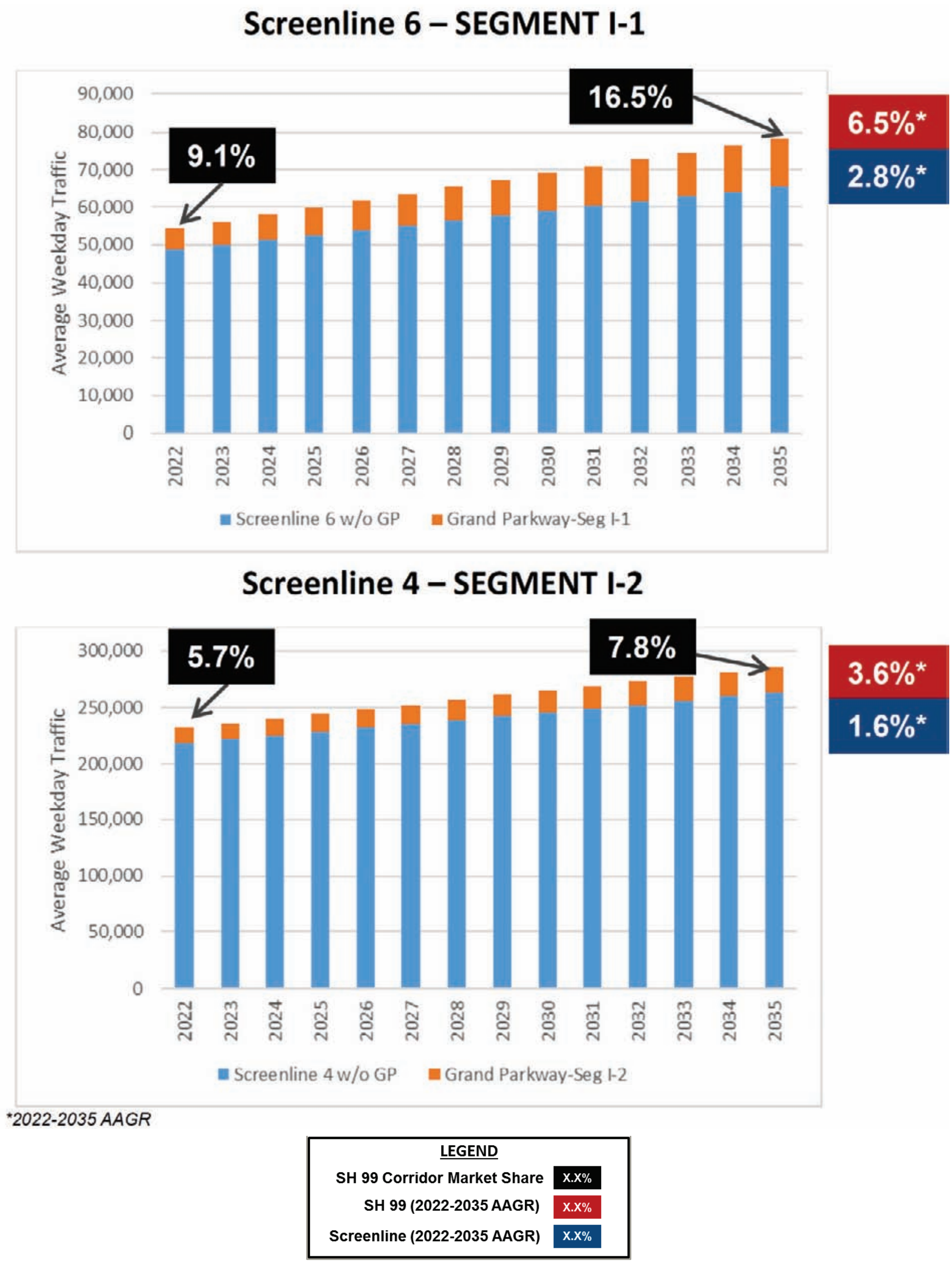


Figure 4-29
Screenline Growth and Projected 2035 Corridor Shares – Segments I-1 and I-2

4.8 Travel Time Savings

An important part of the decision to use a toll facility is the potential time savings that is offered to travelers. **Table 4-14** summarizes the travel time savings associated with using the existing Grand Parkway System segments compared to selected alternative routes for the base year 2016.

Table 4-14. Current (2016) Time Savings for Existing Grand Parkway System Segments

Segment	Roads Connected	TIME SAVINGS
D/E	US 290 & IH 10	10-22 min
F-1	SH 249 & US 290	1-9 min
F-2	IH 45 & SH 249	4-12 min
G	US 59 IH 45	15-22 min

This section also summarizes the future year 2035 travel time savings associated with using the Grand Parkway Segments H and I compared to alternative routes in the study area for some typical origin-destination (O-D) trip pairs. Three origin-destination pairs are summarized for Segments H, I-1 and I-2, respectively. For each O-D pair, the Grand Parkway System route was compared to an alternate route for the morning peak, evening peak and overnight off-peak periods, as illustrated in **Figures 4-30 through 4-32.**

As shown in Figure 4-30, Segment H offers time savings of up to 42 minutes over the alternate route in the morning peak period and a time savings of 41 minutes in the evening peak period. Comparatively, as shown in Figure 4-31 and Figure 4-32 respectively, Segments I-1 and I-2 show smaller time savings, with the maximum time savings of 13 minutes, which occurs along Segment I-1 during the morning peak period. In Figure 4-32, the path using Segment I-2 while being slightly longer at 18 miles compared to the free alternative route of 17 miles, still offered a time savings of 8 minutes during the peak periods.

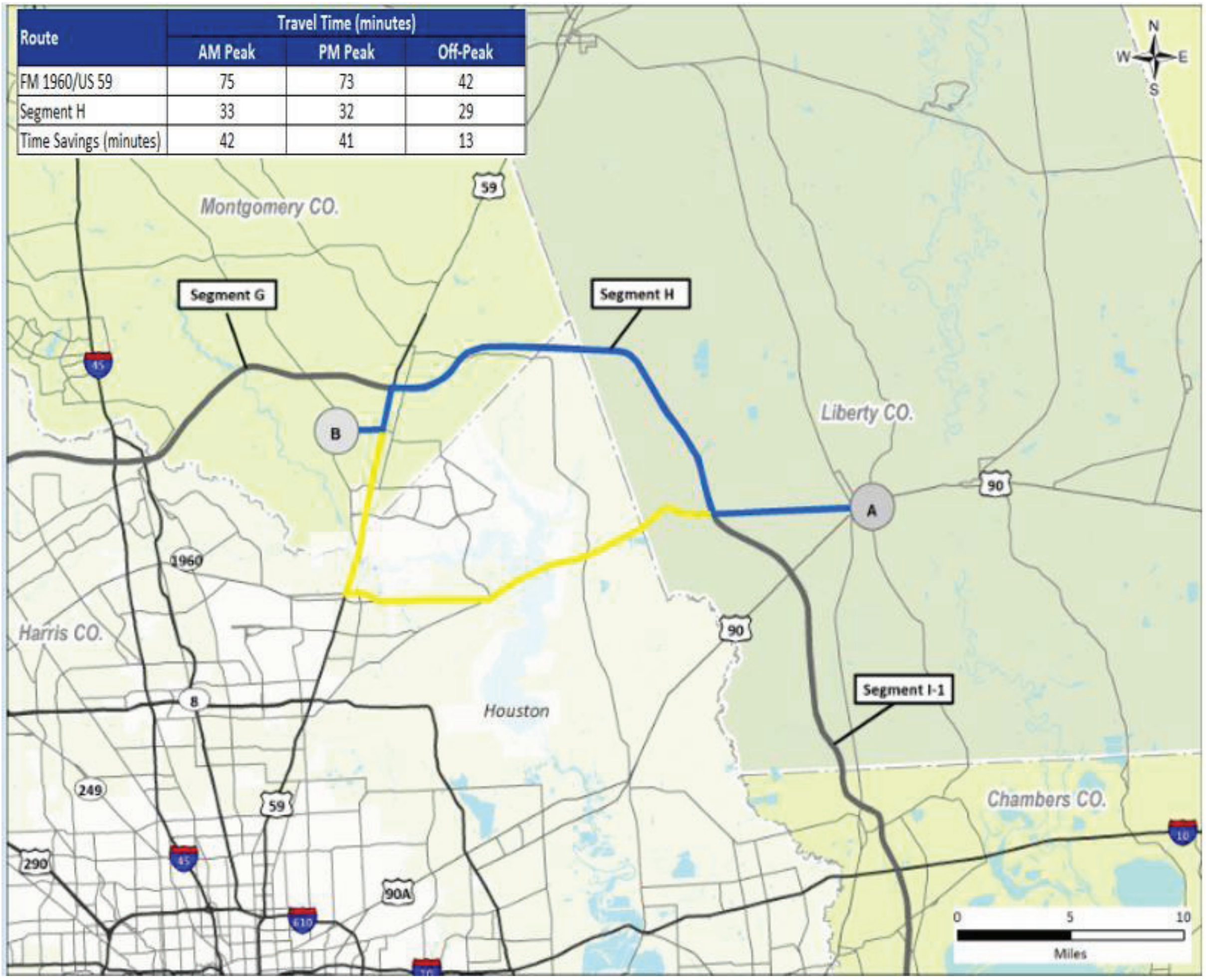
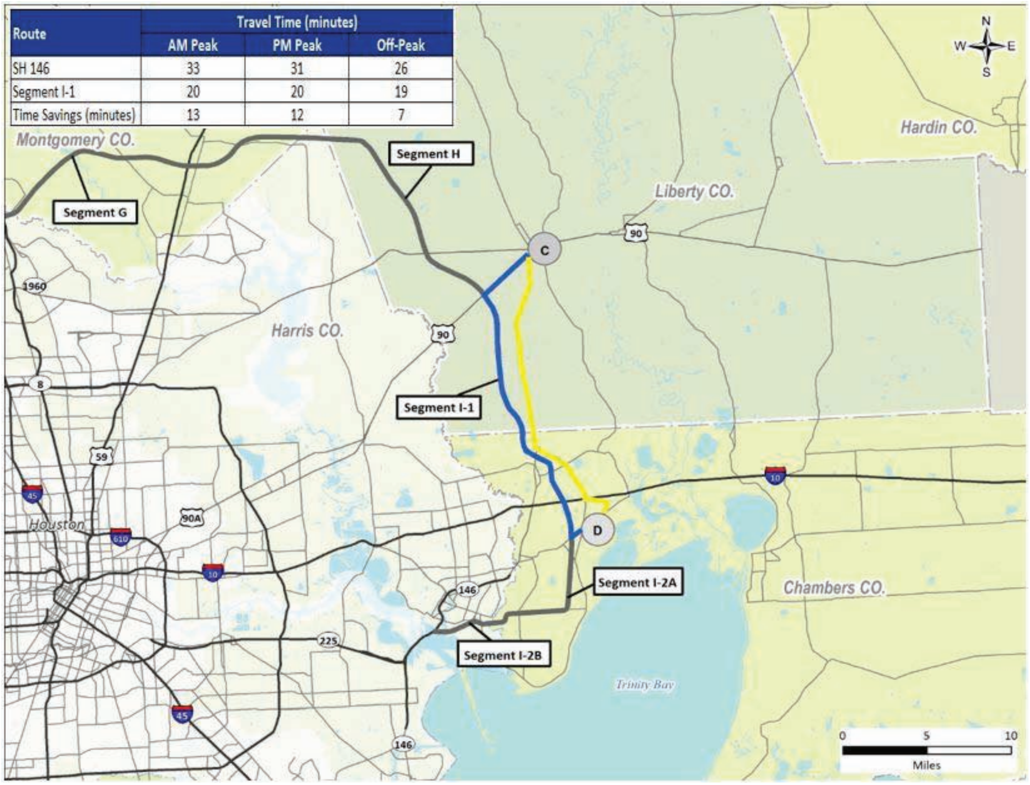
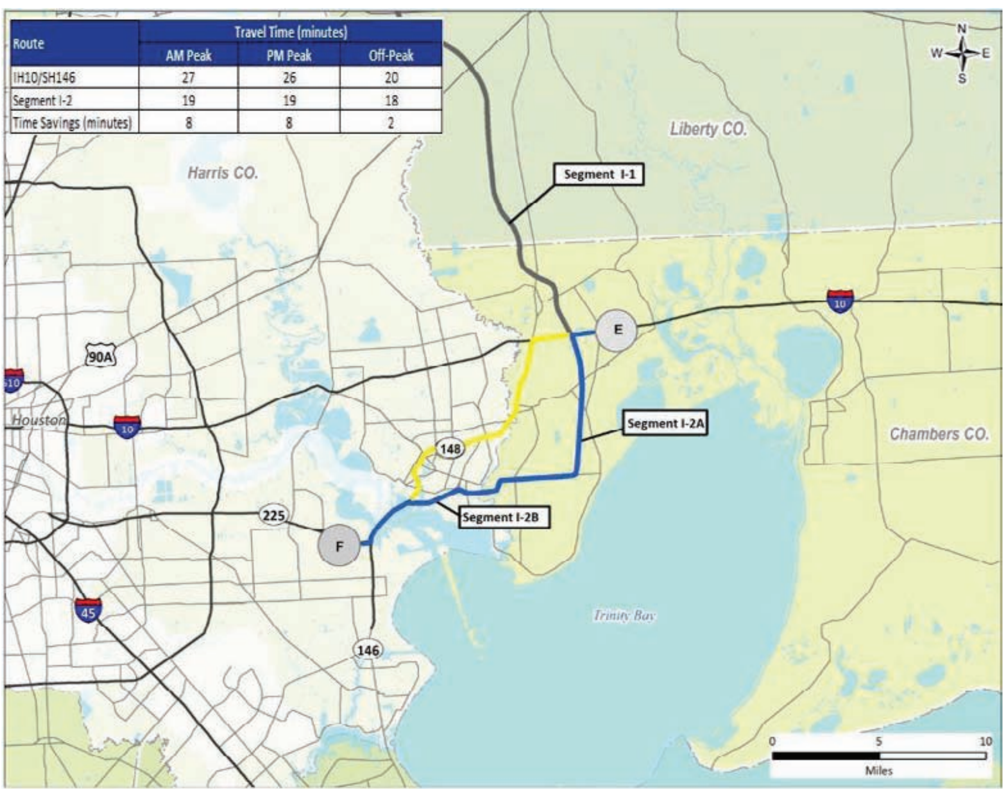


Figure 4-30
Travel Time Analysis Results: Movement A-B



Route	Travel Time (minutes)		
	AM Peak	PM Peak	Off-Peak
SH 146	33	31	26
Segment I-1	20	20	19
Time Savings (minutes)	13	12	7

Figure 4-31
Travel Time Analysis Results: Movement C-D



Route	Travel Time (minutes)		
	AM Peak	PM Peak	Off-Peak
IH10/SH146	27	26	20
Segment I-2	19	19	18
Time Savings (minutes)	8	8	2

Figure 4-32
Travel Time Analysis Results: Movement E-F

4.9 Select Link Analysis

One of the key reasonableness checks of a toll traffic analysis is to analyze the future year origin-destination patterns of trips using various segments of the proposed toll facility. To evaluate the effect of Segments H and I on trip patterns in the project area, a select link analysis was conducted for the future locations of mainlane gantries along Segments H, I-1 and I-2 for the 2035 model year. The results of the select link analysis are shown in **Figure 4-33** through **Figure 4-35** where the origins and destinations of trips passing through the mainlane gantries are illustrated and the location of the select link analysis is denoted with a red dot. Segment H draws significant portions of its total traffic from Segment G and US 59 while Segment I-1 draws a larger proportion of its daily traffic from IH 10 and Segment I-2. A relatively small proportion of the daily traffic along Segment I-2 was shown to continue through into Segments I-1 and H.

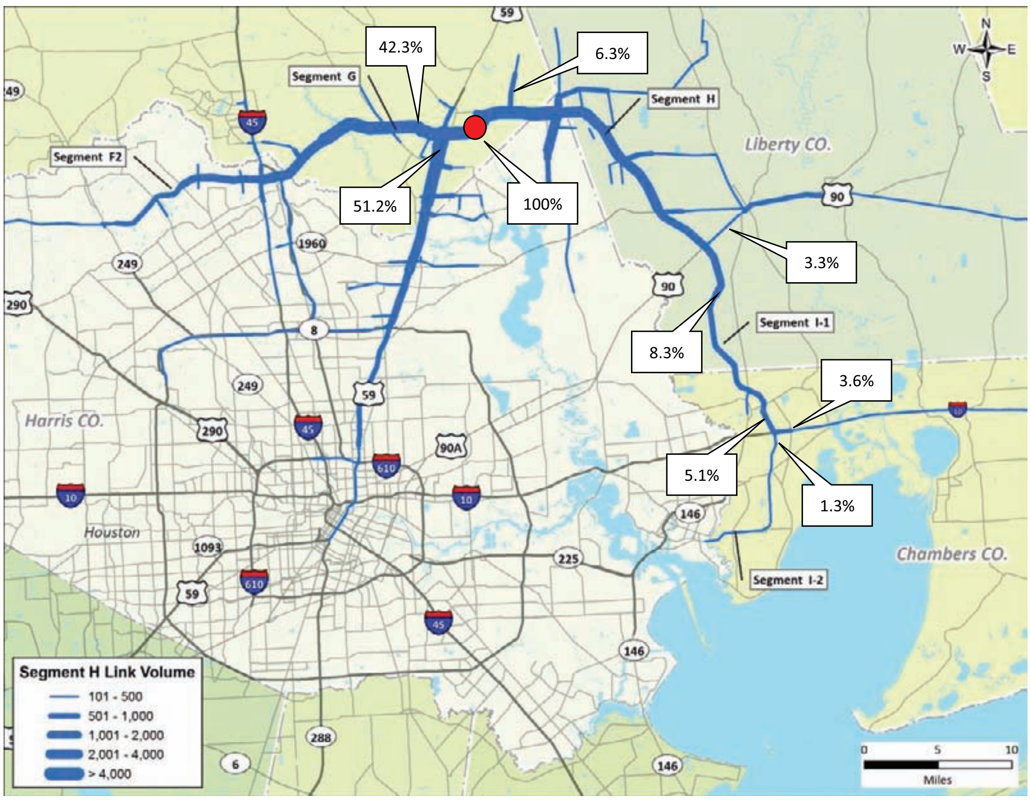


Figure 4-33
2035 Select Link Results: Segment H

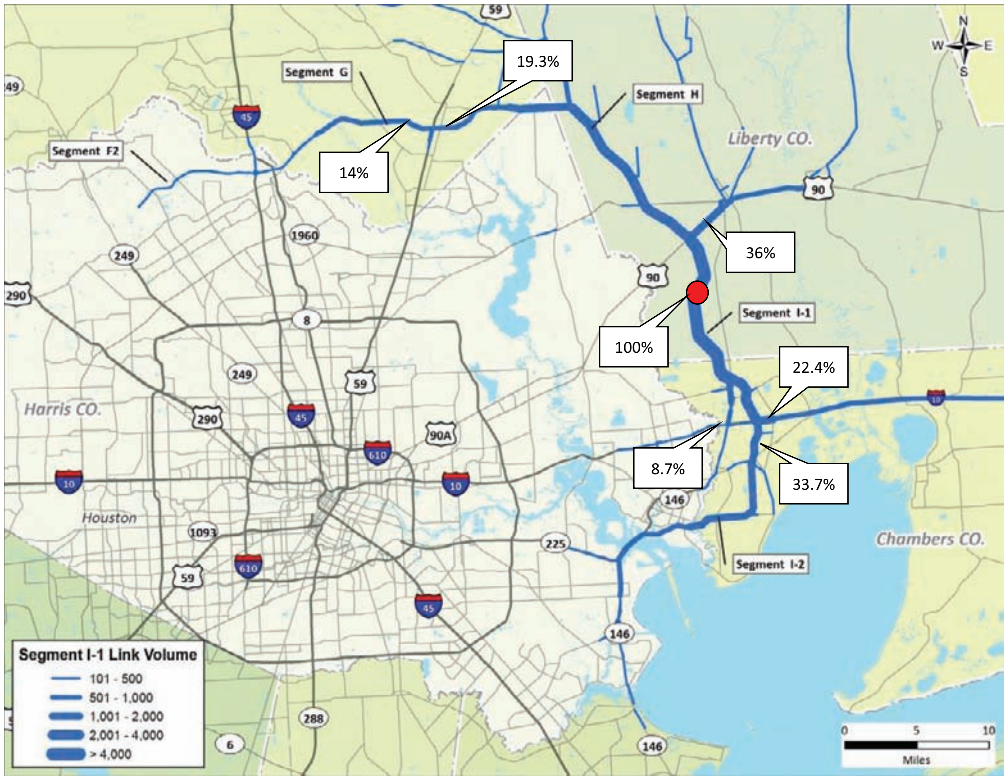


Figure 4-34
2035 Select Link Results: Segment I-1

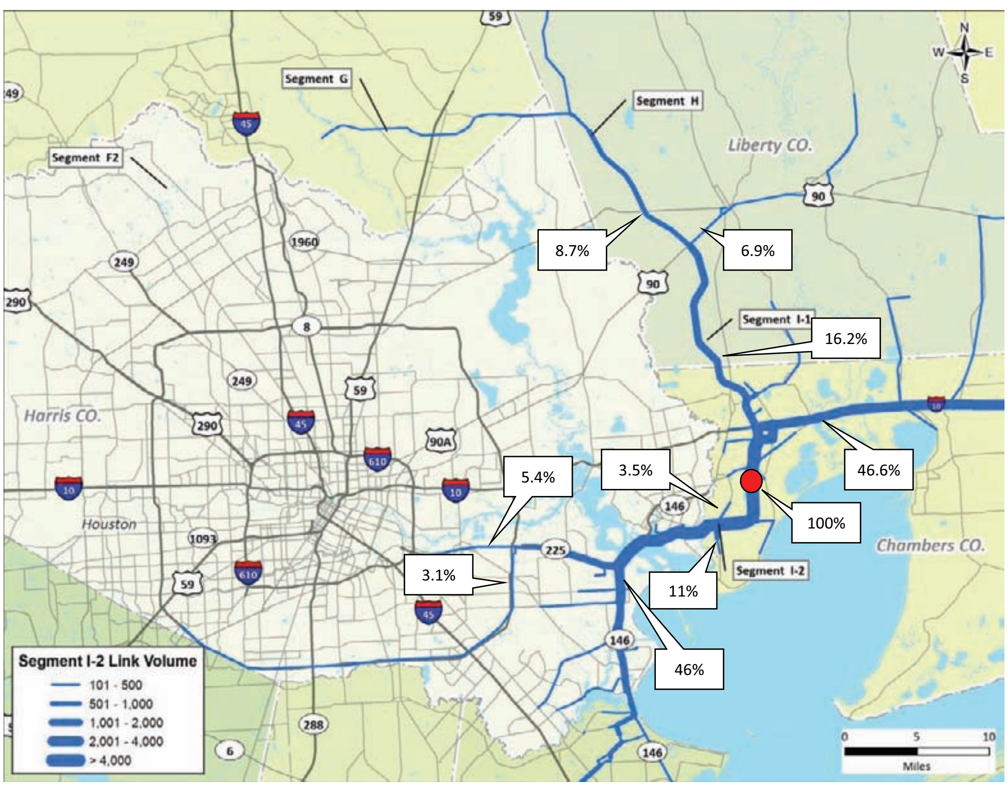


Figure 4-35
2035 Select Link Results: Segment I-2

In addition to the time savings illustrated above, the 2035 peak period travel time savings for each of the respective segments of the existing Grand Parkway System was estimated and the results are illustrated in **Figure 4-36**, along with the estimated percentage of traffic that is anticipated to benefit from these time savings. Segment G is anticipated to have the highest travel time savings due to the limited alternative crossing options across the San Jacinto River. The travel time savings range from 33 to 37 minutes. Segment D and E are also anticipated to have travel time savings in the range of 20 to 22 minutes, owing to the arterial nature of the limited competing routes and their expected congested conditions during the peak periods.

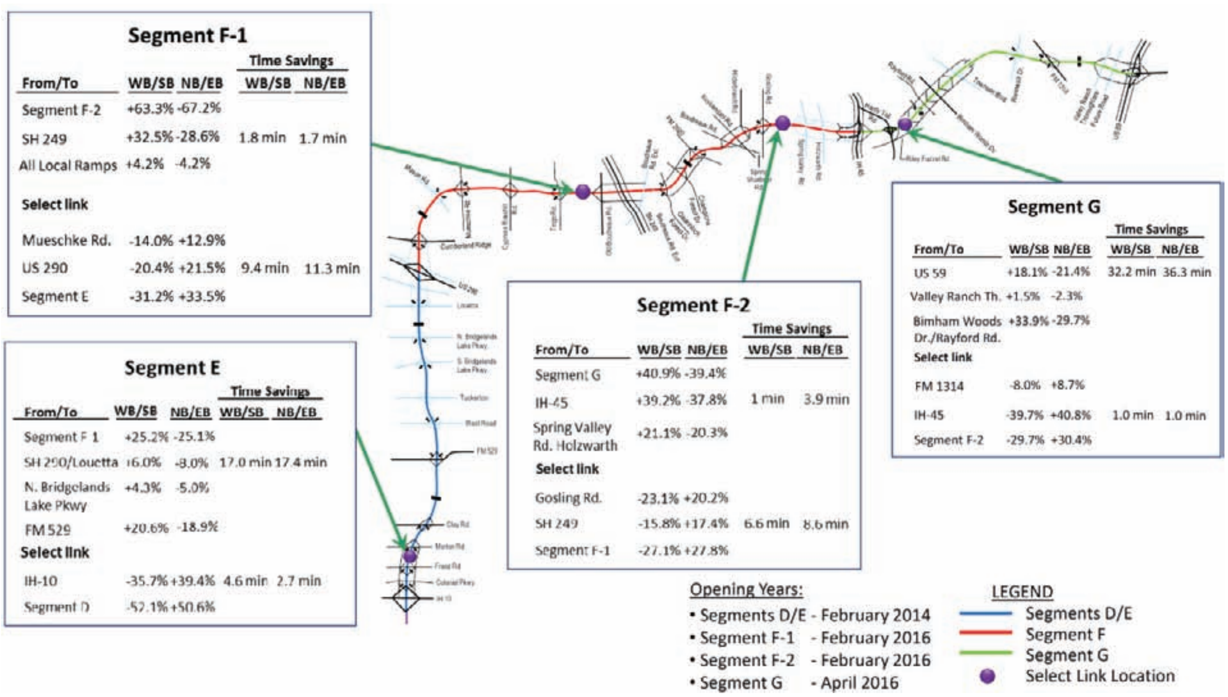


Figure 4-36
Major Travel Markets and Travel Time Savings in the existing Grand Parkway System Corridor (Segments D through G)

Similarly, the 2035 peak period travel time savings for each of the respective proposed new segments of the expanded Grand Parkway System (Segments H and I) was estimated and the results are illustrated in **Figure 4-37**, along with the estimated percentage of traffic anticipated to benefit from the time savings.

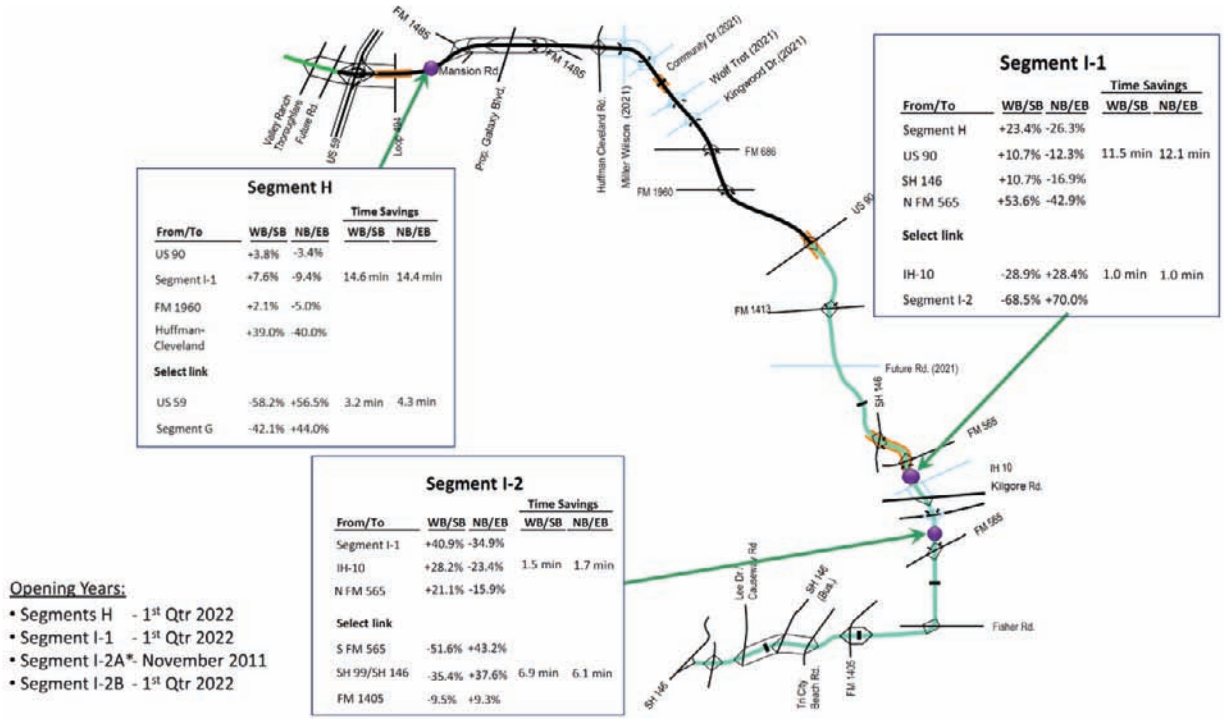


Figure 4-37
Major Travel Markets and Travel Time Savings in the new segments of the expanded Grand Parkway System Corridor (Segments H and I)

4.10 Estimated Annual Transactions and Toll Revenue

Table 4-15 presents the base case gross traffic and toll revenue estimates for the entire Grand Parkway System Segments D through I for calendar years 2016 through 2064. **Table 4-16** and **Table 4-17** present the base case gross traffic and revenue estimates for each of the expanded Grand Parkway System segments for TxDOT fiscal years 2016 through 2064 (for example, TxDOT fiscal year 2016 corresponds to the period from September 1, 2015 to August 31, 2016). The traffic/transaction estimates for forecast years 2020, 2025 and 2035 were developed by running the corresponding future year travel demand models. The traffic estimates for 2021 through 2024 were obtained by interpolating 2020 and 2025 models and traffic for other years through 2034 were estimated by interpolation of the 2025 and 2035 model year volumes.

Traffic/transaction estimates between 2035 and 2039 were extrapolated from the 2035 modeled data using nominal growth rates for transactions of 3.0 percent annually for Segments H and I-1, and nominal growth rates for transactions of 2.5 percent annually for all other segments. Beyond 2039, nominal growth rates for transactions for all segments was the 2.0 percent (2040 through 2044), 1.5 percent (2045 through 2049), 1.0 percent (2050 through 2054) and 0.5 percent thereafter. Revenue estimates are based on the assumed transaction growth rates as well as annual increases in toll rates between 2036 and 2064.

4.10.1 Analysis of Leakage Potential

Based on the annual gross revenue and transaction data presented in **Table 4-16 and Table 4-17,** a follow up analysis was conducted estimating the potential for uncollectible violations, or leakage, on the facility under the automatic vehicle identification (AVI) regime (**Table 4-18**). Leakage is based on violations only. Misreads of ETC transactions are assumed to be 100 percent recovered. The ratio of collectible to uncollectible violations is assumed to remain constant throughout the forecast period. It is assumed that in 2020, 6.1 percent of all transactions are violations. It is also assumed that about 61 percent of violations are uncollectible resulting in a leakage rate of 3.7 percent. Over time, it is assumed that more vehicles will be equipped with transponders thus resulting in violations that will decline as a percent of total transactions as AVI market share increases. By 2035, violations and leakage are assumed to account for 2.4 percent and 1.5 percent of all transactions, respectively. It is assumed that 1.3 percent of all tolled transactions and revenue will be waived due to discounts for veterans in 2016, and this share is assumed to drop to 0.8 percent in 2020 and beyond.

The resultant number of annual non-collectible violation transactions along Segments D through I is estimated to increase from approximately 4.1 million in FY 2016 to 6.7 million by FY 2035. Corresponding revenue losses are estimated to range from $5.0 million in FY 2016 to $11.4 million by FY 2035. The percentages used to estimate valid ETC transactions, violations, leakage and veterans' discounts are based on experience from the existing open Grand Parkway Segments D and E. There is a potential that received revenue from fines and administrative fees will cover uncollectible violation losses, however, since the administrative fees and fines are dependent on the agency business rules and efficiencies in recovery, the estimates in **Table 4-18** do not include any additional fee revenue recovery considerations.

The net traffic and revenue stream (estimated as the gross T&R estimates minus the associated leakage) is shown for the TxDOT fiscal years in **Table 4-19**. **Figure 4-38 and Figure 4-39** illustrates the estimated gross annual transactions and gross revenue (in nominal year dollars) for Segments D through G and Segments H and I, respectively.

Table 4-15 Base Case Estimated Calendar Year Gross Annual Transactions and Revenue for Segments D through I (in thousands)

Estimated Calendar Year Gross Annual Transactions and Toll Revenue (thousands) - Grand Parkway Segments D through I						
	Annual Transactions ('000s)			Gross Revenues in Nominal Dollars ($'000s)		
Calendar Year	Total D through G	Total H and I	Total D through I	Total D through G	Total H and I	Total D through I
2016 (1)	102,874	-	**102,874**	121,011	-	**121,011**
2017	132,395	-	**132,395**	157,267	-	**157,267**
2018 (2)(3)	141,759	-	**141,759**	169,416	-	**169,416**
2019	150,880	-	**150,880**	182,563	-	**182,563**
2020	160,574	-	**160,574**	196,798	-	**196,798**
2021	165,058	-	**165,058**	206,298	-	**206,298**
2022 (6)	169,619	9,300	**178,919**	216,539	15,580	**232,119**
2023	174,929	18,824	**193,753**	227,158	31,907	**259,065**
2024	180,088	22,763	**202,851**	238,569	39,323	**277,892**
2025	185,465	26,400	**211,865**	251,168	46,559	**297,727**
2026	191,429	28,072	**219,501**	264,553	50,408	**314,961**
2027	197,633	29,694	**227,327**	278,034	54,216	**332,250**
2028 (4)	204,211	31,421	**235,632**	292,625	58,391	**351,016**
2029	211,136	33,257	**244,393**	308,237	62,854	**371,091**
2030 (5)	218,254	35,212	**253,466**	325,580	67,755	**393,335**
2031	225,617	37,293	**262,910**	342,309	73,079	**415,388**
2032	233,218	39,505	**272,723**	360,906	78,724	**439,630**
2033	241,132	41,867	**282,999**	380,763	84,903	**465,666**
2034	249,368	44,381	**293,749**	400,717	91,489	**492,206**
2035	258,515	47,070	**305,585**	422,538	98,708	**521,246**
2036	264,979	48,376	**313,355**	442,882	103,792	**546,674**
2037	271,605	49,718	**321,323**	463,917	109,007	**572,924**
2038	278,394	51,097	**329,491**	486,401	114,601	**601,002**
2039	285,355	52,523	**337,878**	508,843	120,496	**629,339**
2040	291,065	53,568	**344,633**	530,609	125,706	**656,315**
2041	296,882	54,639	**351,521**	553,084	130,911	**683,995**
2042	302,823	55,735	**358,558**	576,219	136,559	**712,778**
2043	308,875	56,848	**365,723**	601,950	142,272	**744,222**
2044	315,054	57,986	**373,040**	626,169	148,197	**774,366**
2045	319,242	58,855	**378,097**	648,610	153,805	**802,415**
2046	323,487	59,739	**383,226**	672,388	159,543	**831,931**
2047	327,792	60,636	**388,428**	695,933	165,593	**861,526**
2048	331,365	61,546	**392,911**	719,264	171,774	**891,038**
2049	334,982	62,468	**397,450**	743,845	178,153	**921,998**
2050	337,424	63,093	**400,517**	765,677	183,824	**949,501**
2051	339,879	63,724	**403,603**	788,757	189,883	**978,640**
2052	342,359	64,365	**406,724**	812,067	195,905	**1,007,972**
2053	344,862	65,002	**409,864**	836,219	202,251	**1,038,470**
2054	347,386	65,655	**413,041**	860,549	208,770	**1,069,319**
2055	348,414	65,980	**414,394**	882,199	214,436	**1,096,635**
2056	349,457	66,308	**415,765**	903,747	220,186	**1,123,933**
2057	350,495	66,640	**417,135**	926,805	226,194	**1,152,999**
2058	351,541	66,980	**418,521**	950,641	232,321	**1,182,962**
2059	352,588	67,314	**419,902**	974,081	238,648	**1,212,729**
2060	353,634	67,648	**421,282**	998,406	245,185	**1,243,591**
2061	354,691	67,984	**422,675**	1,023,693	251,813	**1,275,506**
2062	355,751	68,326	**424,077**	1,049,175	258,561	**1,307,736**
2063	356,810	68,670	**425,480**	1,075,098	265,656	**1,340,754**
2064	357,875	69,014	**426,889**	1,103,008	272,875	**1,375,883**
	13,289,220	**2,225,496**	**15,514,716**	**27,563,285**	**6,220,814**	**33,784,099**

Notes:
Source: CDM Smith Estimates, September 8, 2017
(1) February 15, 2016 tolling start date of Segments F-1 and F-2 and April 4 2016 tolling start date of Segment G.
(2) N Bridgeland Lake Parkway (Segment E) and Tuckerton Road (Segment E) interchanges are assumed to be open from January 1, 2018 and July 1, 2018 respectively.
(3) Southbound frontage road between Morton Road and Clay Road (Segment E) assumed to be open on January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) assumed to be open on January 1, 2018.
(4) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.
(5) No interchanges are assumed for Mason Road (Segment F-1).
(6) May 9, 2022 tolling start date of Segments H, I-1,I-2A and I-2B.
Revenue and transaction numbers do not include deductions for leakage.

Table 4-16 Base Case Estimated Fiscal Year Gross Transactions for Segments D through I (in thousands)

Estimated Fiscal Year Gross Annual Transactions and Toll Revenue (thousands) - Grand Parkway Segments D through I										
	Annual Transactions ('000s)									
Fiscal Year	D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total
2016 (1)	1,294	29,961	12,172	16,735	8,338	-	-	-	-	**68,500**
2017	1,425	37,975	26,819	37,990	26,887	-	-	-	-	**131,096**
2018 (2)(3)	1,508	39,485	28,053	40,010	29,614	-	-	-	-	**138,670**
2019	1,597	41,118	29,696	42,354	33,118	-	-	-	-	**147,883**
2020	1,690	42,304	31,495	44,837	37,045	-	-	-	-	**157,371**
2021	1,753	43,463	32,589	46,100	39,798	-	-	-	-	**163,703**
2022 (6)	1,799	44,566	33,323	46,638	41,547	1,251	618	1,485	1,037	**172,264**
2023	1,845	45,694	34,078	47,385	44,283	5,520	2,632	4,627	4,421	**190,485**
2024	1,894	46,867	34,852	48,042	46,723	7,475	3,388	4,964	5,713	**199,918**
2025	1,945	48,081	35,646	48,710	49,299	9,297	3,999	5,297	6,760	**209,034**
2026	1,987	49,539	36,485	49,551	51,887	10,275	4,362	5,591	7,335	**217,012**
2027	2,028	51,146	37,363	50,494	54,547	10,896	4,645	5,879	7,734	**224,732**
2028 (4)	2,068	52,876	38,260	51,451	57,346	11,559	4,949	6,179	8,161	**232,849**
2029	2,108	54,843	39,181	52,430	60,291	12,266	5,278	6,496	8,609	**241,502**
2030 (5)	2,150	56,806	40,124	53,425	63,388	13,020	5,632	6,830	9,083	**250,458**
2031	2,192	58,812	41,090	54,443	66,650	13,827	6,015	7,180	9,582	**259,791**
2032	2,236	60,823	42,081	55,479	70,078	14,689	6,424	7,549	10,107	**269,466**
2033	2,279	62,908	43,097	56,534	73,688	15,611	6,872	7,936	10,666	**279,591**
2034	2,322	65,075	44,137	57,615	77,487	16,598	7,354	8,341	11,252	**290,181**
2035	2,370	67,714	45,204	58,712	81,481	17,656	7,879	8,773	11,872	**301,661**
2036	2,425	69,810	46,320	60,066	84,212	18,377	8,218	9,064	12,285	**310,777**
2037	2,485	71,556	47,481	61,569	86,318	18,928	8,463	9,289	12,590	**318,679**
2038	2,547	73,345	48,667	63,108	88,475	19,496	8,717	9,524	12,904	**326,783**
2039	2,610	75,179	49,881	64,686	90,688	20,081	8,978	9,763	13,228	**335,094**
2040	2,669	76,805	50,962	66,085	92,652	20,548	9,189	9,971	13,513	**342,394**
2041	2,719	78,341	51,982	67,405	94,504	20,958	9,370	10,171	13,784	**349,234**
2042	2,776	79,907	53,022	68,754	96,394	21,378	9,558	10,376	14,061	**356,226**
2043	2,831	81,506	54,080	70,130	98,320	21,805	9,751	10,582	14,341	**363,346**
2044	2,885	83,136	55,163	71,533	100,287	22,241	9,945	10,793	14,629	**370,612**
2045	2,934	84,521	56,080	72,362	101,955	22,611	10,112	10,973	14,870	**376,418**
2046	2,979	85,788	56,923	72,905	103,486	22,950	10,263	11,140	15,092	**381,526**
2047	3,025	87,075	57,776	73,451	105,038	23,295	10,418	11,306	15,320	**386,704**
2048	3,070	88,379	58,642	74,002	106,084	23,644	10,573	11,475	15,550	**391,419**
2049	3,116	89,708	59,525	74,556	106,879	23,999	10,731	11,647	15,785	**395,946**
2050	3,153	90,751	60,216	74,992	107,503	24,278	10,857	11,782	15,969	**399,501**
2051	3,183	91,658	60,817	75,367	108,039	24,521	10,965	11,900	16,129	**402,579**
2052	3,214	92,573	61,425	75,743	108,580	24,766	11,075	12,021	16,290	**405,687**
2053	3,248	93,499	62,041	76,123	109,122	25,014	11,184	12,141	16,452	**408,824**
2054	3,279	94,434	62,662	76,504	109,669	25,264	11,296	12,264	16,616	**411,988**
2055	3,300	94,905	63,078	76,757	110,032	25,432	11,373	12,343	16,724	**413,944**
2056	3,319	95,143	63,392	76,949	110,309	25,559	11,428	12,404	16,808	**415,311**
2057	3,335	95,380	63,710	77,143	110,583	25,687	11,486	12,466	16,891	**416,681**
2058	3,350	95,617	64,029	77,337	110,861	25,815	11,544	12,529	16,980	**418,062**
2059	3,370	95,858	64,348	77,528	111,137	25,944	11,601	12,593	17,063	**419,442**
2060	3,383	96,095	64,671	77,721	111,416	26,074	11,659	12,655	17,150	**420,824**
2061	3,402	96,337	64,993	77,917	111,693	26,205	11,718	12,716	17,235	**422,216**
2062	3,418	96,578	65,319	78,109	111,973	26,336	11,776	12,783	17,318	**423,610**
2063	3,436	96,819	65,645	78,305	112,254	26,467	11,834	12,846	17,409	**425,015**
2064	3,453	97,060	65,973	78,501	112,534	26,600	11,894	12,911	17,493	**426,419**
	127,404	**3,547,819**	**2,404,568**	**3,074,543**	**4,024,492**	**844,213**	**376,023**	**419,555**	**562,811**	**15,381,428**

Notes:
Source: CDM Smith Estimates, September 8, 2017
(1) February 15, 2016 tolling start date of Segments F-1 and F-2 and April 4 2016 tolling start date of Segment G.
(2) N Bridgeland Lake Parkway (Segment E) and Tuckerton Road (Segment E) interchanges are assumed to be open from January 1, 2018 and July 1, 2018 respectively.
(3) Southbound frontage road between Morton Road and Clay Road (Segment E) assumed to be open on January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) assumed to be open on January 1, 2018.
(4) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.
(5) No interchanges are assumed for Mason Road (Segment F-1).
(6) May 9, 2022 tolling start date of Segments H, I-1, I-2A and I-2B.
Revenue and transaction numbers do not include deductions for leakage.

Table 4-17 Base Case Estimated Fiscal Year Gross Revenue for Segments D through I (in thousands in nominal dollars)

Fiscal Year	Gross Revenues in Nominal Dollars ($'000s)									
	D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total
2016 (1)	5,481	37,522	13,872	18,327	7,285	-	-	-	-	**82,487**
2017	6,850	49,194	31,514	43,347	24,163	-	-	-	-	**155,068**
2018 (2)(3)	7,086	51,203	33,510	46,527	27,077	-	-	-	-	**165,403**
2019	7,393	53,705	35,978	50,379	30,761	-	-	-	-	**178,216**
2020	7,787	56,314	38,491	54,712	34,777	-	-	-	-	**192,081**
2021 (6)	8,175	58,874	40,551	57,618	38,083	-	-	-	-	**203,301**
2022	8,540	61,453	42,417	59,645	40,787	2,790	1,206	2,677	712	**220,228**
2023	8,910	64,056	44,242	61,847	44,734	12,448	5,255	8,253	3,088	**252,833**
2024	9,304	66,804	46,192	64,042	48,444	17,079	6,976	8,854	4,083	**271,778**
2025	9,739	69,862	48,282	66,396	52,707	21,545	8,500	9,464	4,914	**291,408**
2026	10,213	73,439	50,577	68,984	56,902	24,164	9,486	10,114	5,447	**309,326**
2027	10,713	77,422	52,781	71,730	60,915	25,970	10,278	10,829	5,875	**326,513**
2028 (4)	11,234	81,320	55,193	74,706	65,318	27,967	11,145	11,555	6,339	**344,777**
2029	11,778	85,686	57,805	77,677	70,119	30,103	12,091	12,348	6,831	**364,438**
2030 (5)	12,383	90,455	60,535	81,033	75,422	32,418	13,127	13,221	7,364	**385,958**
2031	12,978	95,275	63,213	84,304	80,998	34,960	14,264	14,160	7,927	**408,079**
2032	13,621	100,454	66,049	87,635	86,977	37,685	15,479	15,150	8,538	**431,588**
2033	14,320	105,924	69,082	91,363	93,489	40,633	16,837	16,197	9,186	**457,031**
2034	15,017	111,538	72,193	94,927	100,420	43,787	18,307	17,327	9,883	**483,399**
2035	15,674	117,693	75,544	98,751	107,638	47,192	19,891	18,556	10,676	**511,615**
2036	16,427	123,665	79,204	103,171	113,668	50,062	21,162	19,551	11,331	**538,241**
2037	17,215	129,663	83,021	108,037	119,004	52,720	22,278	20,473	11,805	**564,216**
2038	18,013	135,654	86,989	113,402	124,883	55,482	23,458	21,453	12,353	**591,687**
2039	18,849	142,027	90,938	118,837	130,748	58,410	24,696	22,463	12,973	**619,941**
2040	19,713	148,344	94,971	124,001	136,360	61,091	25,835	23,486	13,567	**647,368**
2041	20,532	154,604	98,957	129,307	142,227	63,698	26,903	24,471	14,112	**674,811**
2042	21,386	161,097	103,179	134,681	148,203	66,416	28,050	25,519	14,700	**703,231**
2043	22,315	168,028	107,780	140,591	154,700	69,203	29,269	26,576	15,330	**733,792**
2044	23,252	175,171	112,229	146,406	161,078	72,087	30,484	27,682	15,976	**764,365**
2045	24,169	182,001	116,467	151,158	167,370	74,920	31,654	28,781	16,591	**793,111**
2046	25,093	188,947	120,902	155,744	173,815	77,695	32,853	29,900	17,191	**822,140**
2047	26,022	195,951	125,526	160,493	180,133	80,618	34,099	31,012	17,859	**851,713**
2048	26,997	203,186	130,074	165,283	185,985	83,645	35,372	32,122	18,584	**881,248**
2049	28,031	210,945	134,827	170,160	191,726	86,755	36,679	33,338	19,266	**911,727**
2050	28,991	218,078	139,516	174,820	197,030	89,655	37,942	34,482	19,862	**940,376**
2051	29,927	225,100	144,145	179,604	202,326	92,586	39,178	35,603	20,508	**968,977**
2052	30,877	232,348	148,858	184,337	207,914	95,548	40,421	36,754	21,185	**998,242**
2053	31,857	239,743	153,667	189,464	213,477	98,655	41,709	37,901	21,878	**1,028,351**
2054	32,862	247,434	158,550	194,611	219,020	101,849	43,043	39,138	22,580	**1,059,087**
2055	33,752	254,103	163,155	199,596	224,413	104,761	44,279	40,296	23,218	**1,087,573**
2056	34,584	260,222	167,435	204,321	230,037	107,595	45,482	41,378	23,824	**1,114,878**
2057	35,454	266,839	171,858	209,435	235,570	110,556	46,723	42,484	24,440	**1,143,359**
2058	36,350	273,342	176,687	214,636	241,719	113,525	48,014	43,620	25,125	**1,173,018**
2059	37,224	280,008	181,617	219,954	247,502	116,576	49,305	44,821	25,850	**1,202,857**
2060	38,165	286,814	186,429	225,204	253,726	119,774	50,655	46,009	26,580	**1,233,356**
2061	39,113	293,725	191,551	230,826	260,090	123,018	52,023	47,258	27,314	**1,264,918**
2062	40,113	301,059	196,749	236,478	266,324	126,308	53,417	48,540	28,058	**1,297,046**
2063	41,096	308,484	202,056	242,266	272,595	129,774	54,850	49,870	28,809	**1,329,800**
2064	42,113	316,231	207,556	248,474	279,377	133,349	56,351	51,217	29,564	**1,364,232**
	1,047,688	**7,831,006**	**5,072,914**	**6,429,247**	**6,828,036**	**3,015,072**	**1,269,026**	**1,174,903**	**671,296**	**33,339,188**

Notes:
Source: CDM Smith Estimates, September 8, 2017
(1) February 15, 2016 tolling start date of Segments F-1 and F-2 and April 4 2016 tolling
(2) N Bridgeland Lake Parkway (Segment E) and Tuckerton Road (Segment E) interchanges are assumed to be open from January 1, 2018 and July 1, 2018 respectively.
(3) Southbound frontage road between Morton Road and Clay Road (Segment E) assumed to be open on January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) assumed to be open on January 1, 2018.
(4) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.
(5) No interchanges are assumed for Mason Road (Segment F-1).
(6) May 9, 2022 tolling start date of Segments H, I-1, I-2A and I-2B.
Revenue and transaction numbers do not include deductions for leakage.

Table 4-18 Base Case Estimated Fiscal Year Annual Leakage for Segments D through I (in thousands)

Fiscal Year	Non-Collectible Transaction Potential ('000s)										Non-Collectible Gross Revenue Potential ($'000s)									
	D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total	D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total
2016 (1)	78	1,812	736	1,012	504	-	-	-	-	**4,142**	331	2,269	839	1,108	441	-	-	-	-	**4,988**
2017	80	2,127	1,502	2,128	1,506	-	-	-	-	**7,343**	384	2,755	1,765	2,428	1,353	-	-	-	-	**8,685**
2018 (2)(3)	78	2,050	1,457	2,078	1,538	-	-	-	-	**7,201**	368	2,659	1,740	2,416	1,406	-	-	-	-	**8,589**
2019	77	1,981	1,431	2,040	1,595	-	-	-	-	**7,124**	356	2,587	1,733	2,427	1,482	-	-	-	-	**8,585**
2020	76	1,892	1,409	2,005	1,657	-	-	-	-	**7,039**	348	2,519	1,722	2,447	1,555	-	-	-	-	**8,591**
2021	74	1,847	1,385	1,959	1,691	-	-	-	-	**6,956**	347	2,502	1,723	2,448	1,618	-	-	-	-	**8,638**
2022 (6)	73	1,800	1,346	1,884	1,678	51	25	60	42	**6,959**	345	2,482	1,713	2,409	1,648	113	49	108	29	**8,896**
2023	71	1,756	1,309	1,821	1,701	212	101	178	170	**7,319**	342	2,461	1,700	2,376	1,719	478	202	317	119	**9,714**
2024	69	1,714	1,274	1,757	1,709	273	124	182	209	**7,311**	340	2,443	1,689	2,342	1,771	625	255	324	149	**9,938**
2025	68	1,674	1,241	1,696	1,717	324	139	184	235	**7,278**	339	2,433	1,681	2,312	1,836	750	296	330	171	**10,148**
2026	66	1,644	1,211	1,644	1,722	341	145	186	243	**7,202**	339	2,437	1,679	2,289	1,888	802	315	336	181	**10,266**
2027	64	1,619	1,182	1,598	1,726	345	147	186	245	**7,112**	339	2,450	1,670	2,270	1,928	822	325	343	186	**10,333**
2028 (4)	62	1,597	1,156	1,554	1,732	349	149	187	246	**7,032**	339	2,456	1,667	2,256	1,973	845	337	349	191	**10,413**
2029	61	1,582	1,130	1,512	1,739	354	152	187	248	**6,965**	340	2,471	1,667	2,240	2,022	868	349	356	197	**10,510**
2030 (5)	59	1,566	1,106	1,473	1,747	359	155	188	250	**6,903**	341	2,493	1,669	2,234	2,079	894	362	364	203	**10,639**
2031	58	1,550	1,083	1,435	1,757	365	159	189	253	**6,849**	342	2,512	1,667	2,223	2,135	922	376	373	209	**10,759**
2032	56	1,535	1,062	1,400	1,768	371	162	190	255	**6,799**	344	2,535	1,667	2,211	2,195	951	391	382	215	**10,891**
2033	55	1,521	1,042	1,367	1,781	377	166	192	258	**6,759**	346	2,561	1,670	2,209	2,260	982	407	392	222	**11,049**
2034	54	1,508	1,023	1,335	1,796	385	170	193	261	**6,725**	348	2,585	1,673	2,200	2,327	1,015	424	402	229	**11,203**
2035	53	1,506	1,005	1,306	1,812	393	175	195	264	**6,709**	349	2,617	1,680	2,196	2,394	1,050	442	413	237	**11,378**
2036	54	1,553	1,030	1,336	1,873	409	183	202	273	**6,913**	365	2,750	1,761	2,295	2,528	1,113	471	435	252	**11,970**
2037	55	1,591	1,056	1,369	1,920	421	188	207	280	**7,087**	383	2,884	1,846	2,403	2,647	1,172	495	455	263	**12,548**
2038	57	1,631	1,082	1,404	1,968	434	194	212	287	**7,269**	401	3,017	1,935	2,522	2,777	1,234	522	477	275	**13,160**
2039	58	1,672	1,109	1,439	2,017	447	200	217	294	**7,453**	419	3,159	2,022	2,643	2,908	1,299	549	500	289	**13,788**
2040	59	1,708	1,133	1,470	2,061	457	204	222	301	**7,615**	438	3,299	2,112	2,758	3,033	1,359	575	522	302	**14,398**
2041	60	1,742	1,156	1,499	2,102	466	208	226	307	**7,766**	457	3,438	2,201	2,876	3,163	1,417	598	544	314	**15,008**
2042	62	1,777	1,179	1,529	2,144	475	213	231	313	**7,923**	476	3,583	2,295	2,995	3,296	1,477	624	568	327	**15,641**
2043	63	1,813	1,203	1,560	2,187	485	217	235	319	**8,082**	496	3,737	2,397	3,127	3,441	1,539	651	591	341	**16,320**
2044	64	1,849	1,227	1,591	2,230	495	221	240	325	**8,242**	517	3,896	2,496	3,256	3,582	1,603	678	616	355	**16,999**
2045	65	1,880	1,247	1,609	2,267	503	225	244	331	**8,371**	538	4,048	2,590	3,362	3,722	1,666	704	640	369	**17,639**
2046	66	1,908	1,266	1,621	2,302	510	228	248	336	**8,485**	558	4,202	2,689	3,464	3,866	1,728	731	665	382	**18,285**
2047	67	1,937	1,285	1,634	2,336	518	232	251	341	**8,601**	579	4,358	2,792	3,569	4,006	1,793	758	690	397	**18,942**
2048	68	1,966	1,304	1,646	2,359	526	235	255	346	**8,705**	600	4,519	2,893	3,676	4,136	1,860	787	714	413	**19,598**
2049	69	1,995	1,324	1,658	2,377	534	239	259	351	**8,806**	623	4,691	2,999	3,784	4,264	1,929	816	741	428	**20,275**
2050	70	2,018	1,339	1,668	2,391	540	241	262	355	**8,884**	645	4,850	3,103	3,888	4,382	1,994	844	767	442	**20,915**
2051	71	2,038	1,353	1,676	2,403	545	244	265	359	**8,954**	666	5,006	3,206	3,994	4,500	2,059	871	792	456	**21,550**
2052	71	2,059	1,366	1,685	2,415	551	246	267	362	**9,022**	687	5,167	3,311	4,100	4,624	2,125	899	817	471	**22,201**
2053	72	2,079	1,380	1,693	2,427	556	249	270	366	**9,092**	708	5,332	3,418	4,214	4,748	2,194	928	843	487	**22,872**
2054	73	2,100	1,394	1,701	2,439	562	251	273	370	**9,163**	731	5,503	3,526	4,328	4,871	2,265	957	870	502	**23,553**
2055	73	2,111	1,403	1,707	2,447	566	253	275	372	**9,207**	751	5,651	3,629	4,439	4,991	2,330	985	896	516	**24,188**
2056	74	2,116	1,410	1,711	2,453	568	254	276	374	**9,236**	769	5,787	3,724	4,544	5,116	2,393	1,012	920	530	**24,795**
2057	74	2,121	1,417	1,716	2,459	571	255	277	376	**9,266**	788	5,934	3,822	4,658	5,239	2,459	1,039	945	544	**25,428**
2058	75	2,127	1,424	1,720	2,466	574	257	279	378	**9,300**	808	6,079	3,930	4,774	5,376	2,525	1,068	970	559	**26,089**
2059	75	2,132	1,431	1,724	2,472	577	258	280	379	**9,328**	828	6,227	4,039	4,892	5,504	2,593	1,097	997	575	**26,752**
2060	75	2,137	1,438	1,729	2,478	580	259	281	381	**9,358**	849	6,379	4,146	5,009	5,643	2,664	1,127	1,023	591	**27,431**
2061	76	2,143	1,445	1,733	2,484	583	261	283	383	**9,391**	870	6,532	4,260	5,134	5,784	2,736	1,157	1,051	607	**28,131**
2062	76	2,148	1,453	1,737	2,490	586	262	284	385	**9,421**	892	6,696	4,376	5,259	5,923	2,809	1,188	1,080	624	**28,847**
2063	76	2,153	1,460	1,742	2,497	589	263	286	387	**9,453**	914	6,861	4,494	5,388	6,063	2,886	1,220	1,109	641	**29,576**
2064	77	2,159	1,467	1,746	2,503	592	265	287	389	**9,485**	937	7,033	4,616	5,526	6,213	2,966	1,253	1,139	658	**30,341**
	3,307	**90,944**	**61,871**	**80,057**	**99,843**	**19,719**	**8,774**	**9,891**	**13,199**	**387,605**	**$ 25,620**	**$ 190,845**	**$ 123,642**	**$ 157,918**	**$ 162,376**	**$ 69,304**	**$ 29,134**	**$ 27,166**	**$ 15,448**	**$ 801,453**

Notes:
Source: CDM Smith Estimates, September 8, 2017
(1) February 15, 2016 tolling start date of Segments F-1 and F-2 and April 4, 2016 tolling start date of Segment G.
(2) N Bridgeland Lake Parkway (Segment E) and Tuckerton Road (Segment E) interchanges are assumed to be open from January 1, 2018 and July 1, 2018 respectively.
(3) Southbound frontage road between Morton Road and Clay Road (Segment E) assumed to be open on January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) assumed to be open on January 1, 2018.
(4) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.
(5) No interchanges are assumed for Mason Road (Segment F-1).
(6) May 9, 2022 tolling start date of Segments H, I-1, I-2A and I-2B.
Non-collectible transaction and revenue potential annual totals represent a summation of rounded monthly values. Small differences due to rounding may occur.

Table 4-19 Base Case Estimated Fiscal Year Net Annual Transactions and Revenue for Segments D through I (in thousands)

	Annual Transactions ('000s)										Net Revenues in Nominal Dollars ($'000s)									
Fiscal Year	D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total	D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total
2016 (1)	1,216	28,149	11,436	15,723	7,834	-	-	-	-	**64,358**	5,150	35,253	13,033	17,219	6,844	-	-	-	-	**77,499**
2017	1,345	35,848	25,317	35,862	25,381	-	-	-	-	**123,753**	6,466	46,439	29,749	40,919	22,810	-	-	-	-	**146,383**
2018 (2)(3)	1,430	37,435	26,596	37,932	28,076	-	-	-	-	**131,469**	6,718	48,544	31,770	44,111	25,671	-	-	-	-	**156,814**
2019	1,520	39,137	28,265	40,314	31,523	-	-	-	-	**140,759**	7,037	51,118	34,245	47,952	29,279	-	-	-	-	**169,631**
2020	1,614	40,412	30,086	42,832	35,388	-	-	-	-	**150,332**	7,439	53,795	36,769	52,265	33,222	-	-	-	-	**183,490**
2021	1,679	41,616	31,204	44,141	38,107	-	-	-	-	**156,747**	7,828	56,372	38,828	55,170	36,465	-	-	-	-	**194,663**
2022 (6)	1,726	42,766	31,977	44,754	39,869	1,200	593	1,425	995	**165,305**	8,195	58,971	40,704	57,236	39,139	2,677	1,157	2,569	683	**211,332**
2023	1,774	43,938	32,769	45,564	42,582	5,308	2,531	4,449	4,251	**183,166**	8,568	61,595	42,542	59,471	43,015	11,970	5,053	7,936	2,969	**243,119**
2024	1,825	45,153	33,578	46,285	45,014	7,202	3,264	4,782	5,504	**192,607**	8,964	64,361	44,503	61,700	46,673	16,454	6,721	8,530	3,934	**261,840**
2025	1,877	46,407	34,405	47,014	47,582	8,973	3,860	5,113	6,525	**201,756**	9,400	67,429	46,601	64,084	50,871	20,795	8,204	9,134	4,743	**281,260**
2026	1,921	47,895	35,274	47,907	50,165	9,934	4,217	5,405	7,092	**209,810**	9,874	71,002	48,898	66,695	55,014	23,362	9,171	9,778	5,266	**299,060**
2027	1,964	49,527	36,181	48,896	52,821	10,551	4,498	5,693	7,489	**217,620**	10,374	74,972	51,111	69,460	58,987	25,148	9,953	10,486	5,689	**316,180**
2028 (4)	2,006	51,279	37,104	49,897	55,614	11,210	4,800	5,992	7,915	**225,817**	10,895	78,864	53,526	72,450	63,345	27,122	10,808	11,206	6,148	**334,364**
2029	2,047	53,261	38,051	50,918	58,552	11,912	5,126	6,309	8,361	**234,537**	11,438	83,215	56,138	75,437	68,097	29,235	11,742	11,992	6,634	**353,928**
2030 (5)	2,091	55,240	39,018	51,952	61,641	12,661	5,477	6,642	8,833	**243,555**	12,042	87,962	58,866	78,799	73,343	31,524	12,765	12,857	7,161	**375,319**
2031	2,134	57,262	40,007	53,008	64,893	13,462	5,856	6,991	9,329	**252,942**	12,636	92,763	61,546	82,081	78,863	34,038	13,888	13,787	7,718	**397,320**
2032	2,180	59,288	41,019	54,079	68,310	14,318	6,262	7,359	9,852	**262,667**	13,277	97,919	64,382	85,424	84,782	36,734	15,088	14,768	8,323	**420,697**
2033	2,224	61,387	42,055	55,167	71,907	15,234	6,706	7,744	10,408	**272,832**	13,974	103,363	67,412	89,154	91,229	39,651	16,430	15,805	8,964	**445,982**
2034	2,268	63,567	43,114	56,280	75,691	16,213	7,184	8,148	10,991	**283,456**	14,669	108,953	70,520	92,727	98,093	42,772	17,883	16,925	9,654	**472,196**
2035	2,317	66,208	44,199	57,406	79,669	17,263	7,704	8,578	11,608	**294,952**	15,325	115,076	73,864	96,555	105,244	46,142	19,449	18,143	10,439	**500,237**
2036	2,371	68,257	45,290	58,730	82,339	17,968	8,035	8,862	12,012	**303,864**	16,062	120,915	77,443	100,876	111,140	48,949	20,691	19,116	11,079	**526,271**
2037	2,430	69,965	46,425	60,200	84,398	18,507	8,275	9,082	12,310	**311,592**	16,832	126,779	81,175	105,634	116,357	51,548	21,783	20,018	11,542	**551,668**
2038	2,490	71,714	47,585	61,704	86,507	19,062	8,523	9,312	12,617	**319,514**	17,612	132,637	85,054	110,880	122,106	54,248	22,936	20,976	12,078	**578,527**
2039	2,552	73,507	48,772	63,247	88,671	19,634	8,778	9,546	12,934	**327,641**	18,430	138,868	88,916	116,194	127,840	57,111	24,147	21,963	12,684	**606,153**
2040	2,610	75,097	49,829	64,615	90,591	20,091	8,985	9,749	13,212	**334,779**	19,275	145,045	92,859	121,243	133,327	59,732	25,260	22,964	13,265	**632,970**
2041	2,659	76,599	50,826	65,906	92,402	20,492	9,162	9,945	13,477	**341,468**	20,075	151,166	96,756	126,431	139,064	62,281	26,305	23,927	13,798	**659,803**
2042	2,714	78,130	51,843	67,225	94,250	20,903	9,345	10,145	13,748	**348,303**	20,910	157,514	100,884	131,686	144,907	64,939	27,426	24,951	14,373	**687,590**
2043	2,768	79,693	52,877	68,570	96,133	21,320	9,534	10,347	14,022	**355,264**	21,819	164,291	105,383	137,464	151,259	67,664	28,618	25,985	14,989	**717,472**
2044	2,821	81,287	53,936	69,942	98,057	21,746	9,724	10,553	14,304	**362,370**	22,735	171,275	109,733	143,150	157,496	70,484	29,806	27,066	15,621	**747,366**
2045	2,869	82,641	54,833	70,753	99,688	22,108	9,887	10,729	14,539	**368,047**	23,631	177,953	113,877	147,796	163,648	73,254	30,950	28,141	16,222	**775,472**
2046	2,913	83,880	55,657	71,284	101,184	22,440	10,035	10,892	14,756	**373,041**	24,535	184,745	118,213	152,280	169,949	75,967	32,122	29,235	16,809	**803,855**
2047	2,958	85,138	56,491	71,817	102,702	22,777	10,186	11,055	14,979	**378,103**	25,443	191,593	122,734	156,924	176,127	78,825	33,341	30,322	17,462	**832,771**
2048	3,002	86,413	57,338	72,356	103,725	23,118	10,338	11,220	15,204	**382,714**	26,397	198,667	127,181	161,607	181,849	81,785	34,585	31,408	18,171	**861,650**
2049	3,047	87,713	58,201	72,898	104,502	23,465	10,492	11,388	15,434	**387,140**	27,408	206,254	131,828	166,376	187,462	84,826	35,863	32,597	18,838	**891,452**
2050	3,083	88,733	58,877	73,324	105,112	23,738	10,616	11,520	15,614	**390,617**	28,346	213,228	136,413	170,932	192,648	87,661	37,098	33,715	19,420	**919,461**
2051	3,112	89,620	59,464	73,691	105,636	23,976	10,721	11,635	15,770	**393,625**	29,261	220,094	140,939	175,610	197,826	90,527	38,307	34,811	20,052	**947,427**
2052	3,143	90,514	60,059	74,058	106,165	24,215	10,829	11,754	15,928	**396,665**	30,190	227,181	145,547	180,237	203,290	93,423	39,522	35,937	20,714	**976,041**
2053	3,176	91,420	60,661	74,430	106,695	24,458	10,935	11,871	16,086	**399,732**	31,149	234,411	150,249	185,250	208,729	96,461	40,781	37,058	21,391	**1,005,479**
2054	3,206	92,334	61,268	74,803	107,230	24,702	11,045	11,991	16,246	**402,825**	32,131	241,931	155,024	190,283	214,149	99,584	42,086	38,268	22,078	**1,035,534**
2055	3,227	92,794	61,675	75,050	107,585	24,866	11,120	12,068	16,352	**404,737**	33,001	248,452	159,526	195,157	219,422	102,431	43,294	39,400	22,702	**1,063,385**
2056	3,245	93,027	61,982	75,238	107,856	24,991	11,174	12,128	16,434	**406,075**	33,815	254,435	163,711	199,777	224,921	105,202	44,470	40,458	23,294	**1,090,083**
2057	3,261	93,259	62,293	75,427	108,124	25,116	11,231	12,189	16,515	**407,415**	34,666	260,905	168,036	204,777	230,331	108,097	45,684	41,539	23,896	**1,117,931**
2058	3,275	93,490	62,605	75,617	108,395	25,241	11,287	12,250	16,602	**408,762**	35,542	267,263	172,757	209,862	236,343	111,000	46,946	42,650	24,566	**1,146,929**
2059	3,295	93,726	62,917	75,804	108,665	25,367	11,343	12,313	16,684	**410,114**	36,396	273,781	177,578	215,062	241,998	113,983	48,208	43,824	25,275	**1,176,105**
2060	3,308	93,958	63,233	75,992	108,938	25,494	11,400	12,374	16,769	**411,466**	37,316	280,435	182,283	220,195	248,083	117,110	49,528	44,986	25,989	**1,205,925**
2061	3,326	94,194	63,548	76,184	109,209	25,622	11,457	12,433	16,852	**412,825**	38,243	287,193	187,291	225,692	254,306	120,282	50,866	46,207	26,707	**1,236,787**
2062	3,342	94,430	63,866	76,372	109,483	25,750	11,514	12,499	16,933	**414,189**	39,221	294,363	192,373	231,219	260,401	123,499	52,229	47,460	27,434	**1,268,199**
2063	3,360	94,666	64,185	76,563	109,757	25,878	11,571	12,560	17,022	**415,562**	40,182	301,623	197,562	236,878	266,532	126,888	53,630	48,761	28,168	**1,300,224**
2064	3,376	94,901	64,506	76,755	110,031	26,008	11,629	12,624	17,104	**416,934**	41,176	309,198	202,940	242,948	273,164	130,383	55,098	50,078	28,906	**1,333,891**
	124,097	**3,456,875**	**2,342,697**	**2,994,486**	**3,924,649**	**824,494**	**367,249**	**409,664**	**549,612**	**14,993,823**	**$ 1,022,068**	**$ 7,640,161**	**$ 4,949,272**	**$ 6,271,329**	**$ 6,665,660**	**$ 2,945,768**	**$ 1,239,892**	**$ 1,147,737**	**$ 655,848**	**$ 32,537,735**

Notes:

Source: CDM Smith Estimates, September 8, 2017

(1) February 15, 2016 tolling start date of Segments F-1 and F-2 and April 4, 2016 tolling start date of Segment G.

(2) N Bridgeland Lake Parkway (Segment E) and Tuckerton Road (Segment E) interchanges are assumed to be open from January 1, 2018 and July 1, 2018 respectively.

(3) Southbound frontage road between Morton Road and Clay Road (Segment E) assumed to be open on January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) assumed to be open on January 1, 2018.

(4) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.

(5) No interchanges are assumed for Mason Road (Segment F-1).

(6) May 9, 2022 tolling start date of Segments H, I-1, I-2A and I-2B.

Revenue and transaction numbers include deductions for leakage.

CDM Smith

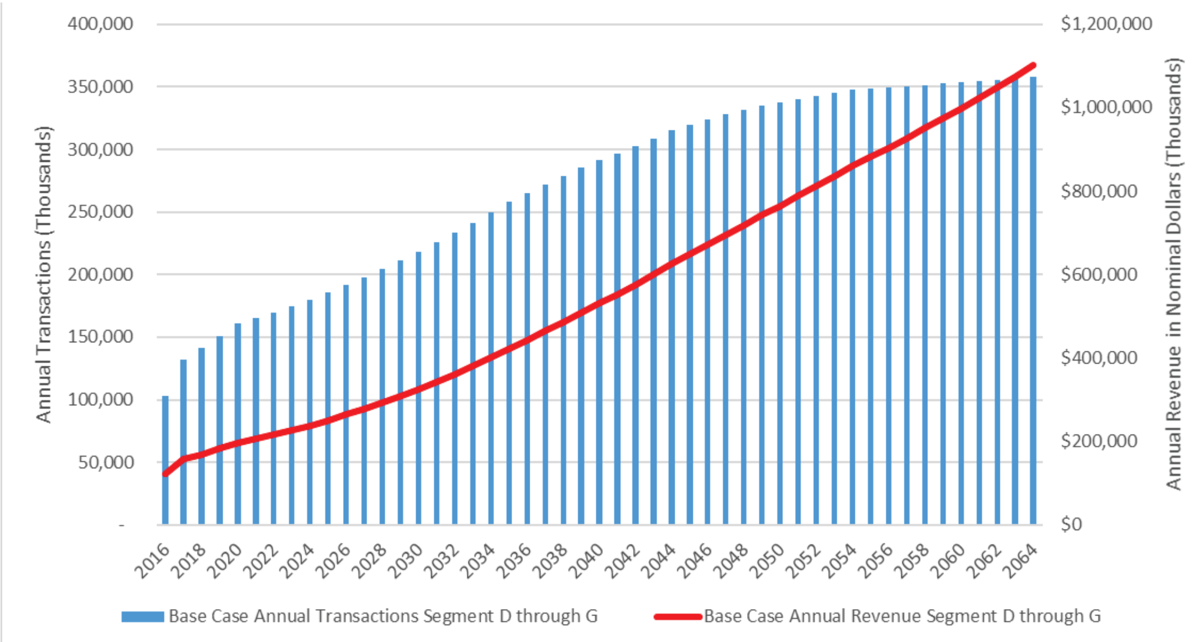


Figure 4-38
Annual Gross Transactions and Revenue Segments D through G

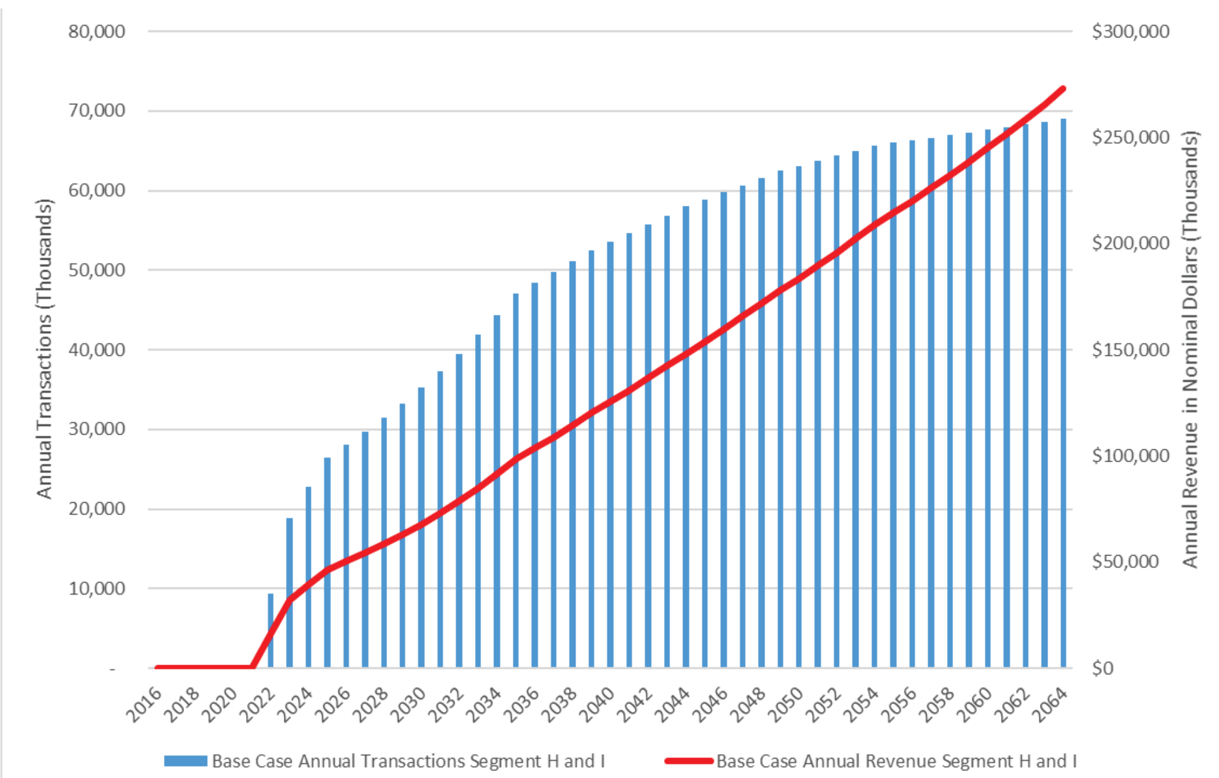


Figure 4-39
Annual Gross Transactions and Revenue Segments H and I

4.11 Revenue per Mile Compared to Other Houston Tolled Facilities

A comparison was undertaken to evaluate the magnitude of capture revenues on a per mile basis observed historically along all the Sam Houston Tollway (SHT) segments (for the South, Central, North mentioned above and the remaining Southeast, Southwest, East and Northeast segments). A nominal minimum and maximum revenue per mile profile since the opening of each segment was compiled as a proxy to reflect the range of actual nominal revenues that were realized along each segment over time. This historical revenue per mile capture profile was then compared to the nominal revenues per mile forecasted for the Grand Parkway System segments, as shown in **Figure 4-40**. It is worth noting that the toll escalation and growth since the opening of the Sam Houston Tollway has tracked fairly close to the consumer price index/inflation growth trends – similar to the toll rate escalation assumptions embedded within the Grand Parkway System forecasts. Therefore, these nominal revenue ranges serve as a somewhat conservative proxy to the forecasted revenue realization of the Grand Parkway System (i.e. if these per mile ranges on SHT were inflated to correspond to toll rates when the Grand Parkway facilities opened, the forecasted Grand Parkway real revenues per mile results would track closer to the minimum range of the observed historical real revenues per mile captured from SHT). Figure 4-40 provides a summary of the nominal revenues per mile captured for the various segments of the Grand Parkway System compared to the equivalent SHT segments between US 59 and IH 45. Also included are the current captured revenues per mile based on the observed monthly data currently being experienced along the open Grand Parkway System Segments D and E.

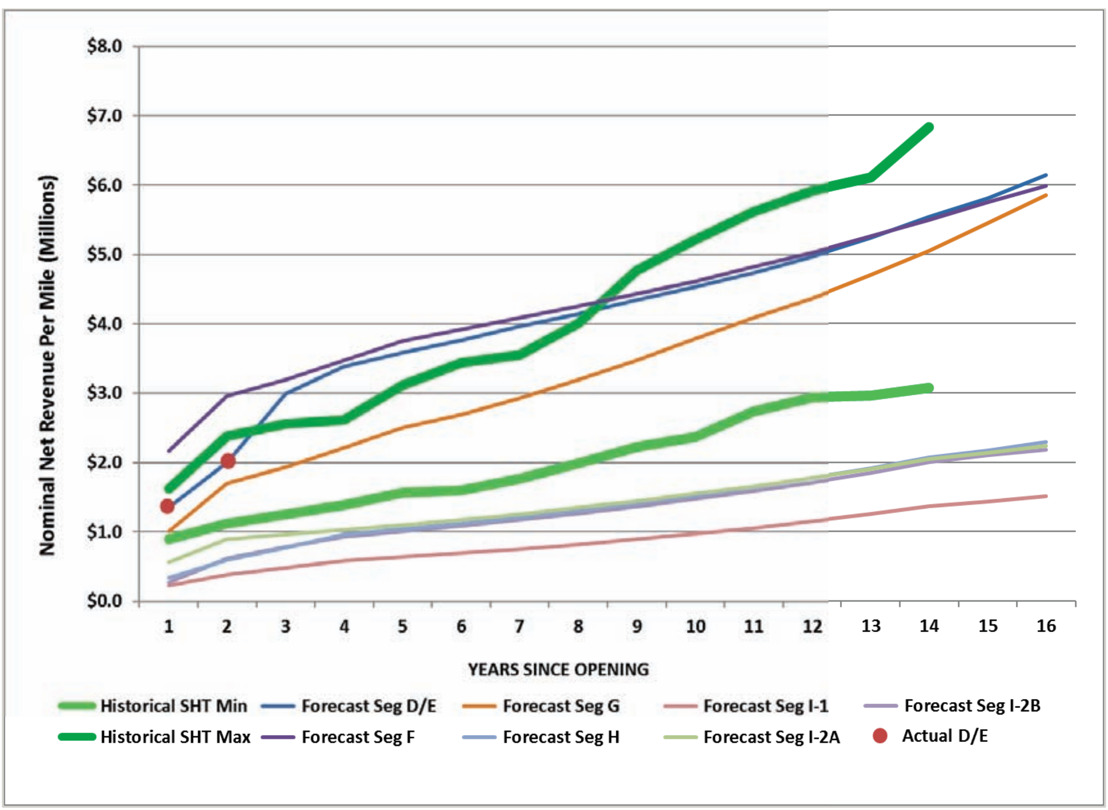


Figure 4-40
Revenue Per Mile Compared to Other Houston Tolled Facilities

Chapter 5

Sensitivity Tests

The Base Case scenario reported in Chapter 4 established the traffic and toll revenue forecasts for entire expanded Grand Parkway System (Segments D through I) under the stated assumptions and proposed configuration described therein. However, as with any traffic and revenue study, these Base Case forecasts were based on a variety of key assumptions related to socioeconomic growth forecasts, values-of-time, improvements on competing facilities and their respective phasing, toll rates, and many other influential factors. CDM Smith performed several additional sensitivity analysis tests to reflect possible variations to these Base Case input assumptions. The impacts of these input variations are quantified and herein summarized in relation to the Base Case traffic and toll revenue forecasts, referred herein as the “Initial Base Case.” This analysis also helps to illustrate the relative importance of the input factors and parameters on the forecasted Initial Base Case traffic and revenue. The sensitivity tests performed included income or value of time changes, Automatic Vehicle Identification (AVI) transaction shares, and socioeconomic growth scenario.

In addition, a scenario was evaluated where the proposed Segment H-West mainlanes (between US 59 and Huffman/Cleveland Road) are constructed as a four-lane facility rather than the configuration with two lanes with passing lanes assumed in the Initial Base Case described in Chapter 4. This H-West option, towards the end of the study, became the most likely scenario to be built and the impacts associated with this change upon the Base Case results were marginal and thus did not warrant a reassessment of the sensitivity analyses to incorporate this scenario. Additional details related to the revisions to the Initial Base Case Traffic and Revenue (T&R) results of this scenario (referred herein as “Revised Base Case”) are presented towards the end of this chapter along with relevant other specific sensitivities that were run thereafter with the new H-West configuration.

Chapter 5 is divided into the following sections:

- Sensitivity Tests Descriptions
- Sensitivity Tests Results

5.1 Sensitivity Tests Descriptions

The following sensitivity tests were performed for select future model years:

- Value-of-Time changes
- Regional AVI share changes
- Toll rate inflation changes
- Socioeconomic/trip table growth changes

- Segment H-West Expansion (US 59 to Huffman Cleveland Road expanded to four mainlanes) – "Revised Base Case"
- SH 249 Direct Connectors under Segment H-West Expansion
- Pay-By-Mail (PBM) option under Segment H-West Expansion

In the above tests, it was assumed that only the parameters mentioned were modified while maintaining all other input assumptions at the Initial Base Case scenario levels. The section below provides a brief description of each of the sensitivity tests performed.

5.1.1 Value-of-Time Changes (30 Percent Increase and 30 Percent Decrease in VOT)

Motorists' willingness-to-pay tolls is influenced by a combination of their perceived value-of-time (VOT) and their expected travel time savings. The Initial Base Case values-of-time for drivers in the Houston area were estimated using stated-preference (SP) surveys conducted by Resource Systems Group (RSG). The high and low VOT scenarios assumed an increase and decrease in VOT by 30 percent.

5.1.2 Regional AVI Share Changes

Two different sensitivity tests were performed by changing the AVI shares used in the regional trip tables:

- The first sensitivity test assumed a lower AVI share than the Initial Base Case to determine the revenue impact of a lower AVI penetration rate. For 2020, the AVI share was reduced to 80 percent (compared to 90 percent in the Initial Base Case). In 2035, the AVI share was assumed to be only 85 percent (compared to 95 percent in the initial Base Case).
- The second sensitivity test assumed a higher AVI share than Initial Base Case to determine the revenue impact of a higher AVI penetration rate. For 2020, the AVI share was increased to 95 percent (compared to 90 percent in the Initial Base Case). In 2035, the AVI share was assumed to be 98 percent (compared to 95 percent in the Initial Base Case).

5.1.3 Toll Rate Inflation Changes

Three different sensitivity tests were performed where the toll rate inflation assumption was modified:

- A lower annual inflation rate of 2.0 percent annually for all years between 2016 and 2035 was assumed.
- A higher annual inflation rate of 2.2 percent annually from 2016 to 2018, and 2.42 percent from 2019 onwards was assumed. This represents a 10 percent increase in the annual inflation rate compared to the Initial Base Case presented in Chapter 4.
- A higher annual inflation rate of 2.4 percent annually from 2016 to 2018, and 2.64 percent from 2019 onwards was assumed. This represents a 20 percent increase in the annual inflation rate compared to the Initial Base Case presented in Chapter 4.

5.1.4 Socioeconomic/Trip Table Growth Changes

The Base Case trip tables were developed using the demographic data estimated by CDS. Four different sensitivity tests were performed related to socioeconomic/trip table changes.

- One scenario utilized trip tables which assumed that only 50 percent of the trip table growth assumed in the Base Case scenario would occur between 2016 and 2035.
- Another scenario utilized trip tables which assumed that 80 percent of the trip table growth assumed in the Base Case scenario occurred between 2016 and 2035.
- The third scenario utilized trip tables which assumed 20 percent more trip table growth than that assumed in the Base Case scenario between 2016 and 2035.
- The fourth scenario utilized trip tables which assumed 50 percent more trip table growth than that assumed in the Base Case scenario between 2016 and 2035.

5.1.5 Segment H-West Expansion (Revised Base Case Configuration)

The Base Scope 1 configuration used as the Initial Base Case scenario for this study assumed that Grand Parkway Segment H (between US 59 and US 90) is built as a two-lane facility with intermittent passing lanes. Segment I-1 is assumed to be built as a two-lane roadway with passing lanes and Segment I-2 as a 4-laned segment. **Figure 5-2** depicts the Segment H-West Expansion configuration and is herein referenced as the Revised Base Case. The option is a slight variation of the Initial Base Case configuration, whereby the Segment H-West (US 59 to Huffman Cleveland Road) is assumed to open instead with two lanes per direction.

5.1.6 SH 249 Direct Connectors under Segment H-West Expansion

In this scenario, four new direct connectors (DCs) at the SH 249 and Grand Parkway (GP) Segment F1/F2 interchange were assumed to be operational. The configuration of the interchange is illustrated in **Figure 5-7**. Segment H-West was also assumed to be constructed as a four-lane facility in this scenario.

5.1.7 Pay-By-Mail (PBM) option under Segment H-West Expansion

In this scenario, Pay-By-Mail (PBM) option was assumed to be implemented on Grand Parkway System Segments D through I. Under the PBM option, travelers without a valid transponder can access and use the Grand Parkway System Segments D through I, and are considered as a toll paying customer market. The PBM toll was assumed to be same as the AVI toll (which means there is no PBM toll surcharge) under this scenario, and Segment H-West was also assumed to be expanded.

A summary table of the various sensitivity tests and how the key parameters change across the various sensitivity test scenarios is shown in **Table 5-1**.

Table 5-1 Listing of Sensitivity Tests and the Associated Assumptions

Scenario	Description	Network Change	Trip Table Change	Value of Time Change
VOT Changes	VOT increased and decreased compared to the Base Case by 30 percent			Yes
AVI Share Changes	AVI shares used in the regional trip tables were modified		Yes	
Toll Inflation Changes	Toll inflation between 2016 and 2035 was modified	Yes (Toll Changes)		
Socioeconomic/Trip Table Growth Changes	Socioeconomic/Trip Table Growth between 2016 and 2035 was modified		Yes	
Segment H-West Expansion	Grand Parkway Segment H-West opens as a 4-lane facility	Yes		
SH 249 Direct Connectors under Segment H-West Expansion	Four direct connectors at the SH 249 and Grand Parkway Segment F1/F2 interchange	Yes		
Pay-By-Mail option under Segment H-West Expansion	Pay-By-Mail option implemented on Grand Parkway Segments D through I		Yes	

5.2 Sensitivity Tests Results

For each sensitivity test, the future year networks, trip tables and input model assumptions were updated appropriately from the Initial Base Case future models to produce the estimated traffic demand for the future years. Toll transactions at each of the tolling locations were developed from the corresponding model runs and the traffic and toll revenue impacts for the specific years were calculated.

This section is divided into two sub-sections:

1. Sensitivity test impact summary
2. Segment H-West Expansion (Revised Base Case) impacts

A summary of the changes to values of time, AVI shares and trip growth undertaken as part of the sensitivity assessments is provided in the subsequent tables to reflect distinct impacts upon the existing open Segments D through G, as shown in **Table 5-2**, the new proposed Segments H and I, as shown in **Table 5-3**, and the entire Grand Parkway System Segments D through I, as shown in **Table 5-4.**

Table 5-2 Summary of Annual Transaction and Nominal Revenue Impacts for Existing Grand Parkway System (Segments D through G)

Scenario	Total Annual Transactions (Thousands)		Total Annual Gross Toll Revenue ($ Thousands)	
	2022	2035	2022	2035
Initial Base Case Forecast	**169,619**	**258,515**	**$216,539**	**$422,538**
Low VOT (30% decrease)	**136,424**	**223,307**	**173,082**	**362,362**
Difference vs. Base	-33,195	-35,208	-43,457	-60,176
% Impact vs. Base	-19.6%	-13.6%	-20.1%	-14.2%
High VOT (30% increase)	**193,460**	**281,886**	**248,592**	**462,742**
Difference vs. Base	23,841	23,371	32,053	40,204
% Impact vs. Base	+14.1%	+9.0%	+14.8%	+9.5%
Low AVI Share (2020: 80% and 2035: 85%)	**151,322**	**250,629**	**192,699**	**409,496**
Difference vs. Base	-18,297	-7,886	-23,840	-13,042
% Impact vs. Base	-10.8%	-3.1%	-11.0%	-3.1%
High AVI Share (2020: 95% and 2035: 98%)	**175,352**	**263,667**	**223,441**	**430,424**
Difference vs. Base	5,733	5,152	6,902	7,886
% Impact vs. Base	+3.4%	+2.0%	+3.2%	+1.9%
Low Inflation (toll inflation rate at 2% from 2016 onwards)	**170,001**	**261,997**	**216,187**	**414,394**
Difference vs. Base	382	3,482	-352	-8,144
% Impact vs. Base	+0.2%	+1.3%	-0.2%	-1.9%
Higher Inflation (10% increase in toll inflation rate)	**168,910**	**254,402**	**217,276**	**431,912**
Difference vs. Base	-709	-4,113	737	9,374
% Impact vs. Base	-0.4%	-1.6%	+0.3%	+2.2%
Higher Inflation (20% increase in toll inflation rate)	**168,021**	**250,563**	**217,758**	**442,233**
Difference vs. Base	-1,598	-7,952	1,219	19,695
% Impact vs. Base	-0.9%	-3.1%	+0.6%	+4.7%
Low Growth (50% decrease)	**153,369**	**185,232**	**196,963**	**307,032**
Difference vs. Base	-16,250	-73,283	-19,576	-115,506
% Impact vs. Base	-9.6%	-28.3%	-9.0%	-27.3%
Low Growth (20% decrease)	**163,217**	**229,028**	**208,890**	**376,712**
Difference vs. Base	-6,402	-29,487	-7,649	-45,826
% Impact vs. Base	-3.8%	-11.4%	-3.5%	-10.8%
High Growth (20% increase)	**176,147**	**286,923**	**224,388**	**466,622**
Difference vs. Base	6,528	28,408	7,849	44,084
% Impact vs. Base	+3.8%	+11.0%	+3.6%	+10.4%
High Growth (50% increase)	**185,863**	**328,478**	**236,280**	**531,115**
Difference vs. Base	16,244	69,963	19,741	108,577
% Impact vs. Base	+9.6%	+27.1%	+9.1%	+25.7%

Table 5-3 Summary of Annual Transaction and Nominal Revenue Impacts for New Proposed Grand Parkway System (Segments H and I)

Scenario	Transactions (Thousands)		Total Annual Gross Toll Revenue ($ Thousands)	
	2022	2035	2022	2035
Initial Base Case Forecast	**9,300**	**47,070**	**$15,580**	**$98,708**
Low VOT (30% decrease)	**7,814**	**40,110**	**12,830**	**82,065**
Difference vs. Base	-1,486	-6,960	-2,750	-16,643
% Impact vs. Base	-16.0%	-14.8%	-17.7%	-16.9%
High VOT (30% increase)	**10,463**	**51,986**	**17,813**	**110,653**
Difference vs. Base	1,163	4,916	2,233	11,945
% Impact vs. Base	+12.5%	+10.4%	+14.3%	+12.1%
Low AVI Share (2020: 80% and 2035: 85%)	**8,300**	**45,557**	**13,988**	**95,547**
Difference vs. Base	-1,000	-1,513	-1,592	-3,161
% Impact vs. Base	-10.8%	-3.2%	-10.2%	-3.2%
High AVI Share (2020: 95% and 2035: 98%)	**9,805**	**48,328**	**16,380**	**101,236**
Difference vs. Base	505	1,258	800	2,528
% Impact vs. Base	+5.4%	+2.7%	+5.1%	+2.6%
Low Inflation (toll inflation rate at 2% from 2016 onwards)	**9,306**	**47,849**	**15,572**	**97,326**
Difference vs. Base	6	779	-8	-1,382
% Impact vs. Base	+0.1%	+1.7%	-0.1%	-1.4%
Higher Inflation (10% increase in toll inflation rate)	**9,237**	**46,100**	**15,598**	**100,239**
Difference vs. Base	-63	-970	18	1,531
% Impact vs. Base	-0.7%	-2.1%	+0.1%	+1.6%
Higher Inflation (20% increase in toll inflation rate)	**9,203**	**45,036**	**15,652**	**101,559**
Difference vs. Base	-97	-2,034	72	2,851
% Impact vs. Base	-1.0%	-4.3%	+0.5%	+2.9%
Low Growth (50% decrease)	**8,258**	**28,558**	**13,796**	**58,052**
Difference vs. Base	-1,042	-18,512	-1,784	-40,656
% Impact vs. Base	-11.2%	-39.3%	-11.4%	-41.2%
Low Growth (20% decrease)	**8,873**	**38,807**	**14,843**	**80,792**
Difference vs. Base	-427	-8,263	-737	-17,916
% Impact vs. Base	-4.6%	-17.6%	-4.7%	-18.2%
High Growth (20% increase)	**9,724**	**55,872**	**16,330**	**117,356**
Difference vs. Base	424	8,802	750	18,648
% Impact vs. Base	+4.6%	+18.7%	+4.8%	+18.9%
High Growth (50% increase)	**10,370**	**68,488**	**17,450**	**143,357**
Difference vs. Base	1,070	21,418	1,870	44,649
% Impact vs. Base	+11.5%	+45.5%	+12.0%	+45.2%

Table 5-4 Summary of Annual Transaction and Nominal Revenue Impacts for Expanded Grand Parkway System (Segments D through I)

Scenario	Total Annual Transactions (Thousands)		Total Annual Gross Toll Revenue ($ Thousands)	
	2022	2035	2022	2035
Initial Base Case Forecast	**178,919**	**305,585**	**$232,119**	**$521,246**
Low VOT (30% decrease)	**144,583**	**263,426**	**186,272**	**444,460**
Difference vs. Base	-34,336	-42,159	-45,847	-76,786
% Impact vs. Base	-19.2%	-13.8%	-19.8%	-14.7%
High VOT (30% increase)	**203,775**	**333,861**	**266,336**	**573,362**
Difference vs. Base	24,856	28,276	34,217	52,116
% Impact vs. Base	+13.9%	+9.3%	+14.7%	+10.0%
Low AVI Share (2020: 80% and 2035: 85%)	**159,625**	**296,188**	**206,805**	**505,044**
Difference vs. Base	-19,294	-9,397	-25,314	-16,202
% Impact vs. Base	-10.8%	-3.1%	-10.9%	-3.1%
High AVI Share (2020: 95% and 2035: 98%)	**185,351**	**311,994**	**240,101**	**531,650**
Difference vs. Base	6,432	6,409	7,982	10,404
% Impact vs. Base	+3.6%	+2.1%	+3.4%	+2.0%
Low Inflation (toll inflation rate at 2% from 2016 onwards)	**179,291**	**309,844**	**231,776**	**511,713**
Difference vs. Base	372	4,259	-343	-9,533
% Impact vs. Base	+0.2%	+1.4%	-0.1%	-1.8%
Higher Inflation (10% increase in toll inflation rate)	**178,122**	**300,503**	**232,842**	**532,161**
Difference vs. Base	-797	-5,082	723	10,915
% Impact vs. Base	-0.4%	-1.7%	+0.3%	+2.1%
Higher Inflation (20% increase in toll inflation rate)	**177,215**	**295,603**	**233,396**	**543,818**
Difference vs. Base	-1,704	-9,982	1,277	22,572
% Impact vs. Base	-1.0%	-3.3%	+0.6%	+4.3%
Low Growth (50% decrease)	**161,472**	**213,873**	**210,401**	**365,263**
Difference vs. Base	-17,447	-91,712	-21,718	-155,983
% Impact vs. Base	-9.8%	-30.0%	-9.4%	-29.9%
Low Growth (20% decrease)	**172,013**	**267,854**	**223,561**	**457,611**
Difference vs. Base	-6,906	-37,731	-8,558	-63,635
% Impact vs. Base	-3.9%	-12.3%	-3.7%	-12.2%
High Growth (20% increase)	**185,939**	**342,771**	**240,888**	**583,854**
Difference vs. Base	7,020	37,186	8,769	62,608
% Impact vs. Base	+3.9%	+12.2%	+3.8%	+12.0%
High Growth (50% increase)	**196,416**	**396,911**	**254,144**	**674,186**
Difference vs. Base	17,497	91,326	22,025	152,940
% Impact vs. Base	+9.8%	+29.9%	+9.5%	+29.3%

Table 5-4 shows that the High VOT scenario resulted in14.7 percent higher revenue in 2022 from Segments D through I compared to the Initial Base Case. The Low VOT scenario resulted in 19.8 percent lower revenue. By 2035, the high VOT scenario resulted in 10 percent higher revenue compared to the Initial Base Case, while the low VOT scenario resulted in a 14.7 revenue decrease.

The low regional AVI share resulted in a reduction in revenue from Segments D through I of 10.9 percent in 2022 and a 3.1 percent reduction by 2035 compared to the Initial Base Case. The impacts of the high AVI share were revenue increases of 3.4 percent in 2022 and 2.0 percent in 2035.

The low toll inflation scenario had virtually no revenue impact on Segments D through I in 2022 and a small negative impact of 1.8 percent in 2035. The revenue impacts under 10 percent and 20 percent higher toll inflation were 0.3 percent and 0.6 percent respectively in 2022. The revenue impacts in 2035 increased to 2.1 percent and 4.3 percent under the 10 percent and 20 percent toll inflation increase scenarios, respectively.

In the very low socioeconomic/trip table growth scenario, which assumed a 30 percent reduction in the trip table growth between 2016 and future model years, 9.4 percent revenue reduction was seen in 2022 and a 30.0 percent revenue reduction was seen in 2035 compared to the Initial Base Case scenario revenue from Segments D through I. The negative revenue impact to Segments D through G in 2035 was 27.3 percent compared to the Initial Base Case, while the negative impact to Segments H and I was 41 percent. This illustrates that the long-term revenue potential of Segments H and I is more dependent on the growth that is expected to occur in the immediate vicinity of Grand Parkway by 2035. It should be noted, however, that the likelihood of this very low growth scenario's occurrence is also very small and the reason for inclusion of this scenario herein is to demonstrate the influence that the future socioeconomic growth has on the T&R potential for proposed new Grand Parkway project segments.

The low socioeconomic growth (20 percent reduction in growth), high socioeconomic growth (20 percent increase in growth) and very high socioeconomic growth (50 percent increase in growth) result in 12.2 percent decrease, 12.0 percent increase and 29.3 percent increase in the Segments D through I revenues, respectively.

Figure 5-1 graphically illustrates the Segments D through I transaction and revenue impacts in 2035 relative to the Initial Base Case.

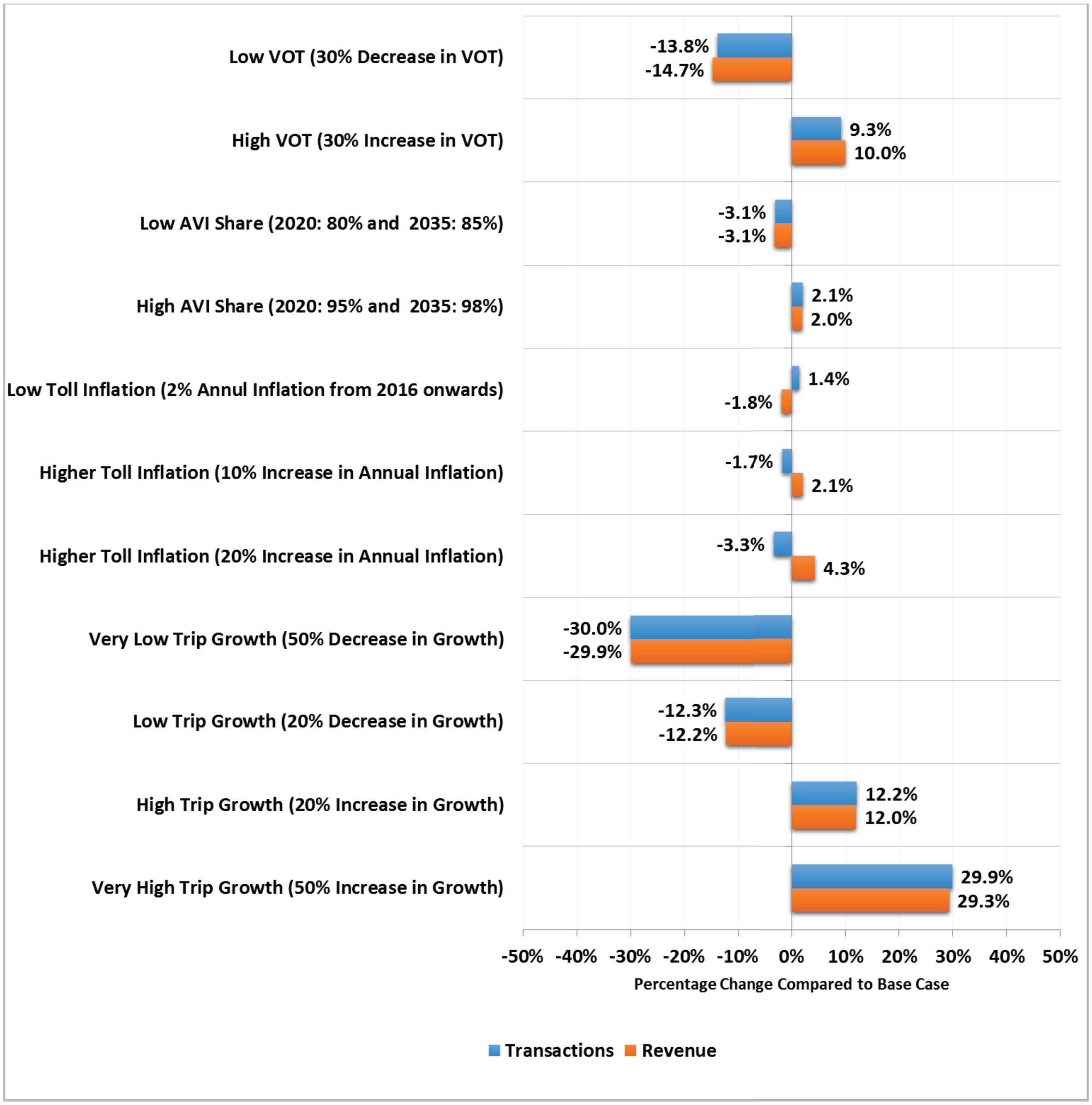


Figure 5-1
2035 Transaction and Revenue Difference for Various Sensitivity Tests for Segments D through I

5.2.1 Segment H-West Expansion (Revised Base Case) Impacts

The Segment H-West Expansion (Revised Base Case) configuration is illustrated in **Figure 5-2**. In this scenario, Segment H-West is assumed to be constructed as a four-lane facility rather than the two-lane roadway with intermittent passing lanes assumed in the Initial Base Case. **This Revised Base Case T&R estimate reflects the final configuration assumed to be built and is what is utilized in support of the project financing.**

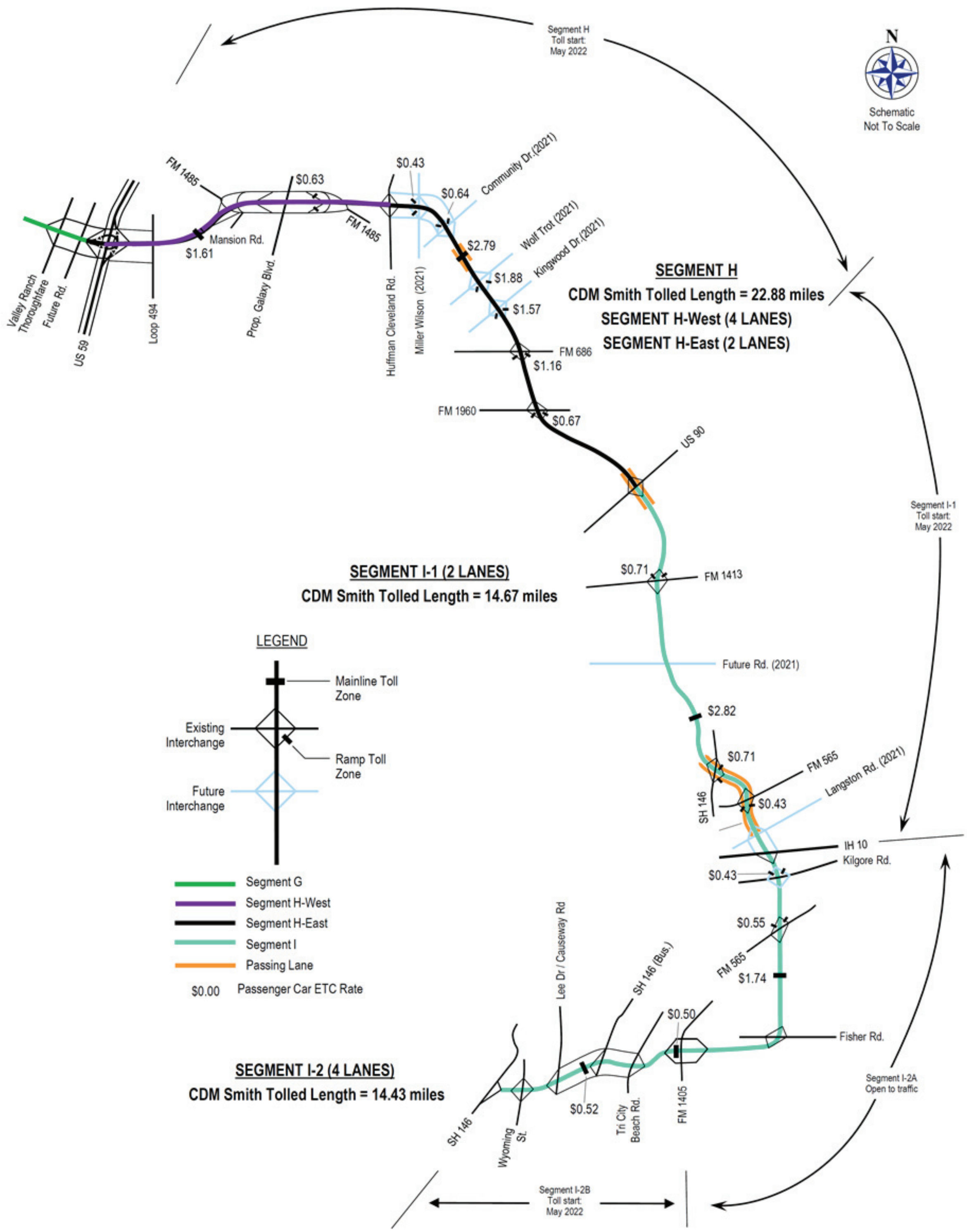


Figure 5-2
Segments H-West Expansion Configuration (Revised Base Case)

The transaction and revenue impact of the Segment H-West Expansion to Segments D through G is minimal, resulting in a marginal increase of 0.1 percent compared to the Initial Base Case in 2035. Segment G being directly adjacent to Segment H-West is impacted the most among the

Segments D through G due to the increased capacity of Segment H-West. The revenue impact to Segments H and I is 1.2 percent and 3.0 percent in 2022 and 2035 respectively compared to the Initial Base Case. For the overall Segments D through I, the H-West expansion has a positive revenue impact of 0.1 percent in 2022, increasing slightly to 0.7 percent in 2035.

Figures 5-3 and **5-4** show the projected average weekday traffic on Segments D through G (Initial GP System) under the H-West expansion scenario in 2025 and 2035, respectively. The average weekday traffic on the mainlane sections between Clay Road and FM 529 along Segment E is forecasted to reach nearly 53,700 vehicles per weekday (vpd) by 2025 and 73,600 vpd by 2035. The traffic along the mainlane section of Segment F between Gosling Road and Spring Valley Road is anticipated to carry 66,400 vpd in 2025 and 83,000 vpd in 2035. Just west of US 59, Segment G is expected to carry an estimated 34,400 vpd and 56,800 vpd in 2025 and 2035, respectively.

The average weekday traffic on Segments H and I is shown in **Figures 5-5** and **5-6** for 2025 and 2035, respectively. In 2025, the mainlane traffic along Segment H is expected to range between 8,000 vpd and 16,200 vpd, while traffic along Segment I-1 is estimated to be 9,200 vpd near IH 10 and almost 12,600 vpd along Segment I-2 near SH 146. Segment H east of US 59 is expected to carry 29,000 vpd in 2035. Weekday traffic along Segment I-1 north of IH 10 is estimated to reach 15,800 vehicles, while mainlane weekday traffic along Segment I-2 near SH 146 is forecasted to reach 20,800 by 2035.

The traffic and revenue stream for this Revised Base Case are shown for the TxDOT fiscal years in **Table 5-5** and **Table 5-6**.

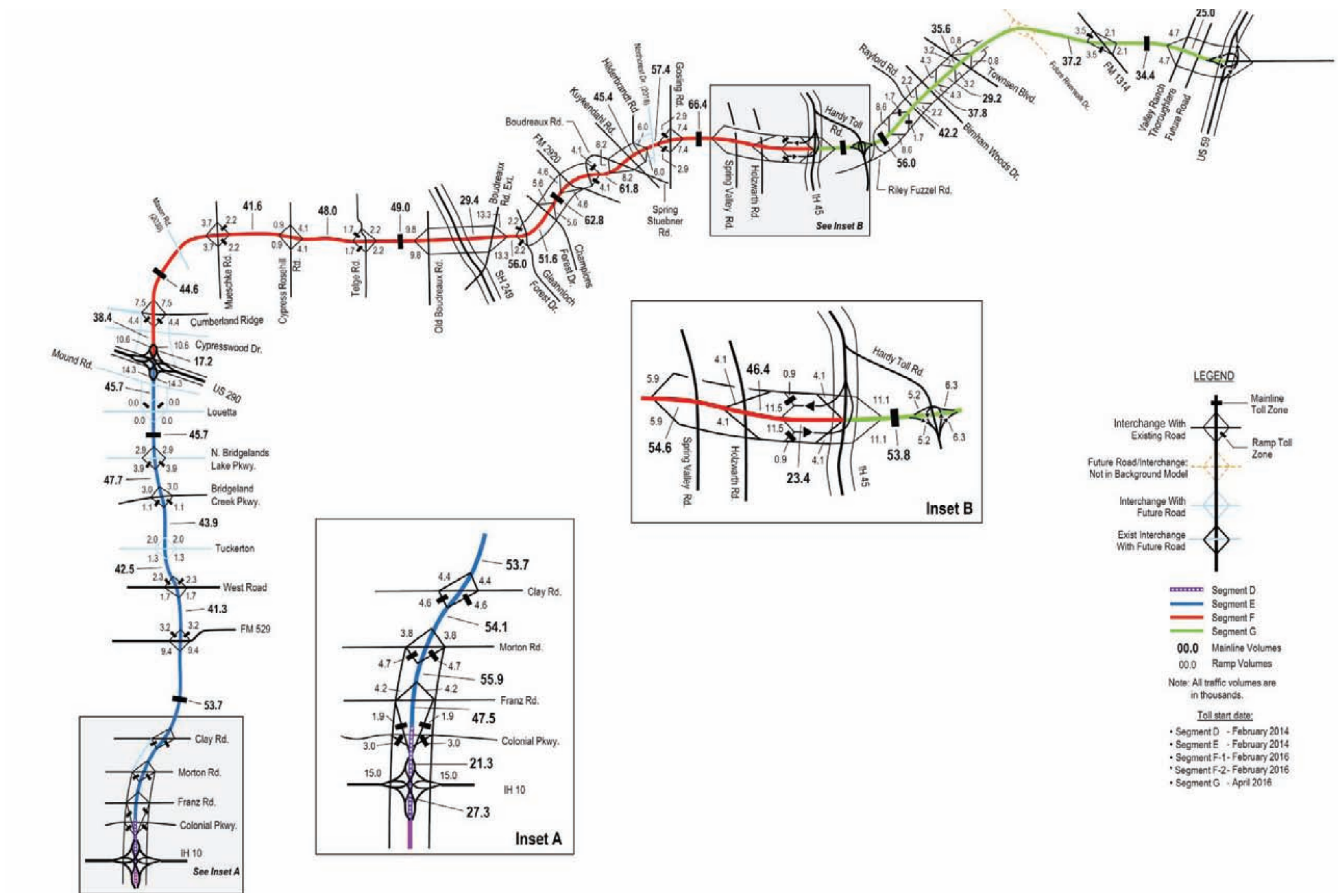


Figure 5-3
2025 Estimated Weekday Traffic under Segment H-West Expansion Revised Base Case Scenario – Segments D through G

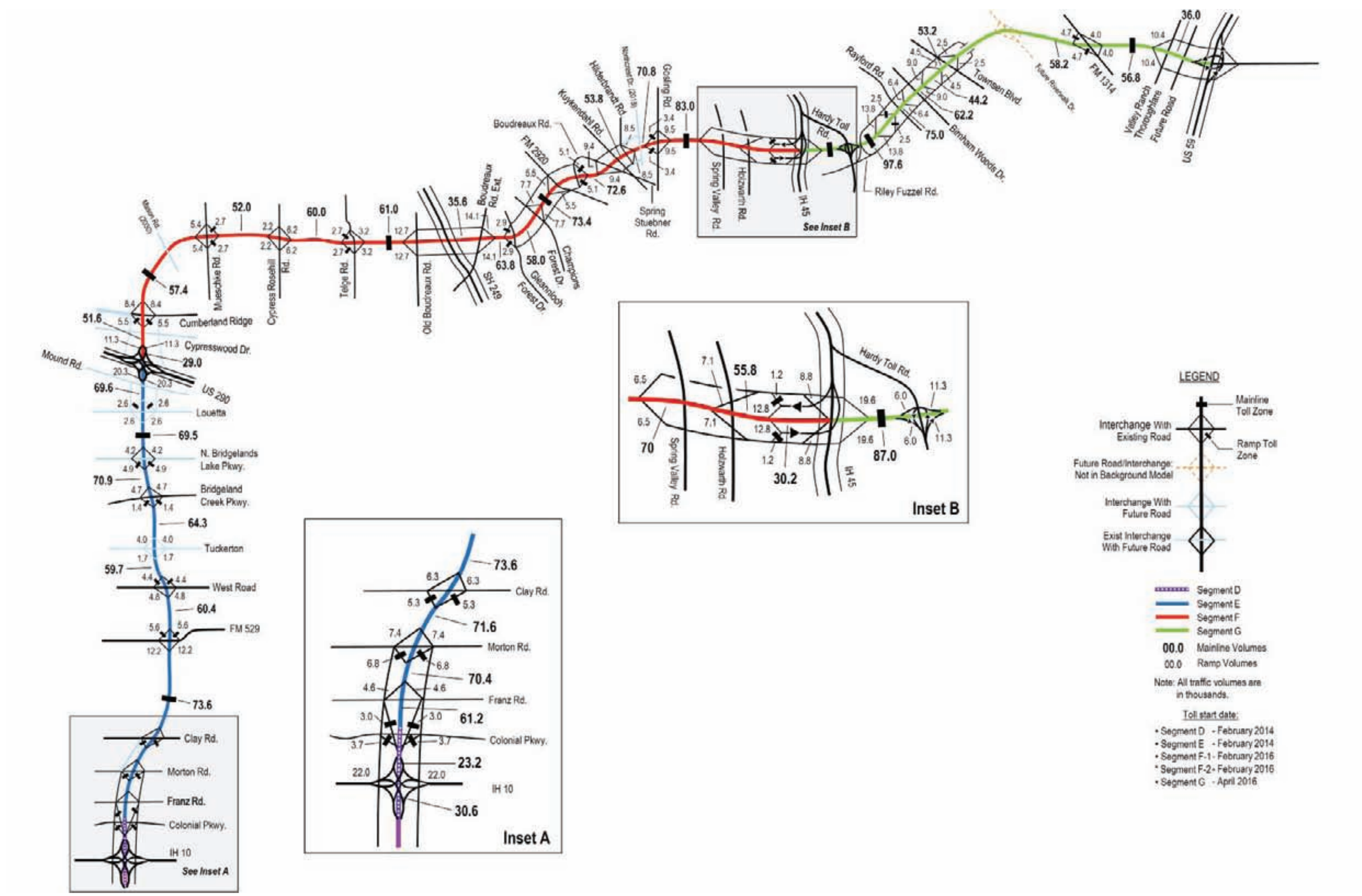


Figure 5-4
2035 Estimated Weekday Traffic under Segment H-West Expansion Revised Base Case Scenario – Segments D through G

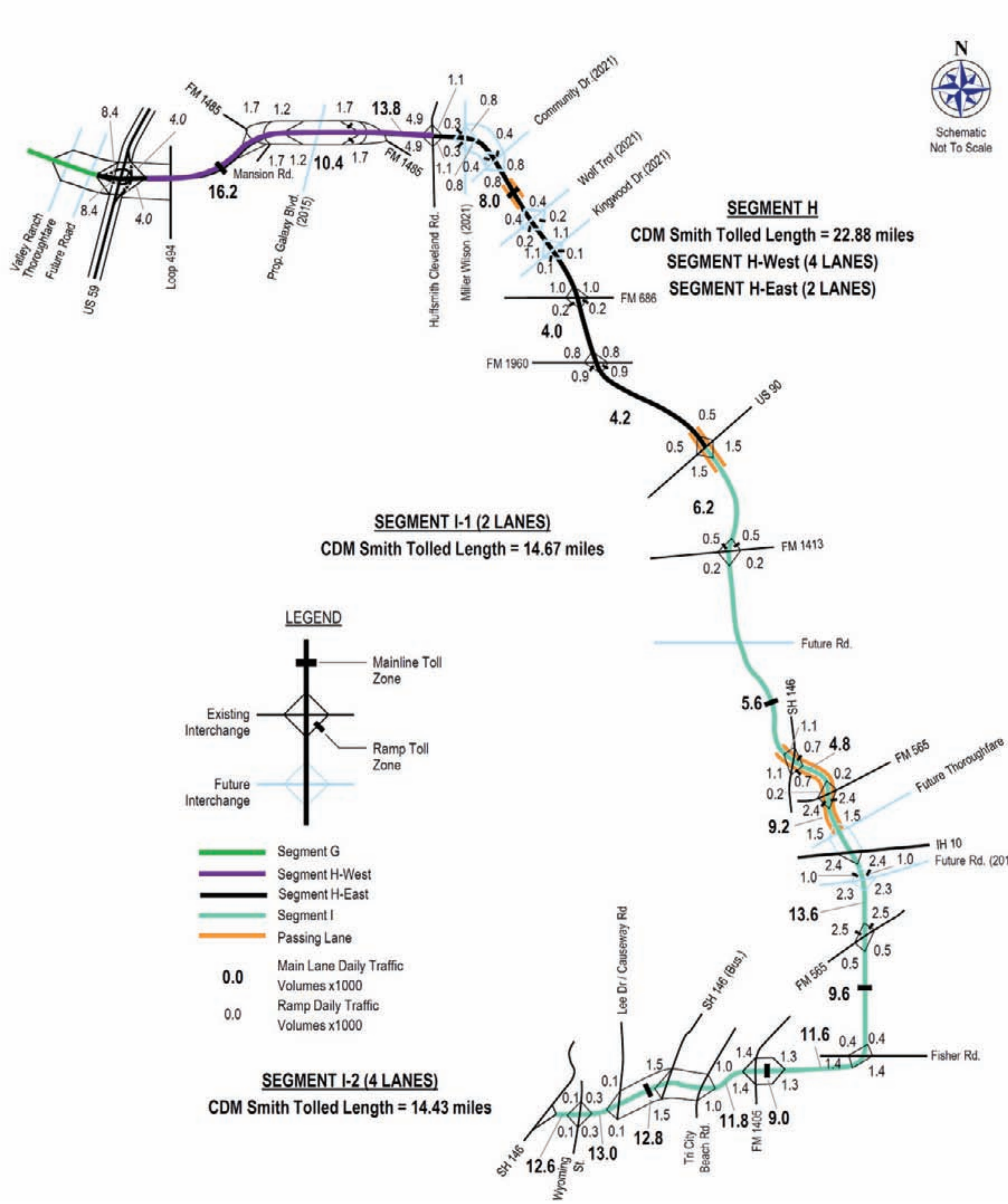


Figure 5-5
2025 Estimated Weekday Traffic under Segment H-West Expansion Revised Base Case Scenario – Segments H and I

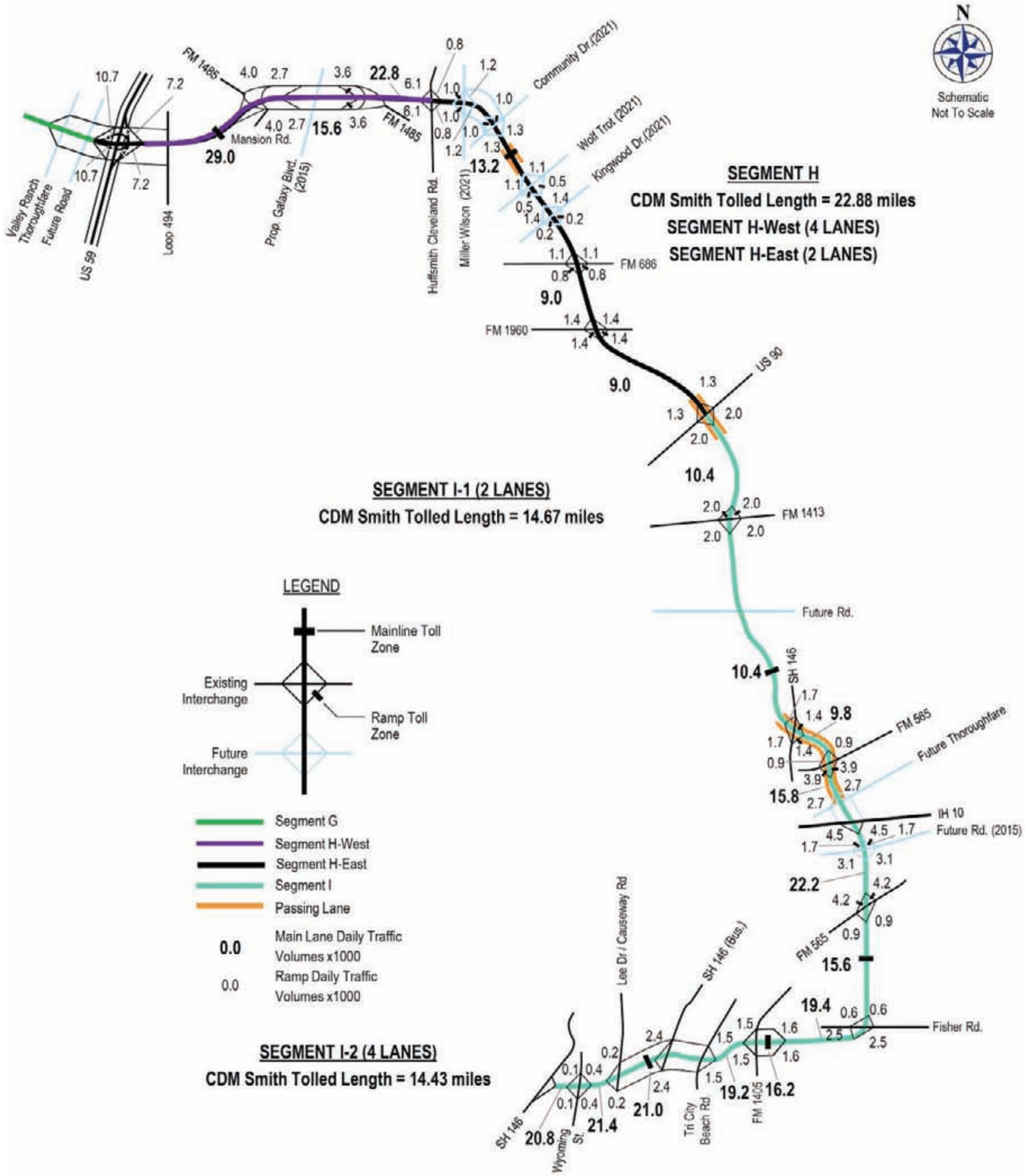


Figure 5-6
2035 Estimated Weekday Traffic under Segment H-West Expansion Revised Base Case Scenario – Segments H and I

Table 5-5 Estimated Fiscal Year Net Annual Transactions for Segments D through I under Segment H-West Expansion Revised Base Case Scenario (in thousands)

FYE 31-Aug	Gross Transactions: Segment D (Harris County)	Segment E	Segment F-1	Segment F-2	Segment G	Segment H	Segment I-1	Segment I-2A	Segment 1-2B	Total Gross Transactions	Less Non-Collectible Transactions	Total Net Transactions
2017	1,425	37,975	26,819	37,990	26,887	-	-	-	-	131,096	7,343	123,753
2018 (1)(2)	1,508	39,485	28,053	40,010	29,614	-	-	-	-	138,670	7,201	131,469
2019	1,597	41,118	29,696	42,354	33,118	-	-	-	-	147,883	7,124	140,759
2020 (5)	1,690	42,304	31,495	44,837	37,045	-	-	-	-	157,371	7,039	150,332
2021	1,753	43,463	32,589	46,100	39,798	-	-	-	-	163,703	6,956	156,747
2022	1,799	44,566	33,323	46,638	41,549	1,288	621	1,485	1,037	172,306	6,960	165,346
2023	1,845	45,694	34,078	47,385	44,347	5,693	2,638	4,627	4,421	190,728	7,329	183,399
2024	1,894	46,867	34,852	48,042	46,804	7,728	3,398	4,964	5,713	200,262	7,324	192,938
2025	1,945	48,081	35,646	48,710	49,395	9,632	4,010	5,297	6,760	209,476	7,293	202,183
2026	1,987	49,539	36,485	49,551	51,998	10,662	4,377	5,591	7,335	217,525	7,219	210,306
2027	2,028	51,146	37,363	50,494	54,672	11,321	4,662	5,879	7,734	225,299	7,130	218,169
2028 (3)	2,068	52,876	38,260	51,451	57,488	12,025	4,967	6,179	8,161	233,475	7,051	226,424
2029	2,108	54,843	39,181	52,430	60,450	12,776	5,295	6,496	8,609	242,188	6,985	235,203
2030 (4)	2,150	56,806	40,124	53,425	63,567	13,579	5,653	6,830	9,083	251,217	6,924	244,293
2031	2,192	58,812	41,090	54,443	66,849	14,438	6,036	7,180	9,582	260,622	6,870	253,752
2032	2,236	60,823	42,081	55,479	70,301	15,357	6,449	7,549	10,107	270,382	6,823	263,559
2033	2,279	62,908	43,097	56,534	73,933	16,341	6,897	7,936	10,666	280,591	6,784	273,807
2034	2,322	65,075	44,137	57,615	77,754	17,395	7,382	8,341	11,252	291,273	6,750	284,523
2035	2,370	67,714	45,204	58,712	81,777	18,525	7,909	8,773	11,872	302,856	6,736	296,120
2036	2,425	69,810	46,320	60,066	84,521	19,288	8,252	9,064	12,285	312,031	6,941	305,090
2037	2,485	71,556	47,481	61,569	86,635	19,867	8,499	9,289	12,590	319,971	7,116	312,855
2038	2,547	73,345	48,667	63,108	88,801	20,463	8,754	9,524	12,904	328,113	7,298	320,815
2039	2,610	75,179	49,881	64,686	91,022	21,077	9,016	9,763	13,228	336,462	7,483	328,979
2040	2,669	76,805	50,962	66,085	92,990	21,567	9,228	9,971	13,513	343,790	7,646	336,144
2041	2,719	78,341	51,982	67,405	94,851	21,998	9,412	10,171	13,784	350,663	7,797	342,866
2042	2,776	79,907	53,022	68,754	96,749	22,438	9,600	10,376	14,061	357,683	7,956	349,727
2043	2,831	81,506	54,080	70,130	98,682	22,887	9,791	10,582	14,341	364,830	8,115	356,715
2044	2,885	83,136	55,163	71,533	100,656	23,344	9,988	10,793	14,629	372,127	8,276	363,851
2045	2,934	84,521	56,080	72,362	102,331	23,733	10,153	10,973	14,870	377,957	8,406	369,551
2046	2,979	85,788	56,923	72,905	103,866	24,089	10,305	11,140	15,092	383,087	8,520	374,567
2047	3,025	87,075	57,776	73,451	105,424	24,450	10,459	11,306	15,320	388,286	8,637	379,649
2048	3,070	88,379	58,642	74,002	106,475	24,817	10,616	11,475	15,550	393,026	8,741	384,285
2049	3,116	89,708	59,525	74,556	107,272	25,189	10,777	11,647	15,785	397,575	8,842	388,733
2050	3,153	90,751	60,216	74,992	107,897	25,482	10,902	11,782	15,969	401,144	8,921	392,223
2051	3,183	91,658	60,817	75,367	108,438	25,737	11,011	11,900	16,129	404,240	8,991	395,249
2052	3,214	92,573	61,425	75,743	108,979	25,994	11,121	12,021	16,290	407,360	9,059	398,301
2053	3,248	93,499	62,041	76,123	109,523	26,254	11,232	12,141	16,452	410,513	9,130	401,383
2054	3,279	94,434	62,662	76,504	110,071	26,517	11,345	12,264	16,616	413,692	9,201	404,491
2055	3,300	94,905	63,078	76,757	110,437	26,693	11,420	12,343	16,724	415,657	9,245	406,412
2056	3,319	95,143	63,392	76,949	110,712	26,827	11,475	12,404	16,808	417,029	9,275	407,754
2057	3,335	95,380	63,710	77,143	110,989	26,961	11,534	12,466	16,891	418,409	9,306	409,103
Total	**102,298**	**2,843,494**	**1,937,418**	**2,512,390**	**3,244,667**	**692,432**	**295,184**	**330,522**	**442,163**	**12,400,568**	**318,743**	**12,081,825**

Note
Source: CDM Smith Estimates, August 15, 2017
(1) N Bridgeland Lake Parkway (Segment E) and Tuckerton Road (Segment E) interchanges are assumed to be open from January 1, 2018 and July 1, 2018 respectively.
(2) Southbound frontage road between Morton Road and Clay Road (Segment E) assumed to be open on January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) assumed to be open on January 1, 2018.
(3) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.
(4) No interchanges are assumed for Mason Road (Segment F-1).
(5) May 9, 2022 tolling start date of Segments H, I-1,I-2A and I-2B.

CDM Smith

Table 5-6 Estimated Fiscal Year Annual Revenue for Segments D through I under Segment H-West Expansion Revised Base Case Scenario (in thousands)

FYE 31-Aug	Gross Revenue										Less Non-Collectible Revenue	Total Net Toll Revenues
	Segment D (Harris	Segment E	Segment F-1	Segment F-2	Segment G	Segment H	Segment I-1	Segment I-2A	Segment 1-2B	Total Gross Toll Revenues		
2017	$6,850	$49,194	$31,514	$43,347	$24,163	-	-	-	-	$155,068	$8,685	$146,383
2018 (1)(2)	7,086	51,203	33,510	46,527	27,077	-	-	-	-	165,403	8,589	156,814
2019	7,393	53,705	35,978	50,379	30,761	-	-	-	-	178,216	8,585	169,631
2020 (5)	7,787	56,314	38,491	54,712	34,777	-	-	-	-	192,081	8,591	183,490
2021	8,175	58,874	40,551	57,618	38,083	-	-	-	-	203,301	8,638	194,663
2022	8,540	61,453	42,417	59,645	40,824	$2,871	$1,212	$2,677	$712	220,351	8,900	211,451
2023	8,910	64,056	44,242	61,847	44,857	12,835	5,278	8,253	3,088	253,366	9,734	243,632
2024	9,304	66,804	46,192	64,042	48,588	17,666	7,008	8,854	4,083	272,540	9,966	262,574
2025	9,739	69,862	48,282	66,396	52,882	22,356	8,540	9,464	4,914	292,435	10,184	282,251
2026	10,213	73,439	50,577	68,984	57,103	25,131	9,532	10,114	5,447	310,540	10,306	300,234
2027	10,713	77,422	52,781	71,730	61,142	27,063	10,325	10,829	5,875	327,880	10,377	317,503
2028 (3)	11,234	81,320	55,193	74,706	65,575	29,203	11,193	11,555	6,339	346,318	10,458	335,860
2029	11,778	85,686	57,805	77,677	70,409	31,496	12,145	12,348	6,831	366,176	10,560	355,616
2030 (4)	12,383	90,455	60,535	81,033	75,745	33,986	13,181	13,221	7,364	387,903	10,692	377,211
2031	12,978	95,275	63,213	84,304	81,362	36,724	14,319	14,160	7,927	410,262	10,817	399,445
2032	13,621	100,454	66,049	87,635	87,386	39,666	15,536	15,150	8,538	434,035	10,952	423,083
2033	14,320	105,924	69,082	91,363	93,943	42,853	16,897	16,197	9,186	459,765	11,115	448,650
2034	15,017	111,538	72,193	94,927	100,932	46,272	18,372	17,327	9,883	486,461	11,274	475,187
2035	15,674	117,693	75,544	98,751	108,208	49,969	19,958	18,556	10,676	515,029	11,454	503,575
2036	16,427	123,665	79,204	103,171	114,277	53,037	21,231	19,551	11,331	541,894	12,052	529,842
2037	17,215	129,663	83,021	108,037	119,641	55,855	22,353	20,473	11,805	568,063	12,634	555,429
2038	18,013	135,654	86,989	113,402	125,551	58,780	23,538	21,453	12,353	595,734	13,249	582,485
2039	18,849	142,027	90,938	118,837	131,445	61,882	24,779	22,463	12,973	624,193	13,882	610,311
2040	19,713	148,344	94,971	124,001	137,091	64,725	25,924	23,486	13,567	651,822	14,496	637,326
2041	20,532	154,604	98,957	129,307	142,990	67,487	26,993	24,471	14,112	679,453	15,111	664,342
2042	21,386	161,097	103,179	134,681	148,992	70,365	28,145	25,519	14,700	708,064	15,749	692,315
2043	22,315	168,028	107,780	140,591	155,528	73,318	29,369	26,576	15,330	738,836	16,432	722,404
2044	23,252	175,171	112,229	146,406	161,940	76,374	30,586	27,682	15,976	769,616	17,117	752,499
2045	24,169	182,001	116,467	151,158	168,264	79,376	31,761	28,781	16,591	798,568	17,760	780,808
2046	25,093	188,947	120,902	155,744	174,746	82,314	32,965	29,900	17,191	827,802	18,410	809,392
2047	26,022	195,951	125,526	160,493	181,097	85,409	34,217	31,012	17,859	857,587	19,074	838,513
2048	26,997	203,186	130,074	165,283	186,978	88,618	35,491	32,122	18,584	887,333	19,733	867,600
2049	28,031	210,945	134,827	170,160	192,754	91,913	36,804	33,338	19,266	918,038	20,416	897,622
2050	28,991	218,078	139,516	174,820	198,083	94,985	38,072	34,482	19,862	946,889	21,059	925,830
2051	29,927	225,100	144,145	179,604	203,405	98,091	39,312	35,603	20,508	975,696	21,700	953,996
2052	30,877	232,348	148,858	184,337	209,022	101,229	40,559	36,754	21,185	1,005,169	22,355	982,814
2053	31,857	239,743	153,667	189,464	214,619	104,520	41,851	37,901	21,878	1,035,500	23,031	1,012,469
2054	32,862	247,434	158,550	194,611	220,193	107,906	43,191	39,138	22,580	1,066,465	23,718	1,042,747
2055	33,752	254,103	163,155	199,596	225,614	110,992	44,429	40,296	23,218	1,095,156	24,356	1,070,800
2056	34,584	260,222	167,435	204,321	231,268	113,993	45,637	41,378	23,824	1,122,662	24,967	1,097,695
2057	35,454	266,839	171,858	209,435	236,829	117,131	46,882	42,484	24,440	1,151,352	25,606	1,125,746
Total	**$768,033**	**$5,733,821**	**$3,716,397**	**$4,793,082**	**$5,024,144**	**$2,276,389**	**$907,592**	**$843,568**	**$479,996**	**$24,543,022**	**$602,784**	**$23,940,238**

Note

Source: CDM Smith Estimates, August 15, 2017

(1) N Bridgeland Lake Parkway (Segment E) and Tuckerton Road (Segment E) interchanges are assumed to be open from January 1, 2018 and July 1, 2018 respectively.

(2) Southbound frontage road between Morton Road and Clay Road (Segment E) assumed to be open on January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) assumed to be open on January 1, 2018.

(3) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.

(4) No interchanges are assumed for Mason Road (Segment F-1).

(5) May 9, 2022 tolling start date of Segments H, I-1, I-2A and I-2B.

Proposed Segments H & I are projected to add 21 percent and 26 percent in revenue to the Grand Parkway System in fiscal years 2025 and 2035, respectively (as shown in **Appendix C**, **Exhibit C-3**). Exhibit C-3 also includes comparison of T&R projections included in this study with T&R projections in the June 2013 Grand Parkway Segments D through G Comprehensive T&R Study. The exhibit also shows average annual growth rates for all segments, share of 2035 revenues by segments, and share of truck transactions by segments.

5.2.2 SH 249 Direct Connectors under Segment H-West Expansion

In this scenario, four new direct connectors at the SH 249 and Grand Parkway Segment F1/F2 interchange were assumed. The direct connectors assumed at this interchange included Westbound to Southbound; Northbound to Westbound; Eastbound to Southbound and Northbound to Eastbound. The configuration of the interchange is illustrated in **Figure 5-7**. These direct connectors will operate with one lane per direction.

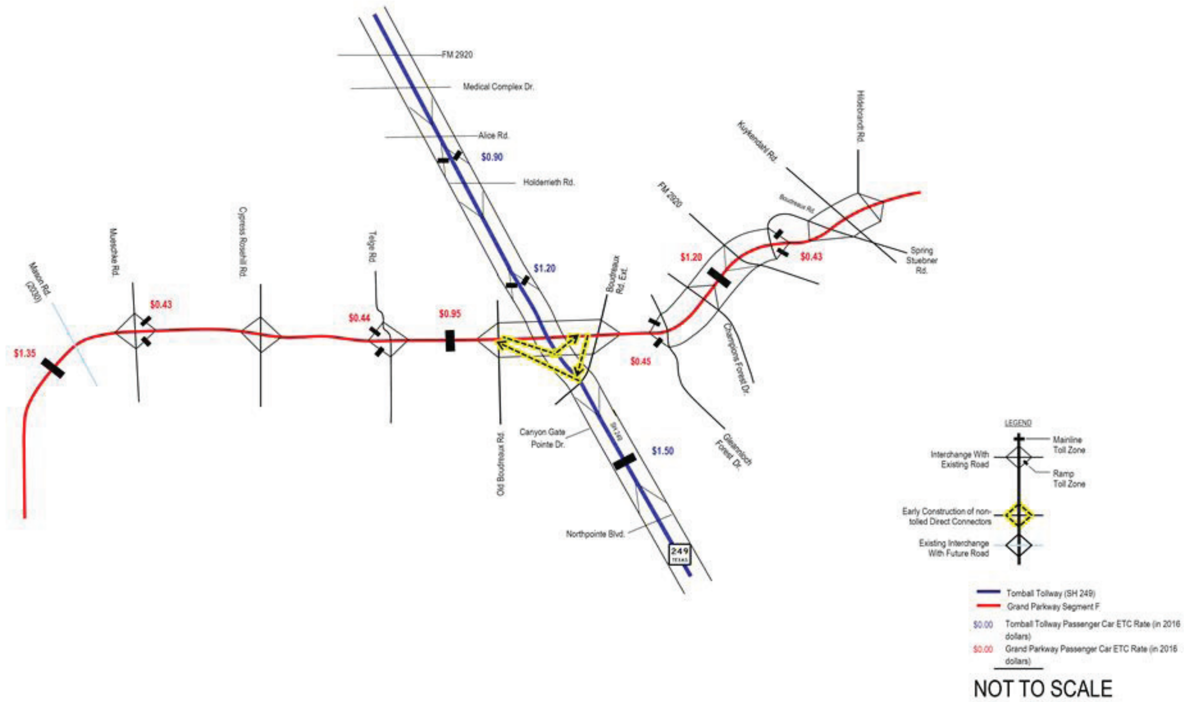


Figure 5-7 SH 249 Direct Connectors Configuration

The four proposed DCs will result in a 1.1 percent and 0.7 percent increase in total Segments D through I revenues compared to the Revised Base Case in 2022 and 2035 respectively. Traffic and Revenue impacts on Grand Parkway System D through I shown on **Table 5-7**. The Revised Base Case refers to the Segment H-West expansion scenario.

Table 5-7 Transaction and Revenue Impacts Associated with SH 249 DCs (in calendar year)

Scenario	Total Annual Transactions		Total Annual Toll Revenue ($ Thousands)	
	2022	2035	2022	2035
Revised Base Case Forecast (1)	**179,017**	**306,817**	**$232,379**	**$524,778**
SH 249 DCs	**181,005**	**309,034**	**$234,983**	**$528,588**
Difference vs. Base	1,988	2,217	2,604	3,810
% Impact vs. Base	+1.1%	+0.7%	+1.1%	+0.7%

Note:
(1) Revised Base case forecast refers to T&R for Grand Parkway D through I under the Segment H-West Expansion, with Segments H&I toll start date of May 9, 2022 (dated August 15, 2017).

5.2.3 Pay-By-Mail (PBM) option under Segment H-West Expansion

Under the PBM option, travelers without a valid transponder can use the Grand Parkway Segments D through I are considered as PBM customers. When a motorist without a valid transponder drives through toll gantries along the Grand Parkway, high-speed cameras take digital images of the license plate, and the PBM tolls are billed to the registered owner of the vehicle. It was assumed that there will be signage along the Grand Parkway to let users know that Pay-By-Mail is being implemented. The PBM toll was assumed to be same as the AVI toll (which means there is no PBM toll surcharge). No additional fee based revenue is included in the net revenues shown under this scenario, consistent with net revenues calculation in the Initial Base Case traffic & revenue estimates.

In this scenario, there could be a potential increase in the overall transactions along the Grand Parkway Segments D through I (in the range of approximately 3 -5 percent) due to the implementation of the PBM, mainly due to the increased usage by non-AVI/PBM customers. This increase in transactions in turn results in increased gross revenue collections in year 2020, 2025 and 2035. The net revenue change is also positive in 2020 and 2025 compared to the Revised Base Case net revenue. However, the net revenue decreases by 2.0 percent in 2035. The traffic and revenue impacts on Grand Parkway System D through I shown on **Table 5-8**.

Table 5-8 Transaction and Revenue Impacts Associated with Pay-By-Mail (in calendar year)

Scenario	Total Annual Transactions (Thousands)			Total Annual Gross Toll Revenue ($ Thousands)			Total Annual Net Toll Revenue ($ Thousands)		
	2020	2025	2035	2020	2025	2035	2020	2025	2035
Revised Base Case Forecast (1)	**160,574**	**212,336**	**306,817**	**$196,798**	**$298,838**	**$524,778**	**$188,142**	**$288,595**	**$513,106**
0% surcharge	**169,249**	**221,449**	**317,011**	**$207,155**	**$311,600**	**$542,328**	**$189,907**	**$289,132**	**$502,759**
Difference vs. Base	8,675	9,113	10,194	10,357	12,762	17,550	1,765	537	-10,347
% Impact vs. Base	+5.4%	+4.3%	+3.3%	+5.3%	+4.3%	+3.3%	+0.9%	+0.2%	-2.0%

Notes:

(1) Revised Base case forecast refers to T&R for Grand Parkway D through I under the Segment H-West Expansion, with Segments H&I toll start date of May 9, 2022 (dated August 15, 2017).

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Appendix A

Independent Economic Review

This appendix contains the documentation of the independent economic review as provided by the subconsultant, CDS Market Research. This report was provided to CDM Smith in June 2016.

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Grand Parkway Segments D-I Economic and Demographic Forecast 2016 Update

Prepared For:

Prepared By:

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COMMUNITY DEVELOPMENT STRATEGIES
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Houston, TX 77077

June 2016

Table of Contents

Table of Exhibits

Introduction and Objectives

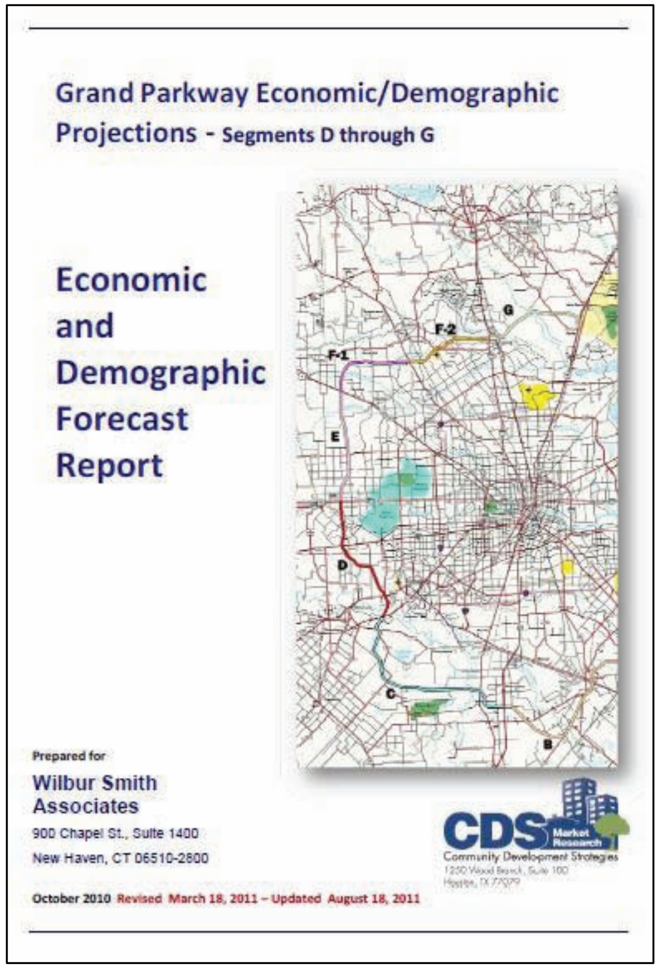
The following work is in support of the Traffic and Revenue Study of the Grand Parkway Segments D through I toll road.

In order to estimate the potential traffic and subsequent revenue on the toll lanes, CDM Smith contracted with CDS to provide small area forecasts of population and jobs in five year increments between the years of 2010 and 2040.

This effort builds upon a 2011 economic and demographic forecast and analysis for the original tolled sections of Grand Parkway Segments D through G. That 2011 analysis and forecast was further refined in a 2013 report focused on Grand Parkway segments H & I and further still in a 2015 project covering the entirety of segments D through I.

This report provides an update of the forecasts issued in 2015 to account for changing conditions, particularly the economic slowdown brought on by low oil and gas prices, and recent "announced" and "under construction" residential and commercial development. Information and material from other updates to the original 2011 report, completed from 2011 through 2015 for TxDOT, the Harris County Toll Road Authority (HCTRA), and the Fort Bend County Toll Road Authority (FBCTRA) is also included.

Previous Forecast Report


Grand Parkway Economic/Demographic Projections - Segments D through G

Economic and Demographic Forecast Report

Prepared for
Wilbur Smith Associates
900 Chapel St., Suite 1400
New Haven, CT 06510-2800

CDS Market Research
Community Development Strategies

October 2010 Revised March 18, 2011 – Updated August 18, 2011

Houston Metropolitan Trends

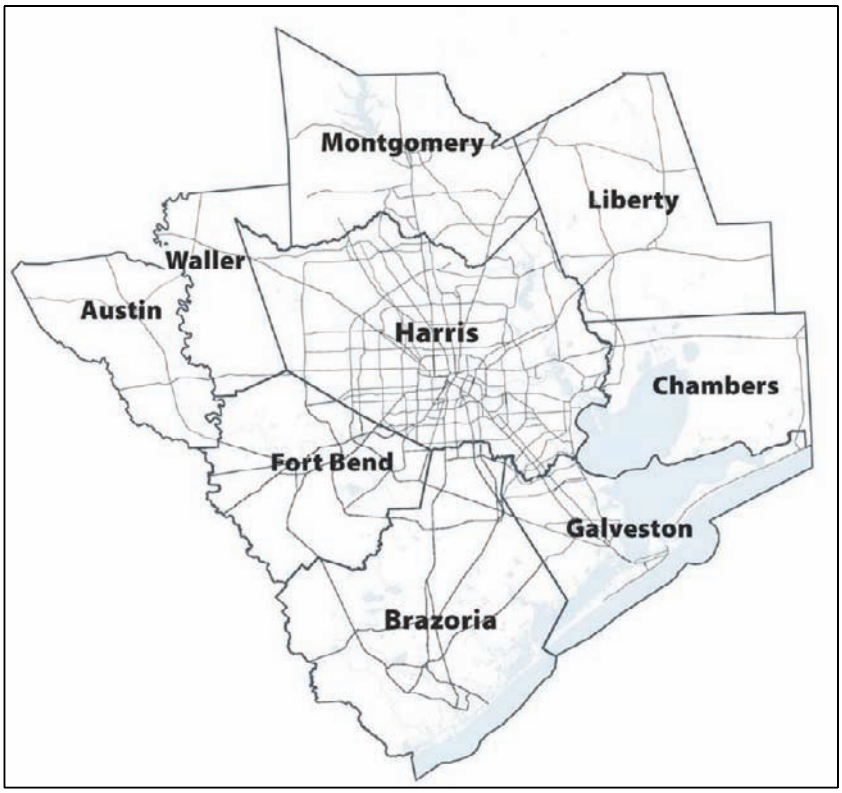
In this report, the overall historical growth of the Houston metropolitan region will be presented and analyzed. In addition, various projections of regional growth were investigated and compared. These forecasts, which have a basis in the population and household counts of the 2010 Census, form the starting point for the small area projections that are the end result of this analysis.

Overview of Houston Regional Growth Trends

The Houston Area Economy

Over the years Houston's economy has evolved from a manufacturing economy to a services based economy. According to the Texas Workforce Comission's March 2016 data, service-related jobs, including Government jobs, now account for 80% of the jobs in the Houston MSA. Houston is evolving into an economy based on multiple industries including engineering, computer, legal, accounting and administrative services. Houston's diversification and growth in the services sector is reflected in the charts depicting industry change in jobs by industry seen on the following page.

Houston-The Woodlands-Sugar Land Metropolitan Statistical Area (MSA)*

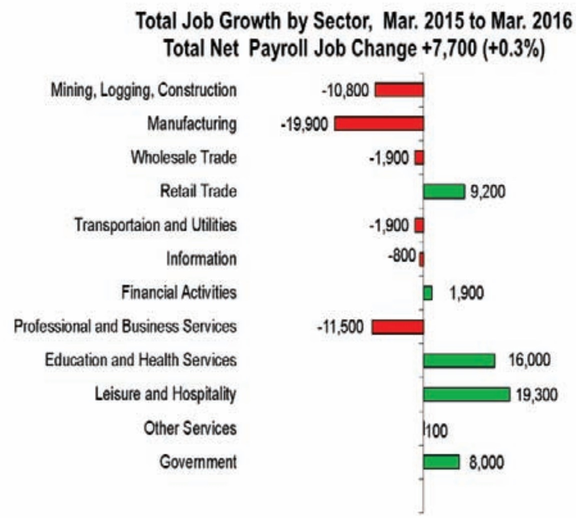


* San Jacinto County was removed from the MSA in a 2013 change to the MSA definition. It is included in this report for comparison with previous data sets.

In the 12 months from March of 2015 to March of 2016, the Houston economy was seeing the effect of declining energy prices. Crude oil prices declined from $106 per barrel in June of 2014 to $32 per barrel in January of 2016. Natural gas prices have also declined by more than 50%. In the five-year period after the Houston region began the recovery from the national recession – from January 2010 to January 2015 – the region grew by 470,000 jobs, an average of 94,000 per year. In the most recent 12-month data available – from March 2015 to March 2016 –, regional job growth slowed to 7,700 net new jobs. The sectors encompassing the energy cluster in Houston (Mining, Construction, Manufacturing and Professional Services, primarily "engineering") had substantial job losses. The modest economic growth was limited to the Retail Trade, Education and Health Services, Leisure and Hospitality and Government economic sectors.

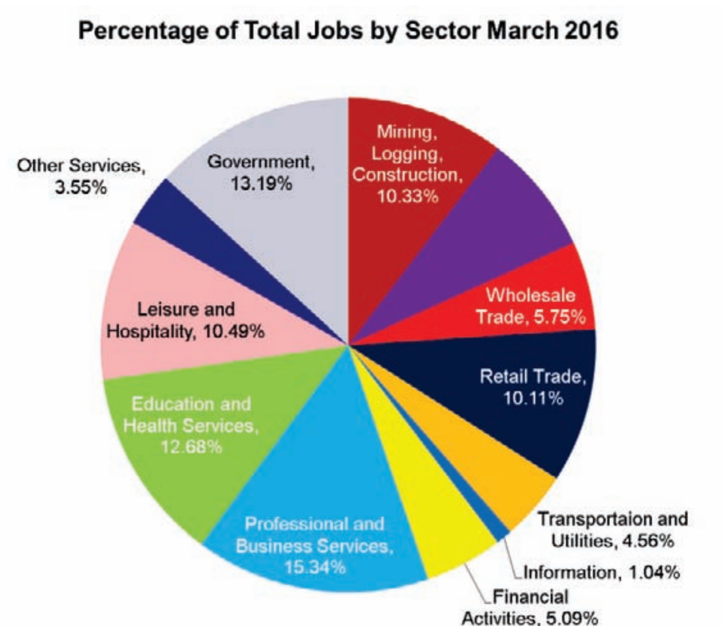
The chart on the following page, depicting long-term Houston MSA job growth, demonstrates that the Houston economy is resilient. The mid-1980's saw Houston's worst recession – losing more than 200,000 jobs when oil and natural gas prices declined. Robust economic growth followed that economic downturn with the region adding all of the lost jobs in a four-year period. The economy was flat during national recessions in the early 90s and early 00s (following the 9/11 attacks) but very robust during the intervening and subsequent years up to 2008. Houston was impacted by the recent national recession with job losses beginning in January 2009. Recent data show Houston's recovery began in early 2010 and the region has added 470,000 jobs from January 2010 to January 2015. From January 2015 to January 2016, the Houston job growth slowed to 16,400 net new jobs and the most recent two months – to March 2016 have revealed overall job losses.

Industry Shares of Job Change



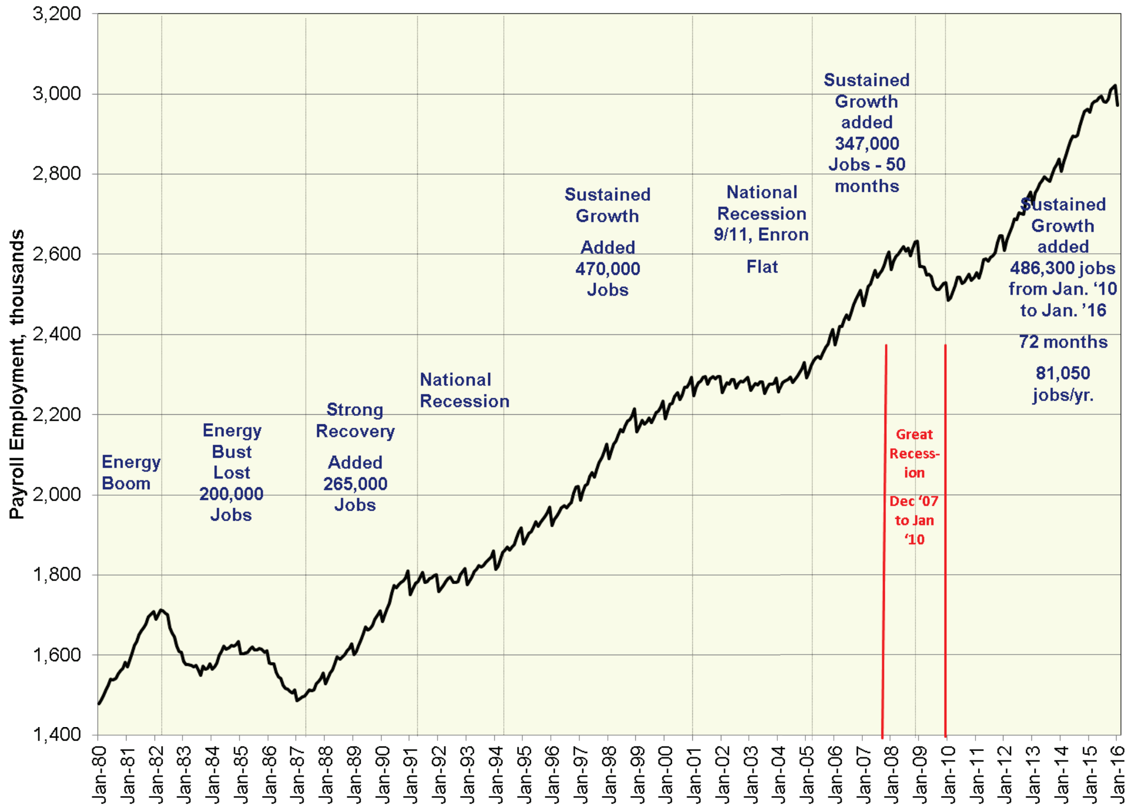
Source: Texas Workforce Commission, From Greater Houston Partnership, May 2016

Employment by Industry



Source: Texas Workforce Commission, From Greater Houston Partnership, May 2016

Houston MSA Long-Term Employment Growth Trends



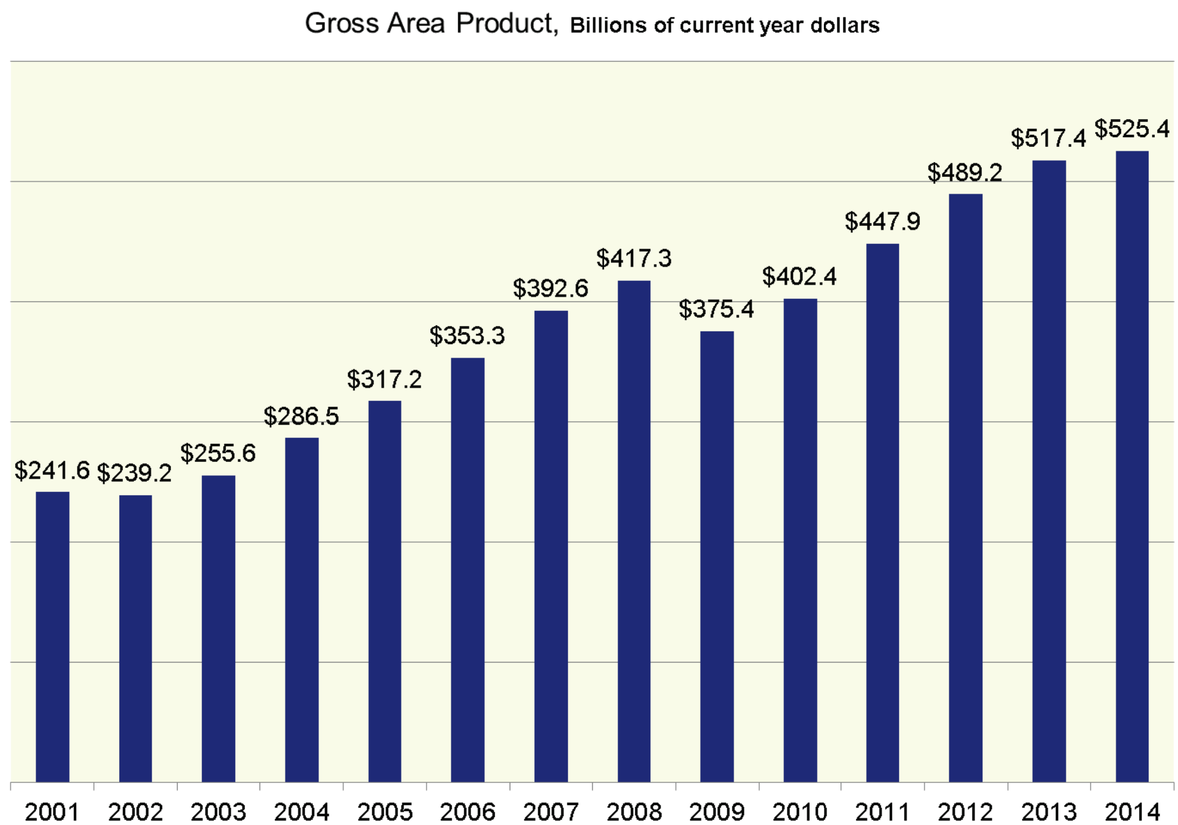
Source: Texas Workforce Commission, March 2016

Houston's economic breadth is substantiated by the number of large employers in the area. According to the Greater Houston Partnership, as of 2012 there are 116 companies in Houston with 1,000 employees or more. In order to grow, Houston's employers rely on a substantial local college and university system. There are 17 community college campuses and 16 university campuses within the Houston MSA. Rice University has gained significant national attention with its recent discoveries in the field of nanotechnology.

The growth of the Houston region's economy is illustrated in the chart on the following page. The Gross Area Product (GAP) or Real Gross Domestic Product (GDP) by metropolitan area is an inflation-adjusted measure of each area's gross product that is based on national prices for the goods and services produced within the metropolitan area. This is an excellent measure of comparative levels of real regional economic activity. For instance, a cup of coffee served at a restaurant is counted at the same dollar amount (a national average) regardless of whether it is served in high-cost New York City or low-cost Houston, Texas.

Following the national recession, the Houston economy grew by an average annual rate of 8.4% (from 2009 to 2013). The GAP for 2014, the latest year of estimates from the U.S. Bureau of Economic Analysis, illustrates a slower growth rate from 2013 – a modest 1.6%.

Houston MSA GAP



Source: U.S. Bureau of Economic Analysis

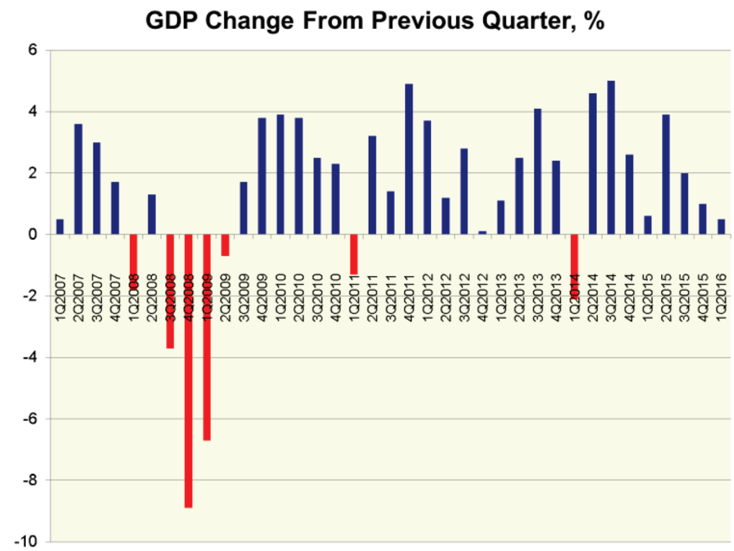
Factors Affecting Future Regional Economic Growth

According to the Federal Reserve Bank and the Greater Houston Partnership, three factors have governed the state of Houston's economy for the past ten years:

- The health of the national economy
- The value of the U.S. dollar against foreign currencies
- The price of oil and gas

All of the drivers of the economy entered a period of decline starting in mid-2008 as real GDP began to drop, the value of the dollar began to rise and in oil prices began a sharp decline. These factors began to have an effect on the Houston economy. However, since that recession until late 2014, the factors contributing to Houston's growth have been positive. In 2014-15, as oil and gas prices plummeted and the U.S. dollar strengthened, Houston's economy experienced significant stress

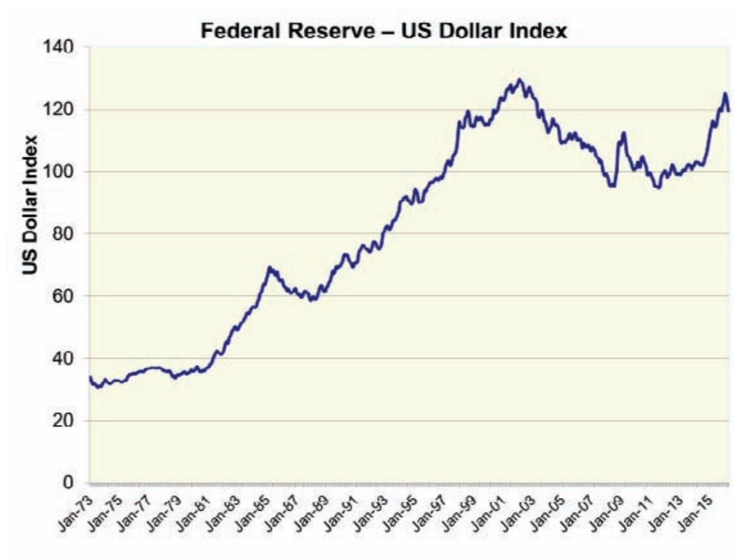
U.S GDP Trends



Source: Bureau of Economic Analysis, May 2016.

Major Foreign Currencies vs. the Dollar

Dollar Index U.S. Federal Reserve Bank

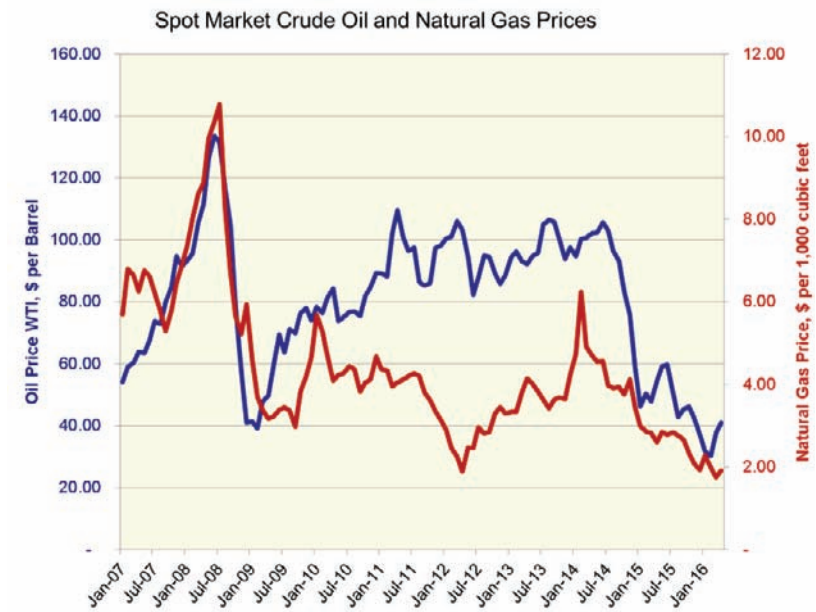


Source: U.S. Federal Reserve Bank, May 2016.

The National Economy— According to the Bureau of Economic Analysis, U.S. real gross domestic product (GDP) peaked at $13.36 trillion in the fourth quarter of 2007 and then declined by $555.0 billion by mid-2009. GDP has subsequently increased in 22 of the past 24 quarters culminating in as estimate of $17.943 trillion in the fourth quarter of 2015. GDP growth in the first quarter of 2016 was 0.5%.

The U.S. Dollar – The U.S. Dollar is at a relatively high level today as compared to the long-term historical trend of the Dollar Index of the Federal Reserve Bank. It is however, substantially lower than the peak level of 129 set in late 2001. As of February 2016 the index was 124 (only slightly below the 2001 peak of 129.). A weak dollar stimulates Houston's manufacturing/export sectors; however, such a strong dollar has the negative effect of reducing Houston's exports.

Energy Price Trends



Source: U.S. Energy Information Administration, May 2016.

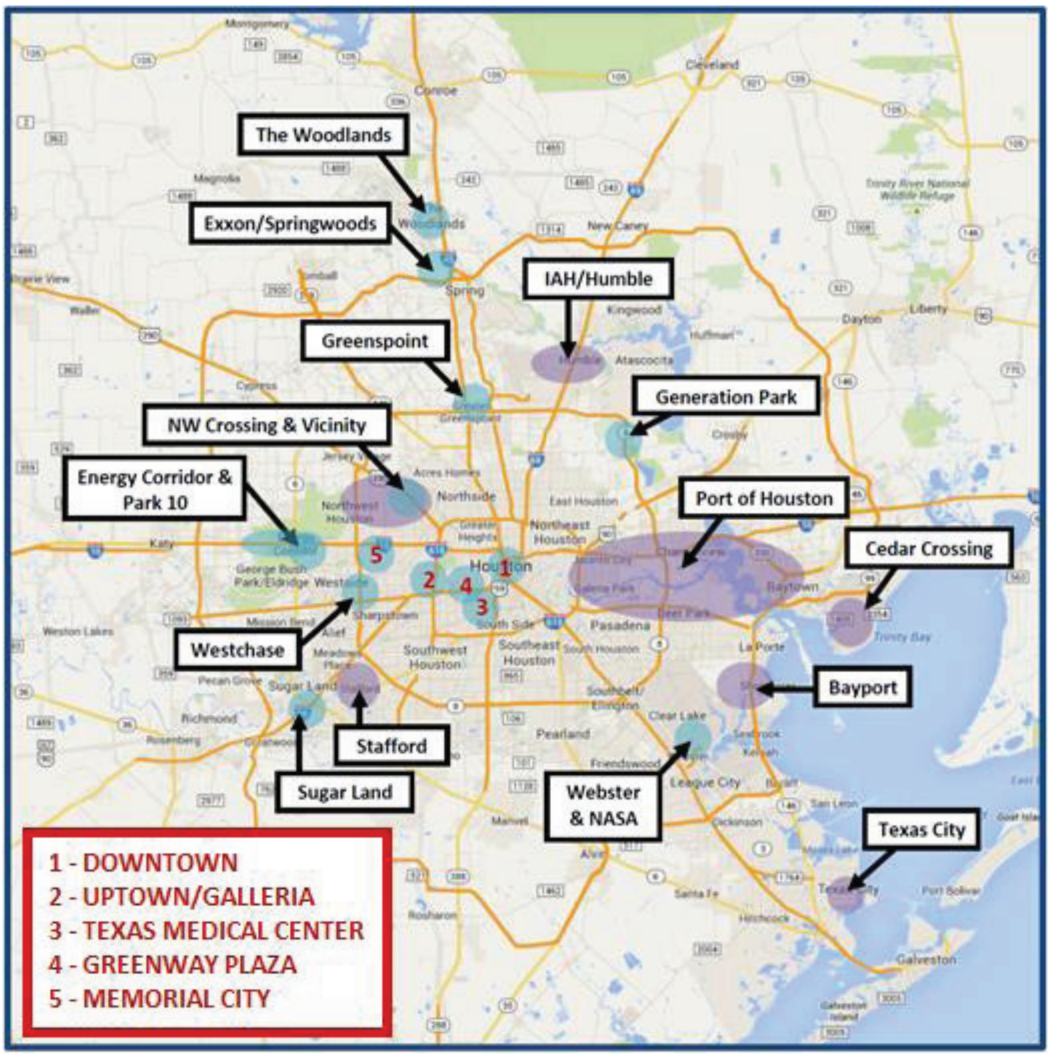
Energy Prices – Lower oil and gas prices reduce demand for oil field equipment and services, which is a strong sector within the Houston economy. Prices for West Texas Intermediate (WTI) crude began the decade in the $20-$30/Bbl range and remained there until 2004 when they began a steady climb to a peak of nearly $140/Bbl. during the first half of 2008. The worldwide recession, accompanied by a fall-off in demand, resulted in a decrease in WTI crude oil prices **(blue line in the graph to right)** to less than $40/Bbl. By 2011, WTI price rebounded to more than $100/Bbl and fluctuated within a range of $85 to $110 until June of 2014 when it declined from a high of $106, dropping to $46 in January of 2015. Oil prices rebounded slightly in the following three months of 2015, reaching $60 by May 2015. Since that point, WTI prices have continued declined to $30 per barrel in February, 2016. As of May 2016, oil prices have rebounded to $48. Concurrently, Henry Hub spot natural gas **(red line in the graph)** remained under $10/mm Btu before falling to a low of $2/mm BTU and then rebounding to $6/mm BTU in late 2009. Spot natural gas prices again fell to $2/mm BTU in the spring of 2012, but reached $6.24/mm BTU by February of 2014. Since that peak, natural gas prices dropped to $2.00/mm BTU as of February of 2016 and have dipped slightly below that level as of May of 2016.

Economic Geography

The Houston MSA has historically developed in a low-density suburban form, uninhibited by natural geographic boundaries or excessive political regulation. The region's central business district presently accounts for only about six percent of regional employment. Other loosely-defined 'edge cities' comprise a large portion of the region's employment base. These typically are made up of a loose cluster of office, medical office, hotel, and supportive retail land uses.

Examples within the Houston area include the Uptown/Galleria area and Texas Medical Center in the urban core, or the Energy Corridor and The Woodlands in the suburbs. The region's heavy industries are heavily clustered around the Houston Ship Channel and the Galveston Bay area. Additionally, a significant number of jobs are spread among Houston's suburbs in numerous office parks, retail centers, and light industrial facilities. Emerging clusters include Springwoods Village, Generation Park, and Cedar Crossing. The previous map illustrates the locations of the principal activity centers (in blue) and industrial districts (in purple). Note that all future sections of the Grand Parkway (outer ring) are indicated on the map

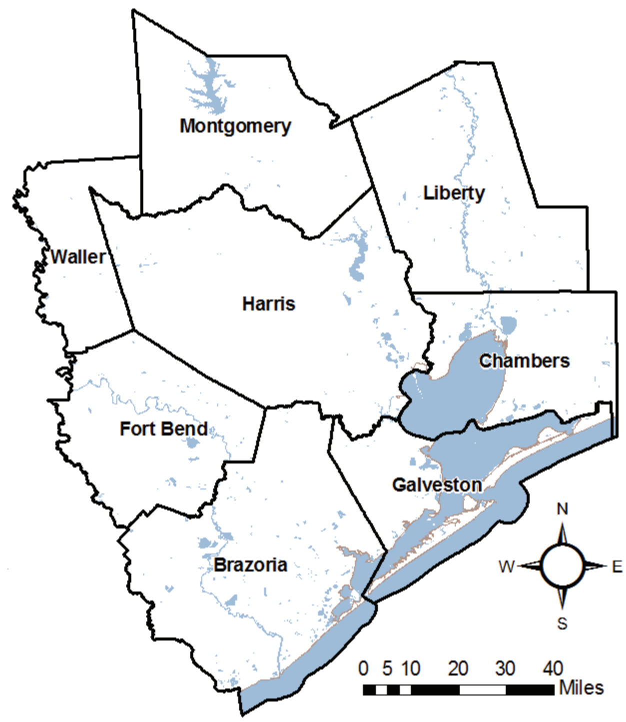
Major Regional Employment & Activity Centers



The H-GAC Transportation Planning Region

As described in the previous sections, the Houston-The Woodlands-Sugar Land Metropolitan Statistical Area (MSA) as of 2013 includes 9 counties. The MSA had previously included 10 counties, with San Jacinto County subtracted from the 2013 definition. For transportation planning purposes, the Houston-Galveston Area Council (H-GAC) as the Metropolitan Planning Organization (MPO) currently uses an 8-county region, as the Transportation Management Area (TMA) shown in the map to the right, which until 2004 was defined as the Houston-Galveston- Brazoria Combined Metropolitan Statistical Area (CMSA). Included in that geography are the following counties: Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller. The only currently-defined MSA county that is not a part of the H-GAC management area is Austin County. For the remainder of this report, the 8-county region will be the focus of the analysis.

H-GAC Transportation Management Area



Population

Historic Growth and Projections

Population growth is one of the principal measures of the economic vitality of any area because increasing population is generally the result of more jobs, a high level of immigration and a stable or expanding economy. The Houston region has a history of growth in all areas of the community. Since 1980, the growth has been biased to the southwest, west and northwestern areas of the region. The table entitled Population Growth Trends and Projections summarizes historical Census population counts for 1980, 1990, 2000, and 2010.

The Houston MSA has undergone tremendous growth in recent decades – from 3.1 million in 1980 to 4.7 million in 2000. In 2010, total population reached 5.9 million.

As the table on the right demonstrates, population has grown rapidly in the counties that comprise the 8-county region. The 2010 Census revealed that the population of the region was 5,891,999.

Fort Bend County was the fastest growing county by percentage from 2000 to 2010 adding 324,000 persons (a 91.5% increase). Montgomery County grew by 162,000 persons (a 55.1% increase) in that 10-year period. Harris County grew the most in number of net new residents adding 691,000 (a 20.3% increase).

Population Growth Trends

Counties 1960 – 2010 (in thousands of persons)

	Historical Census Population, 1,000s					Census
County	1960	1970	1980	1990	2000	2010
Brazoria	76	108	170	192	242	313
Chambers	10	12	19	20	26	40
Fort Bend	41	52	131	225	354	678
Galveston	140	170	196	217	250	291
Harris	1,243	1,742	2,410	2,818	3,401	4,092
Liberty	32	33	47	53	70	76
Montgomery	27	49	129	182	294	456
Waller	12	14	20	23	33	36
8-Co. Total	1,581	2,180	3,122	3,730	4,670	5,892

Source: U.S. Bureau of the Census

Population Growth Accounted for by In-Migration

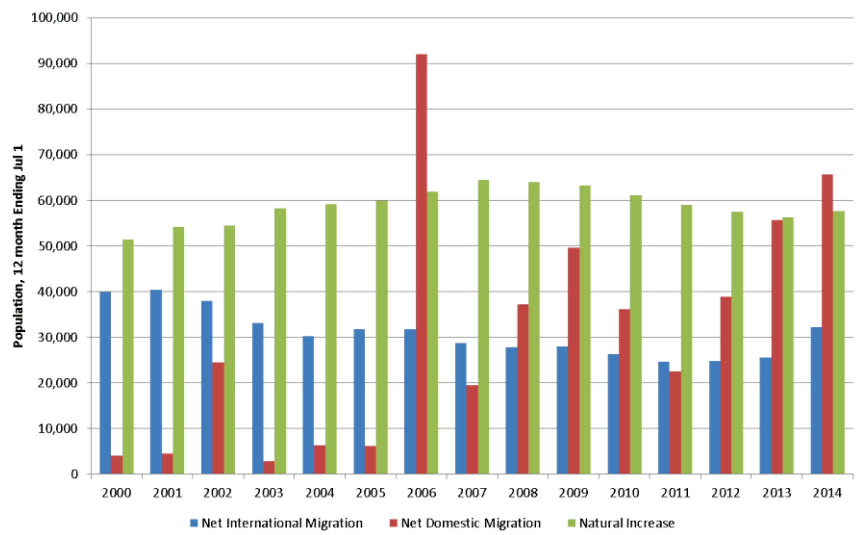
Components of change in the population published by the U.S. Bureau of the Census are presented in the chart below. Net in-migration, which is calculated based on the number of persons moving in versus the number moving out, has accounted for almost 50% of the growth in MSA population over the 2000-2011 period. International migration comprised 29.1% of the total net change while domestic migration made up a slightly smaller share of 21.7% of the net change in population in the region. Natural increase accounted for just over one-half of the increase.

The most recent data on the components of population change is shown in the lower right table. From 2010 to 2014, natural increase in the 8-county region accounts for 43.5% of the net population change while international and domestic migration accounted for 22.8% and 33.7%, respectively.

Harris County received 77.6% of the international migrants accounting for the 28.8% of the total County's change. Galveston, Grimes, Montgomery and Fort Bend counties received the largest share of their net growth from domestic migration.

Components of Population Change

Houston-The Woodlands-Sugar Land MSA (9 County)



Source: U.S. Bureau of the Census, 2014

Components of Population Change by County

Cumulative April 1 2010 to July 1 2014

County	Total Population Change	Natural Increase	International Migration	Domestic Migration
Brazoria	24,997	10,825	2,544	11,303
Chambers	3,049	891	126	1,987
Fort Bend	100,448	23,657	16,646	58,395
Galveston	22,894	6,719	2,873	13,009
Harris	348,359	187,642	100,542	63,037
Liberty	2,474	1,380	238	856
Montgomery	63,183	14,317	6,384	40,967
Waller	3,583	1,278	210	2,044
8-county Region	568,987	246,709	129,563	191,598

Source: U.S. Bureau of the Census, May 2015

Revised Regional and County Forecasts

The most significant change in the Houston area growth trends over the past two years has been the reduced rate of job growth and resulting population growth as a result of the expansion of the upstream energy and related sectors. This section describes the process involved in adjusting the current estimates of population, households and employment and adjusting the forecasts in light of the likely effect of low oil prices on the local economy over an extended time period.

Definitions of the Houston Region

The first point of clarification involves the definition of the geographical region. The **CDS model**, using Barton Smith's University of Houston- Institute for Regional Forecasting (UH-IRF) forecasts and methodology, included an eight-county geographical area (formerly called the PMSA). This 8-county region is consistent with the Transportation Planning Region used by the regional MPO, the Houston-Galveston Area Council (h-GAC) and the Texas Department of Transportation (TxDOT). CDS subsequently added Grimes County for use in developing the forecasts for the SH 249 Toll Road Traffic and Revenue study. However, as of 2013, the official U.S. Census definition of the "Houston, Woodlands-Sugar Land, TX MSA" includes nine counties (Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller). The Texas Workforce Commission uses the nine-county Census metropolitan area definition. For purposes of comparison, the CDS region definition (including Grimes County and not including Austin County) differs from the official census MSA by only 2,051 residents (0.03%). So for all overview comparisons the difference in the two region definitions is not significant.

Counties in the Houston - The Woodlands – Sugar Land MSA	Counties in the CDS/UH-IRF Houston Regional Model
Austin	
Brazoria	Brazoria
Chambers	Chambers
Fort Bend	Fort Bend
Galveston	Galveston
	Grimes
Harris	Harris
Liberty	Liberty
Montgomery	Montgomery
Waller	Waller
2015 Population	
6,656,947	**6,654,896**

In order to make changes in the long-term forecast for regional employment and population growth, recent trends (2010 to 2015) must be evaluated.

Background to the Regional Forecasts

Long-term economic forecasts are most often a reasonable extension of historical trends into the future. However, there is no assurance that those trends will be sustained. It is certain that future growth is likely to deviate, higher or lower that history would suggest. The historical employment growth of the Houston region presented, shown below, confirms that growth is not likely to follow a straight line or smooth curve into the future. All economies go through periods of growth and recession. However, one thing is clear: **the Houston regional economy is resilient and oriented to support future growth**.

In the first economic forecasting project for CDM Smith ***– Grand Parkway Economic/Demographic Projections - Segments D through G***— completed in the spring of 2011, CDS considered seven independent forecasts of population from respected organizations and three independent forecasts of employment. After the review, it was determined that "Regional and County-level forecasts" of the University of Houston – Institute for Regional Forecasting should form the appropriate basis for the small area forecasts for the Grand Parkway Investment Grade Traffic and Revenue Study."

In 2012, Dr. Barton Smith updated the forecasts to account for recent changes including the 2010 Census. All subsequent forecasts prepared for toll road traffic and revenue studies are based on these forecasts. Unfortunately, Dr. Smith has retired from the University of Houston and is no longer affiliated with the Institute for Regional Forecasting (UH-IRF). Also unfortunately, the UH-IRF, under the new leadership of Dr. Bill Gilmer, has decided to discontinue the long-term regional forecasts prepared historically by Dr. Smith – focusing instead on current and short-range regional economic analyses. The adjustment of the regional forecast is now left to CDS using a model based on the one Dr. Smith used in his earlier UH-IRF forecasts.

Recent County and Regional Population and Household Trends

The table below presents the most recent annual population estimates from the U.S. Bureau of the Census. Note that the estimates are based on a mid-year date of July 1st each year.

Total Population Estimates by County 2010 to 2015

Geography	Census Apr '10	Population Estimate (as of July 1)					
		2010	2011	2012	2013	2014	2015
Brazoria County	313,166	314,498	319,375	324,503	330,340	338,176	346,312
Chambers County	35,096	35,422	35,614	36,406	37,240	38,132	38,863
Fort Bend County	585,375	590,581	607,482	626,808	654,626	686,650	716,087
Galveston County	291,309	292,538	295,611	301,395	307,303	314,283	322,225
Grimes County	26,604	26,614	26,694	26,705	26,824	27,069	27,512
Harris County	4,092,459	4,108,187	4,181,238	4,262,504	4,352,462	4,447,577	4,538,028
Liberty County	75,643	75,857	76,074	76,471	77,032	78,200	79,654
Montgomery County	455,746	459,336	471,737	485,004	499,574	519,054	537,559
Waller County	43,205	43,455	44,023	44,337	45,420	46,798	48,656
9-County Region	**5,918,603**	**5,946,488**	**6,057,848**	**6,184,133**	**6,330,821**	**6,495,939**	**6,654,896**

Source: US Bureau of the Census – Annual Population Estimates

The CDS Forecast model, however, uses only household population excluding persons living in group quarters such as dormitories, nursing homes, jails, and prisons. The U.S. Bureau of the Census does not include estimates of persons living in group quarters in either the annual estimates series or the one or five –year estimates of the American Community Survey series. Therefore, CDS used a combination of assumptions to prepare an estimate of the 2015 Population in Households and Number of Households in the 9-county region. The result of the estimate for 2015 is shown in the table below.

Estimate of Population in Households and Number of Households by County

Area	'10-'14 Pop/Pop in HH[1]	Estimated 2015 Pop in HH	2015 Est. Pop in GQ	Estimated 2015 HH	2015 Estimated HH Size	2010 Census HH Size[2]
Brazoria Cnty	1.0335	335,300	11,012	117,250	2.86	2.84
Chambers Cnty	1.0063	38,600	263	13,200	2.92	2.92
Fort Bend Cnty	1.0093	709,800	6,287	226,350	3.14	3.09
Galveston Cnty	1.0144	317,900	4,325	112,900	2.82	2.63
Grimes Cnty	1.1266	24,500	3,012	9,200	2.66	2.65
Harris Cnty	1.0105	4,491,200	46,828	1,588,600	2.83	2.82
Liberty Cnty	1.0720	74,500	5,154	26,500	2.81	2.81
Montgomery Cnty	1.0067	534,200	3,359	190,500	2.80	2.78
Waller Cnty	1.0900	44,900	3,756	15,700	2.86	2.81
Region		**6,570,900**	**83,996**	**2,300,200**	**2.86**	**2.83**

[1] U.S. Bureau of the Census, American Community Survey. 5-Year Estimates 2010-2014.

[2] U.S. Bureau of the Census, 2010 Census.

County and Regional Employment Trends

The following table presents the most recent Nonfarm Payroll Employment estimates of the Texas Workforce Commission. This statistic includes the jobs covered by the Texas Unemployment Insurance program and does not include self-employed workers or agricultural workers. It does include government employees.

Nonfarm Payroll Employment Estimates by County 2010 to 2015

	Employment Estimate (as of 3rd Quarter)					
Geography	2010	2011	2012	2013	2014	2015
Brazoria County	85,761	88,767	92,279	95,962	99,001	103,265
Chambers County	9,385	10,002	10,736	13,281	11,800	12,824
Fort Bend County	130,168	136,308	143,536	157,415	163,299	170,096
Galveston County	94,522	95,501	95,772	98,606	101,724	103,654
Grimes County	7,274	7,813	8,264	8,162	8,361	7,737
Harris County	1,993,657	2,043,398	2,122,886	2,186,757	2,264,479	2,288,404
Liberty County	16,201	16,584	17,404	16,664	16,982	16,428
Montgomery County	127,153	134,183	142,633	150,748	157,871	165,027
Waller County	13,041	13,680	14,570	15,500	15,821	15,823
9-County Region	**2,477,162**	**2,546,236**	**2,648,080**	**2,743,095**	**2,839,338**	**2,883,258**

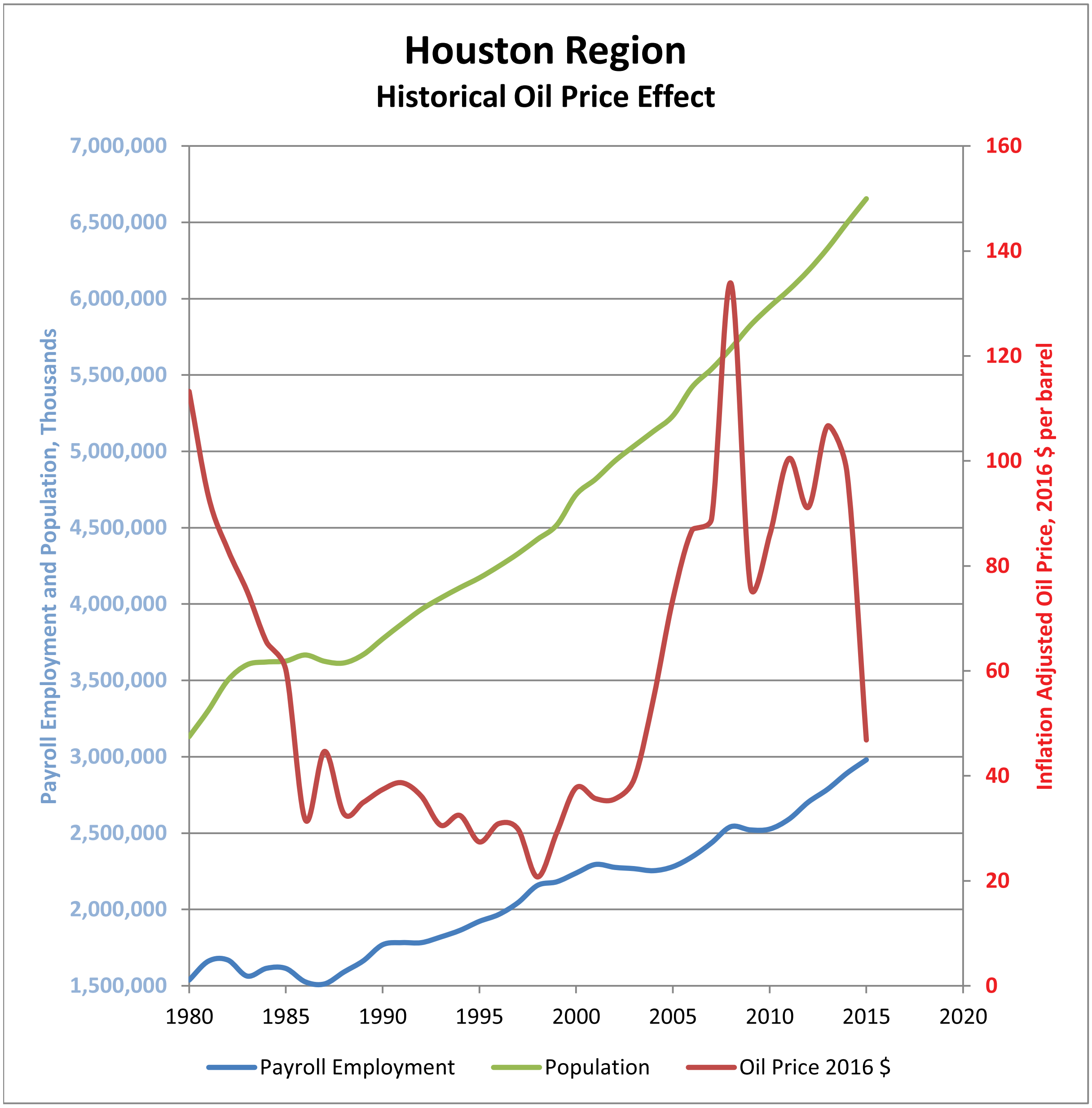
Source: Texas Workforce Commission, Quarterly Census of Employment and Wages, QCEW, April 2016.

The nine-county region added 708,408 persons over the 5-year period, an average of 141,682 new residents each year. The population growth rate actually accelerated toward the end of the time period, peaking at 165,000 from 2012 to 2014. The region added 406,096 net new jobs over the 5-year period, averaging 81,219 jobs added per year. Job growth did slow at the end of the period adding only about 44,000 jobs from 2014 to 2015. Annual Job growth during this five-year period peaked at almost 102,000 jobs added from 2011 to 2012.

Houston Economy and Oil Prices

The Houston economy, while certainly affected by the prices of crude oil and natural gas, is less dependent today than it was in the last big oil price bust in the early to mid-1980's. The chart below illustrates the job growth in the Houston economy juxtaposed with the price of crude oil (adjusted for inflation). While some effect of energy prices is apparent, the effect has not been a significant factor in the long term growth of the regional economy.

Houston Nonfarm Payroll Employment, Population and Oil Prices



Source: Texas Workforce Commission, for jobs and U.S. Energy Information Agency, adjusted by Macro Trends, http://www.macrotrends.net/1369/crude-oil-price-history-chart

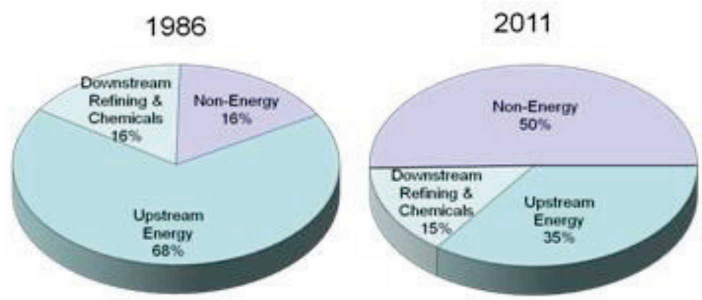
New Regional and County Forecasts

Preparing new forecast for the Houston region and its counties is based on three factors; 1) Long-term economic trends of the Houston region; 2) recent economic trends driven by declines in the commodity prices of crude oil and natural gas; and 3) future expectations for national and international economic factors and their effect on the Houston economy.

1. Long-Term Houston Economic Trends

As mentioned previously, the Houston Region has a long history of sustained economic growth. As measured by the Texas Workforce Commission and the Bureau of Labor Statistics payroll employment data, the Houston region has demonstrated sustained growth and resilience to economic recessions.

Houston's Economic Diversification



Source: University of Houston-Institute for Regional Forecasting

As described by the UH-IRF (2011 being the last year this data was produced), the pie charts on the right demonstrate the region's reduced dependence on Upstream Energy sectors. The chart below presents a long-term historical view of Houston region job trends.

Houston MSA Long-Term Employment Growth Trends

Source: Texas Workforce Commission, April 2016

The evidence provided by the previous chart, as well as the chart of "Employment, Population and Oil Prices presented previously, supports the contention that the Houston economy has remained strong for many years "weathering" recessions, energy price "busts" and changing global economic conditions.

2. Recent Trends in Energy Prices

The most recent regional jobs estimate for March of 2016 presents a relatively gloomy picture of the Houston economy. The table on the following page presents the most recent job estimates by sector. Note that this data reflects the "Houston-The Woodlands- Sugar Land MSA" and is based on the Current Employment Survey, a somewhat different series from the Quarterly Employment and Wages Survey data presented previously.

Houston MSA Nonfarm Payroll Employment March 2015 to March 2016

	Payroll Jobs		12 Month Jobs Change	
Measure	Mar-15	Mar-16	Mar '15 - Mar '16	
Total Nonfarm	2,980,100	2,987,800	7,700	0.3%
Total Private	2,594,100	2,593,800	-300	0.0%
Goods Producing	574,800	544,100	-30,700	-5.3%
Mining...Oil and Gas Extraction	52,800	50,700	-2,100	-4.0%
Mining, Support Activities	50,500	38,400	-12,100	-24.0%
Construction	214,900	217,800	2,900	1.3%
Manufacturing of Fabricated Metal Products	62,700	52,400	-10,300	-16.4%
Manufacturing of. Machinery	58,600	47,200	-11,400	-19.5%
Manufacturing of Agriculture, Construction, Mining Machinery	42,800	32,900	-9,900	-23.1%
Manufacturing of Computer and Electronic Products	17,300	15,900	-1,400	-8.1%
Petroleum and Coal Products Manufacturing	9,600	9,600	0	0.0%
Chemical Manufacturing	37,200	37,600	400	1.1%
Wholesale Trade	173,800	171,900	-1,900	-1.1%
Retail Trade	292,800	302,000	9,200	3.1%
Transportation, Warehousing, and Utilities	138,200	136,300	-1,900	-1.4%
.Information	32,000	31,200	-800	-2.5%
.Finance and Insurance	95,200	95,900	700	0.7%
.Real Estate and Rental and Leasing	54,900	56,100	1,200	2.2%
Legal Services	24,100	24,400	300	1.2%
Accounting, Tax Preparation, Bookkeeping, and Payroll Services	25,300	26,100	800	3.2%
Architectural, Engineering, and Related Services	73,800	68,000	-5,800	-7.9%
Computer Systems Design and Related Services	33,000	32,800	-200	-0.6%
Administrative and Support , Waste Management Services	211,200	204,300	-6,900	-3.3%
Educational Services	55,300	57,800	2,500	4.5%
Ambulatory Health Care Services	145,800	149,700	3,900	2.7%
Hospitals	80,600	86,700	6,100	7.6%
Accommodation and Food Services	263,800	281,000	17,200	6.5%
Other Services	105,900	106,000	100	0.1%
Federal Government	27,800	28,100	300	1.1%
State Government	73,900	74,600	700	0.9%
Local Government	284,300	291,300	7,000	2.5%

Source: Texas Workforce Commission, Monthly Employment Estimates, CES Series. April 2016

Payroll employment in the MSA grew by only 7,700 jobs in the one-year period and private sector employment actually declined by 300 jobs. The government sectors, predominately local education, accounted for all of the net new jobs in the MSA.

The weakness of upstream oil and gas business is evident in these most recent job statistics. The combination of the sectors of the upstream energy cluster reveals total losses of 45,800 jobs over the 12-month period.

An April 15, 2016 article in the Houston Chronicle stated, “The Houston area endured another net loss of jobs in March, prompting University of Houston economist Bill Gilmer to predict for the first time that the region could reach the end of 2016 with fewer jobs than it started with.”
Dr. Gilmer, who is the director of the University of Houston’s Institute for Regional Forecasting, in an April 2016 presentation, stated that, “The Greatest Oil Boom is Over for Now.” He went on to say: “This downturn is in important way the worst ever. Worse than 1982-87 because of the following:

1. Speed of decline. The total percentage declines in rig count, oil price and cap ex were worse in 1982-87. But if you look at the declines seen over the last seven quarters in this downturn – it took until 1986 before the Great Oil Bust to get that far.
2. In real 2015 dollars, the oil industry spent about $80 billion per year on exploration and production at the peak in 1982. By 2012, we had more than tripled the 1982 spending at $300 billion. The 50+ percent fall in exploration & production cap ex now expected in 2015 will be greater than the entire bill for drilling in 1982 – and by a wide margin. No wonder the entire US economy shuddered with the 2015 collapse in drilling.”

In summary, Dr. Gilmer presented preliminary estimates for regional job growth over the next 4 years as shown on the right. According to Dr. Gilmer, the region will have net job losses in 2016 and 2017 and then modest Job growth is expected to return to the Houston MSA as early as 2018 with job growth resuming to robust levels by 2018-19.

This forecast represents a significantly more pessimistic outlook from Dr. Gilmer compared to his previous iterations. In December 2014, his more pessimistic of two scenarios projected growth of approximately 48,000, 39,000, and 41,000 jobs in 2015, 2016, and 2017 respectively. By December 2015 he had revised his most pessimistic scenario further downward for 2015-16 to 14,000 and 17,000 new jobs, though he increased his 2017 projection to 49,000 new jobs. By Spring of 2016, his preliminary revised forecast had further declined to the figures provided above.

UH-IRF Preliminary Short-term Jobs Forecast

Year	Job Growth
2014	112,100
2015	23,400
Forecast	
2016	-10,800
2017	-30,000
2018	62,900
2019	97,600

Source: ***Houston Economy in 2016: An Elusive Energy Recovery***, Robert W. Gilmer, University of Houston Institute for Regional Forecasting, Capstreet Group Presentation, April 2016.

A modest rebound in oil prices have resulted in some optimism regarding the future outlook for energy prices. In a recent interview famed oil investor T. Boone Pickens stated “You could be at 50 or 60 [dollars per barrel] in 60 days. “Supply is down and demand is up and price is going to go with it.” There is still considerable uncertainty as to what level of oil price would induce a significant economic boost to the Houston economy. All indications have been that oil and gas companies are trying to become much more efficient and do more with less.

For additional reference, more data on recent regional economic trends can be found in Apendix B. Several local news articles about the regional trends in real estate are reproduced in Appendix C.

3. National and International Factors Affecting Regional Economic Growth

As stated earlier, three factors have governed the state of Houston's economy for the past ten years, according to the Federal Reserve Bank and the Greater Houston Partnership:

- The health of the national economy
- The value of the U.S. dollar against foreign currencies
- The price of oil and gas

Further discussion of these three factors is located on pages 6 and 7.

Various Forecasts of the Houston Region

In this section employment and population forecasts for the Houston region will be compared. There are five forecasts presented for comparison:

1. **CDS 2014**. The 2014, regional forecast of CDS based on the 2012 UH-IRF forecast model adding Grimes County. For the population, CDS uses only the "Population in Households" – excluding the persons in group quarters. CDS includes the 9-county region adding Grimes County to the 8-county Transportation Planning Region. For employment, CDS uses only nonfarm payroll jobs by place of employment.
2. **CDS 2015**. Based on the 2014 forecast, this 2015 updated 9-county forecast prepared by CDS accounted for higher employment growth to 2014 as well as lower crude oil prices beginning in 2014. Also included the 9-county region including Grimes County.
3. **H-GAC 2016**. The most recent forecast from the Houston-Galveston Area Council which includes the 8-county Transportation Planning Region and does not include Grimes County. H-GAC uses only Population in Households excluding the persons in group quarters. For the employment forecasts, H-GAC uses a combination of nonfarm payroll jobs and self-employed persons in the urban areas. http://www.h-gac.com/community/socioeconomic/2040-regional-growth-forecast/default.aspx
4. **TxSDC 1.0.** The 2014 forecasts from the Texas State Data Center (TxSDC) using the 1.0 Migration Scenario, assuming that the migration rates will be equal to the actual rates measured from 2000 to 2010 in all future years. http://osd.texas.gov/Data/TPEPP/Projections/ Region used includes the 9-counties as in the CDS forecasts. TxSDC forecasts population and demographic characteristics only, not employment.
5. **TxSDC 0.5.** The 2014 forecasts from the Texas State Data Center (TxSDC) using the 0.5 Migration Scenario, assuming that the migration rates will be half of the actual rates measured from 2000 to 2010 in all future years. http://osd.texas.gov/Data/TPEPP/Projections/ Region used includes the 9-counties as in the CDS forecasts.
6. **W & P 2016**. The most recent forecast from the firm, Woods and Poole Economics, Inc. W & P uses the 9-county Houston MSA. For the population forecasts, Wood and Poole uses "Total Population" including persons in group quarters. For the employment forecasts, W & P uses "Total Employment" which includes farm workers and self-employed persons. Because the much higher employment numbers can distort the comparative charts, W & P comparisons are not always presented in the following graphical comparisons. The W & P forecasts are proprietary and are available for purchase. https://www.woodsandpoole.com/ .
7. **Moody's 2016.** The most recent Baseline Scenario forecasts from Moody's Analytics for the 9-county Houston MSA. For population forecasts, Moody's uses "Total Population" including persons living in group quarters. For employment, Moody's uses "Payroll Employment." Moody's Houston region includes the 9-county Houston MSA. The Moody's forecasts are proprietary and are available for purchase. http://www.moodysanalytics.com/Products-and-Solutions/Economic-Consumer-Credit-Analytics/Forecasts-with-Alternative-Scenarios

Comparative Employment Forecasts

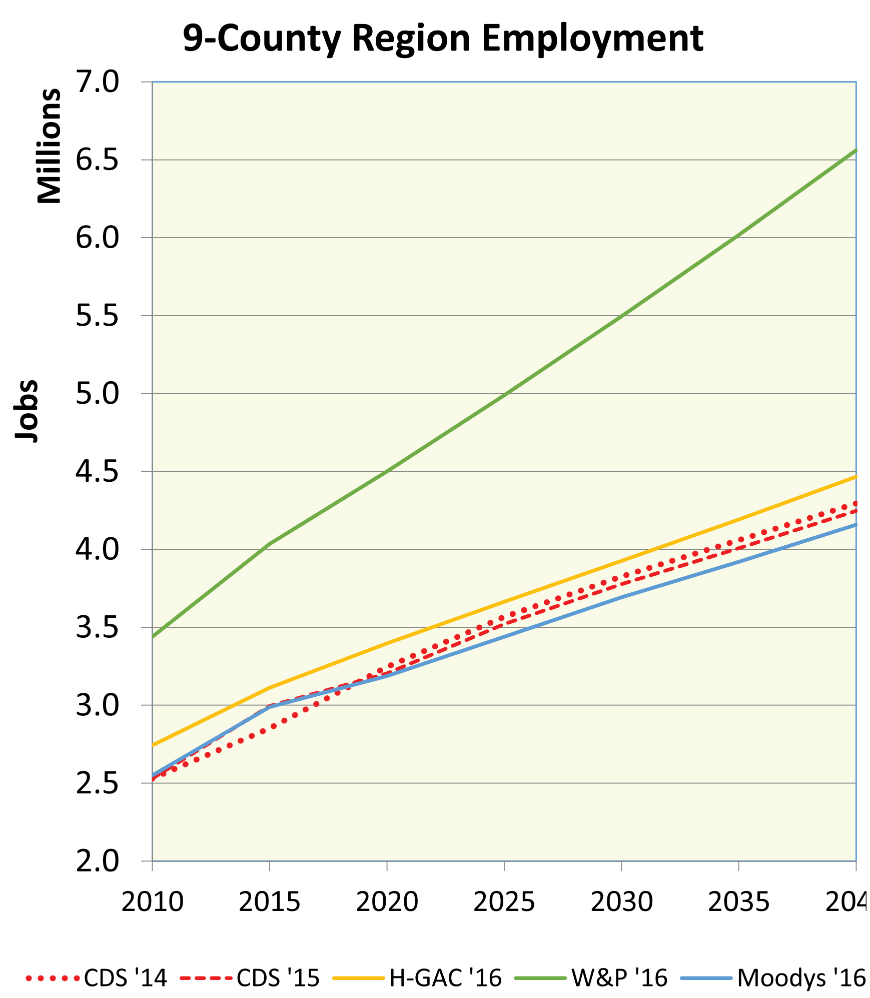
The comparative employment forecasts are illustrated in the chart below. Note that all of the forecasts except Woods and Poole and H-GAC present Nonfarm Payroll Employment. As mentioned previously, Woods and Poole uses Total Employment which is not comparable with the other forecasts. H-GAC's employment forecast includes some additional employment categories in the urban areas. H-GAC 2016 forecast uses 2010 and 2015 jobs estimates with are approximately 200,000 greater than the Texas Workforce Commission's Nonfarm Payroll jobs estimates.

The forecasts using "Payroll Employment" are reasonably consistent – with similar growth rates. Woods and Poole's forecast appear much more "bullish" for the Houston region as demonstrated by a much steeper growth curve. It should be noted that Woods & Poole tracks employment differently than the other forecasts compared.

The H-GAC jobs forecast, presents similar growth rates to the CDS and Moody's forecast – starting at a higher base.

The CDS 2015 forecast tracks with the Moody's forecast with a slightly higher growth rate.

Houston Region Comparative Employment Forecasts



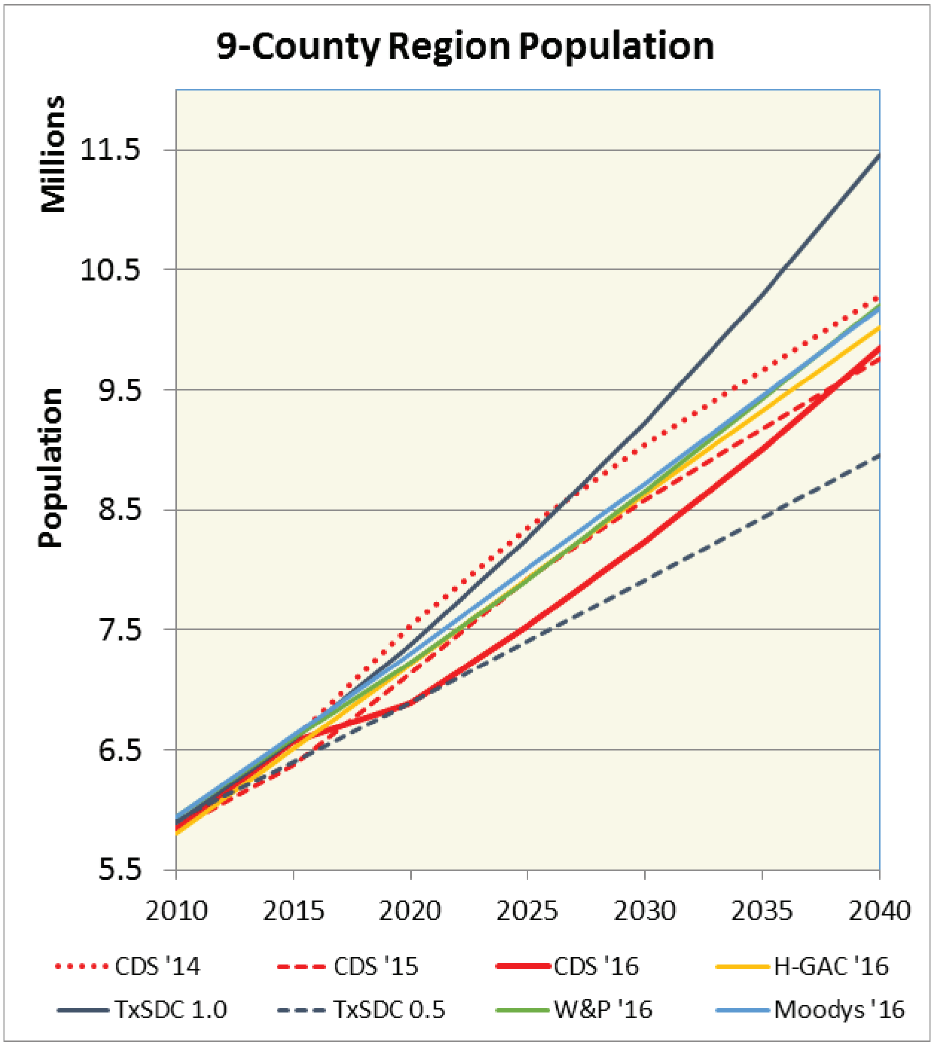
Source: Various – described in the accompanying text.

Comparative Population Forecasts

The comparative population forecasts are illustrated in the chart below. It is important to note some variations in the base data and regions in the population forecasts.

Given the differences the base data and the region used, the forecasts are remarkably consistent. All forecasts expect substantial population growth for the Houston region with virtually identical growth rates.

Houston Region Comparative Population Forecasts



Source: Various – described in the accompanying text.

CDS 2016 Regional Forecast

Taking into account the recent dip in oil and gas prices and its effects on the Houston economy, CDS has revised its regional population and employment forecasts,

These revised forecasts began with a look at likely employment growth under the belief that, in the long-term, regional growth is dependent on the creation of jobs that will attract new residents to take advantage of such opportunities.

In preparing this new CDS 2016 forecast, the following assumptions were used:

1. **The short-term growth of regional employment will be affected by low energy prices. For this short-term forecast, CDS used the most recent 2016 and 2017 job growth estimates from Dr. Gilmer, presented previously.**
2. **In the long term, the Houston economy is likely to continue to grow – overcoming short-term oil price disruptions. The Houston economy is much less dependent on the upstream energy industry now than in the past and historical trends support the contention that the Houston region will continue to be a, low cost, business friendly, growth-oriented community – attractive to new business start-ups and corporate relocations and expansions.**
3. **Houston, however, should not expect to continue exponential growth at historical rates. As the region matures and attractive parcels are developed, CDS expects that growth rates will settle down to a sustainable annual rate of job growth. The following table illustrates historical job growth rates.**

Historical Houston Region Job Growth Rates

Period	Period Description	Avg Annual Jobs	Jobs CAGR*
1970-2015	Long-term job growth through 35 years of business cycles and oil price increases and declines	46,334	2.70%
1990-2015	25-year period following the recovery from the mid-80s oil price bust.	48,613	3.54%
2000 -2015	Most recent 15-year period including two recessions and Enron collapse.	71,839	2.79%

* Compound annual growth rate

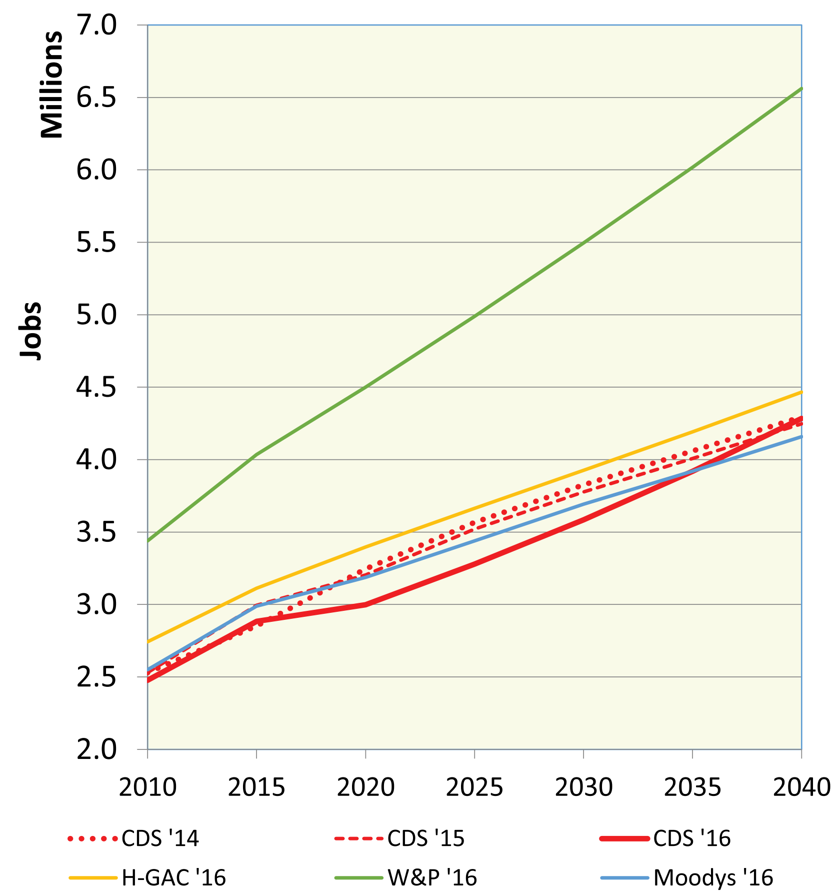
If the CDS model assumed a 2.7% projected annual job growth to 2040, the 2040 payroll jobs would increase to almost 5,250,000 adding an average of 94,300 jobs annually. While that rate of net new jobs is not inconsistent with Houston's growth during good economic times, CDS does not expect that rate of annual job growth to be sustainable in the long-term. Moody's predicts Houston's 2040 payroll jobs to be at 4,158,000,

For the revised long-term forecast**, CDS has used an annual job growth rate of 1.8%.** This rate of growth results in payroll jobs of 4,284,434 by 2040 – an annual average increase of 56,000 jobs. The table and chart on the following page presents a summary of CDS' short and long-term jobs forecasts compared with other jobs forecasts.

Houston Region Job Growth Forecast Comparison

Year	CDS 2014	CDS 2015	Gilmer 4-year changes	NEW CDS 2016	Moody's 2016	H-GAC 2016	W & P 2016
2010	2,529,876	2,529,876		**2,477,162**	2,549,987	2,742,616	3,439,541
2015	2,852,889	2,994,160		**2,883,261**	2,987,894	3,112,045	4,034,523
2016			-10,800	**2,872,461**	2,997,424		4,127,868
2017			-30,000	**2,842,461**	3,007,996		4,220,482
2018				**2,893,625**	3,069,021		4,313,207
2019				**2,945,711**	3,140,280		4,406,739
2020	3,245,571	3,203,751		**2,998,733**	3,187,311	3,396,812	4,501,274
2025	3,566,234	3,520,282		**3,278,511**	3,439,538	3,663,653	4,989,100
2030	3,826,630	3,777,323		**3,584,393**	3,693,229	3,925,578	5,495,100
2035	4,059,485	4,007,178		**3,918,812**	3,919,835	4,191,378	6,016,522
2040	4,295,391	4,247,608		**4,284,433**	4,157,755	4,465,474	6,560,745

Houston Region Comparative Employment Forecasts



Source: Various – described in the accompanying text.

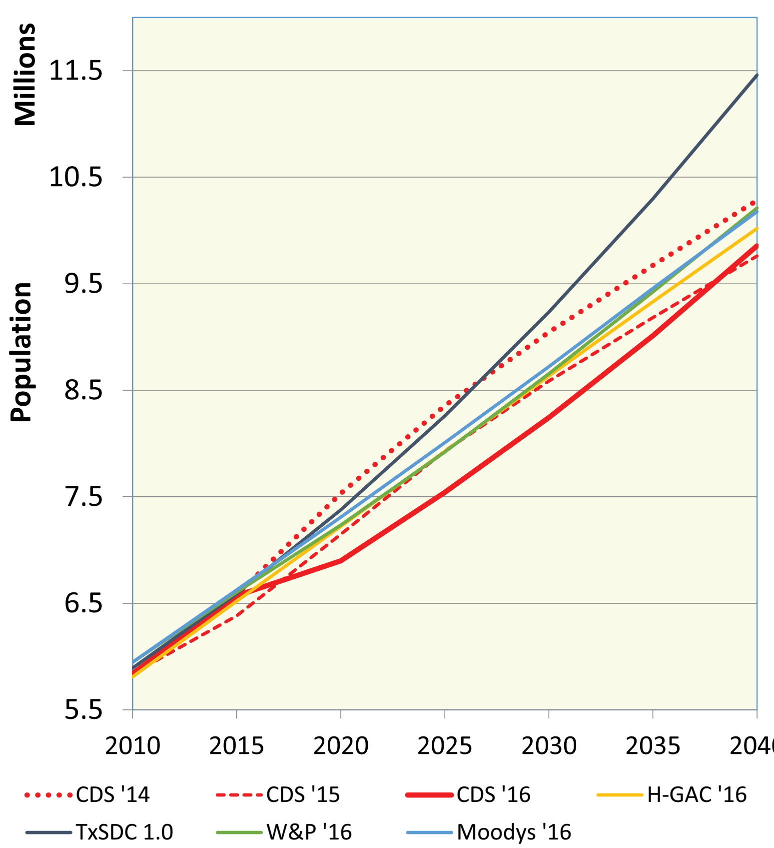
To prepare the regional "population in households" and "household" forecasts, CDS used historical trends of the ratio of jobs to households and historical trends of average household size.

Houston Region Population Growth Forecast Comparison

Year	CDS 2014*	CDS 2015*	NEW CDS 2016*	Moody's 2016	H-GAC 2016*	W & P 2016
2010	5,837,975	5,837,975	**5,837,975**	5,946,488	5,809,869	5,947,246
2015	6,577,875	6,381,891	**6,570,900**	6,570,900	6,517,739	6,603,060
2016			**6,549,211**	6,549,211		6,724,905
2017			**6,537,660**	6,537,660		6,848,970
2018			**6,655,338**	6,648,801		6,975,182
2019			**6,775,134**	6,761,830		7,103,618
2020	7,530,934	7,147,718	**6,897,086**	6,876,781	7,221,595	7,234,205
2025	8,354,499	7,929,375	**7,540,576**	8,007,547	7,924,838	7,919,848
2030	9,045,818	8,585,516	**8,244,104**	8,721,634	8,632,761	8,655,457
2035	9,673,241	9,181,012	**9,013,269**	9,456,212	9,330,926	9,422,052
2040	10,282,976	9,759,720	**9,854,197**	10,177,334	10,018,623	10,211,177

* Population in Households only.

Houston Region Comparative Population Forecasts



Source: Various – described in the accompanying text.

CDS 2016 County-Level Forecasts

Starting with the regional forecast, the county-level forecasts were prepared using Dr. Barton Smith's Shift-Share model whereby changing shares of regional growth were allocated to each county in the region. The County Forecasts are as follows.

County-Level Payroll Jobs Forecast

County	Payroll Employment in the County						
	2010	2015	2020	2025	2030	2035	2040
9-County Total	**2,477,162**	**2,883,261**	**2,998,733**	**3,278,511**	**3,584,393**	**3,918,812**	**4,284,433**
Brazoria	85,761	103,268	111,314	126,430	142,871	160,749	181,333
Chambers	9,385	12,824	13,978	16,766	20,429	24,483	28,918
Fort Bend	130,168	170,096	183,333	227,624	288,286	364,548	448,584
Galveston	94,522	103,654	108,826	121,759	136,554	153,481	171,997
Grimes	7,274	7,737	7,968	8,693	9,516	10,811	13,407
Harris	1,993,657	2,288,404	2,360,724	2,522,767	2,680,015	2,828,295	2,977,091
Liberty	16,201	16,428	17,119	21,180	27,266	37,399	52,209
Montgomery	127,153	165,027	178,264	212,623	254,004	307,305	370,717
Waller	13,041	15,823	17,207	20,669	25,453	31,741	40,178

County-Level Population Forecast

County	Population in Households						
	2010	2015	2020	2025	2030	2035	2040
9-County Total	**5,837,975**	**6,570,900**	**6,897,086**	**7,540,576**	**8,244,104**	**9,013,269**	**9,854,197**
Brazoria	302,607	335,300	358,332	417,897	492,277	575,722	662,276
Chambers	34,867	38,600	43,472	53,135	63,207	75,355	88,631
Fort Bend	579,439	709,800	768,763	888,058	1,022,463	1,169,734	1,330,309
Galveston	287,012	317,900	332,515	367,946	410,060	463,684	530,338
Grimes	23,592	24,500	24,998	26,353	28,627	31,708	35,927
Harris	4,047,935	4,491,200	4,656,482	4,932,177	5,181,124	5,404,635	5,628,281
Liberty	70,499	74,500	81,081	101,732	131,520	171,146	219,303
Montgomery	452,522	534,200	583,254	691,898	831,360	1,004,905	1,199,620
Waller	39,502	44,900	48,191	61,380	83,467	116,379	159,512

County-Level Households Forecast

County	Number of Households						
	2010	2015	2020	2025	2030	2035	2040
9-County Total	**2,060,594**	**2,300,200**	**2,428,600**	**2,670,820**	**2,937,198**	**3,230,144**	**3,552,307**
Brazoria	106,589	117,250	126,316	148,738	176,900	208,681	241,840
Chambers	11,952	13,200	15,118	18,755	22,569	27,195	32,282
Fort Bend	187,384	226,350	249,560	294,465	345,355	401,445	462,962
Galveston	108,969	112,900	118,653	131,990	147,936	168,359	193,894
Grimes	8,902	9,200	9,396	9,906	10,767	11,941	13,557
Harris	1,435,155	1,588,600	1,653,662	1,757,438	1,851,697	1,936,824	2,022,504
Liberty	25,073	26,500	29,090	36,864	48,142	63,235	81,684
Montgomery	162,530	190,500	209,810	250,705	303,510	369,607	444,203
Waller	14,040	15,700	16,995	21,960	30,323	42,858	59,382

County Forecast Comparisons

On the following pages, the same sets of forecasts at the county level are presented and discussed. Note that, because of the wide variation in the population and jobs in the eight counties of the region, the scales on the following graphs are all different making visual comparisons of growth rates difficult.

County Population Comparisons

Brazoria County:

The H-GAC and Woods & Poole forecasts are relatively in line, both being substantially lower by 2040 than the CDS ’16 forecast. The CDS ’16 forecast, after an expected downturn from 2015 to 2020 limits growth, is largely in line with the growth trajectory of the TxSDC 1.0 forecast, though with a lower total number.

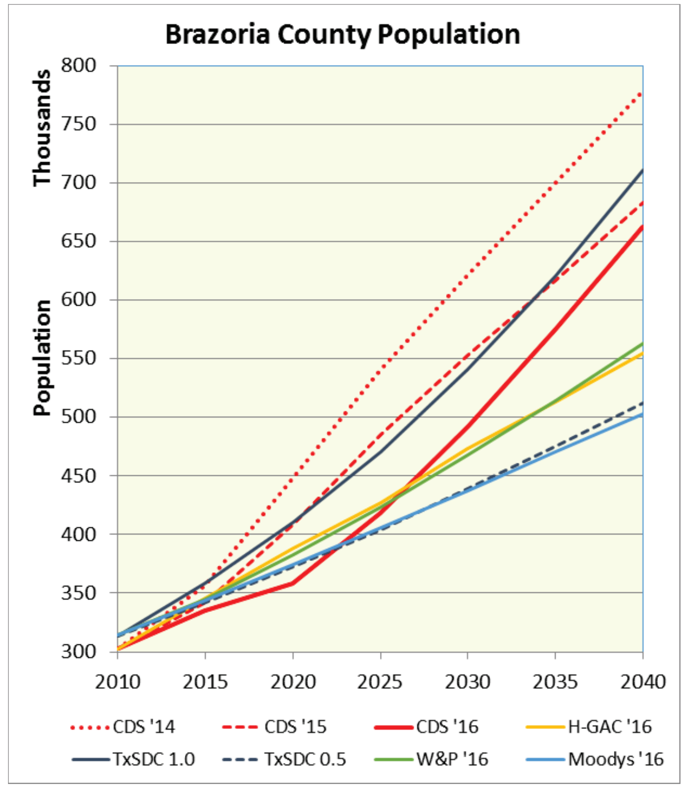
Brazoria County is expected to continue to capture substantial growth in its northern half as the next southerly expansion of the Houston urban region.

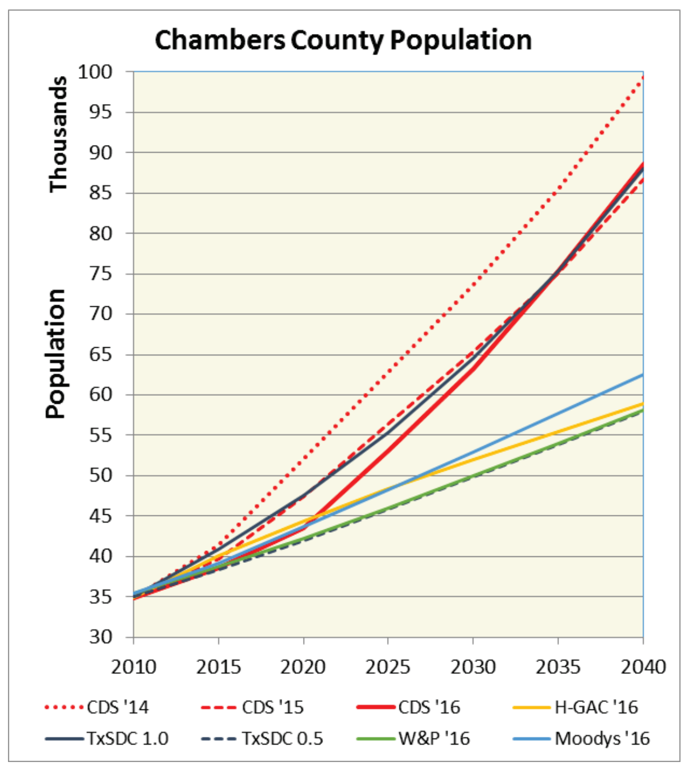
Chambers County:

The CDS ’16 forecast again matches the TxSDC 1.0 forecast approaching 2040, both expecting nearly 90,000 residents, similar too, to the previous CDS forecasts. All other forecasts predict slower growth in Chambers, reaching only around 60,000.

The CDS forecasts are notably higher than other forecasts being compared. This is due to placing an emphasis on growth in the area’s outlying counties versus Harris County because of the availability of developable land, as well as information on new developments given to CDS by area officials and experts for this and prior Houston area forecasting projects.

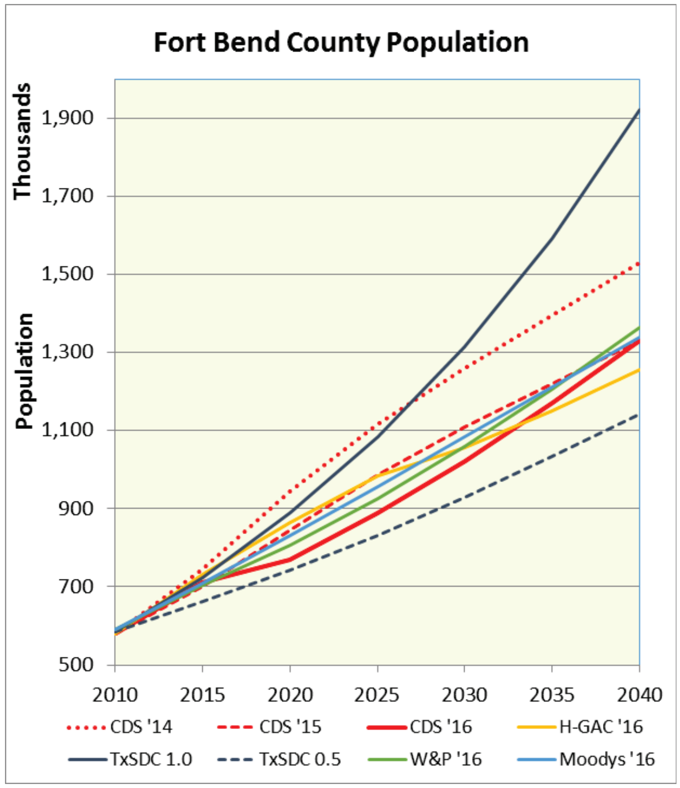
County Population Forecast Comparisons – Brazoria and Chambers Counties





County Population Forecast Comparisons – Fort Bend and Galveston Counties

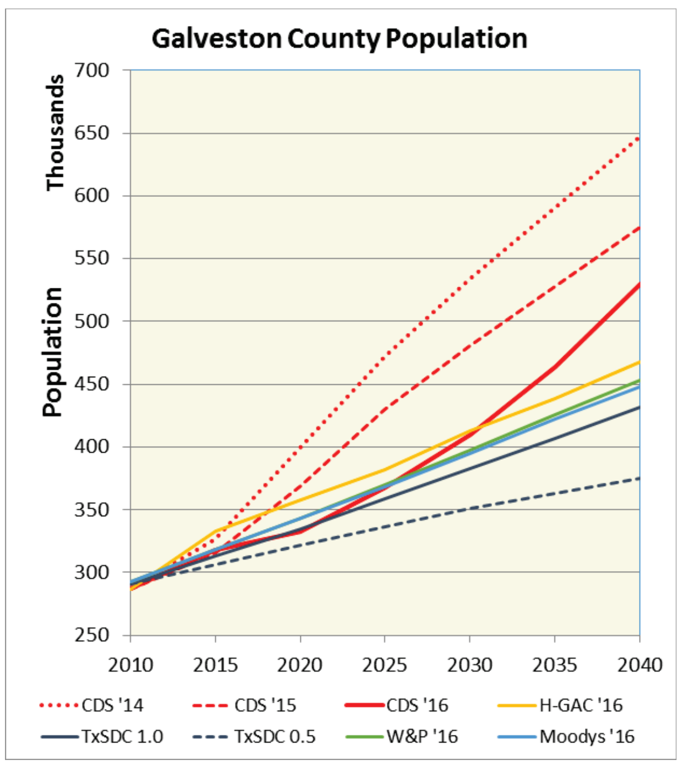
Fort Bend County:
The CDS '16 forecasts for Fort Bend County, consistently one of the fastest growing counties in the U.S. over the past two decades, show the 2040 population approaching 1.3 million residents. The "TxSDC 1.0" forecasts are much higher with a 2040 population of more than 1.9 million. Outside of the CDS '14 forecast, the remaining forecasts are remarkably consistent, all showing around 1.3 million residents by 2040.



Galveston County:

Galveston County saw its population growth slow, compared to other counties in the region, in 2008 with the devastation of Galveston Island and parts of the mainland by Hurricane Ike. However, the northern areas of the county, such as League City, have continued to grow rapidly.

While there is a relatively consistent rate of growth between the H-GAC, Woods & Poole, Moody's, and TxSDC 1.0 forecasts, CDS believes that the county's quantities of available land and well-regarded school districts will produce a higher rate of growth.



Harris County:

Harris County is by far the largest county in the region, with over 4.0 million residents in 2010. The three non-local forecasts project Harris to grow at a high and steady rate, creating a 45-degree angle on the chart to the right. This rate is mirrored between 2015 and 2020 by the CDS '16 forecast and matches the Census estimates from that time.

CDS expects growth in Harris County to slow approaching 2040, largely due to a likely lack of available land in the county's most desirable areas. The other forecasts compared expect growth to continue into 2040 at a similar rate to previous years.

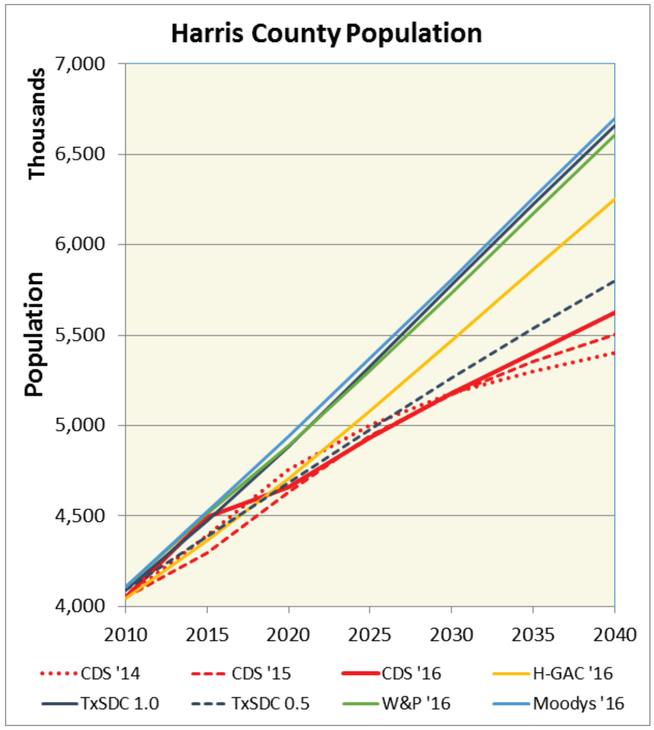
Liberty County:

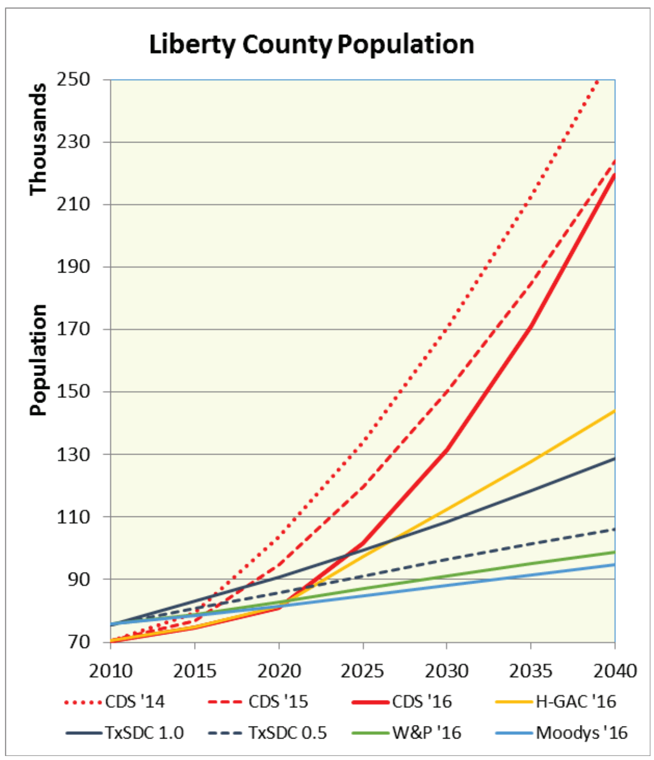
Liberty County, on the region's east side, has historically grown at a moderate pace (relative to some of Houston's other outlying counties). CDS expects that pace to increase dramatically along with the access provided by US 90 and the Grand Parkway.

Curiously, the Moody's and Woods & Poole forecasts shows extremely limited growth in the county throughout the forecast period. This stands in stark contrast to the other forecasts examined, as well as the historical trend. Liberty County's population increased 61.7% in the 30-year period from 1980 to 2010.

The CDS '16 forecast is notably higher for Liberty County than other forecasts being compared. The reasons for this are identical to those discussed for Chambers County earlier.

County Population Forecast Comparisons – Harris and Liberty Counties





Montgomery County:

Montgomery County, on the region's north side and home to the Woodlands master planned community and the city of Conroe, has also been one of the fastest growing counties in the country. Recent economic growth in the county and in the northern portion of Harris County will likely result in continued residential development in Montgomery County.

All of the compared forecasts expect significant growth in Montgomery County. The CDS '16 and H-GAC forecasts wind up with a similar total in 2040, but take very different routes to get there. H-GAC expects the most rapid growth of any forecast in the near-term, before leveling off. CDS forecasts that growth will slow in the near-term, due to challenging economic conditions, before picking up a rapid pace once again.

Waller County:

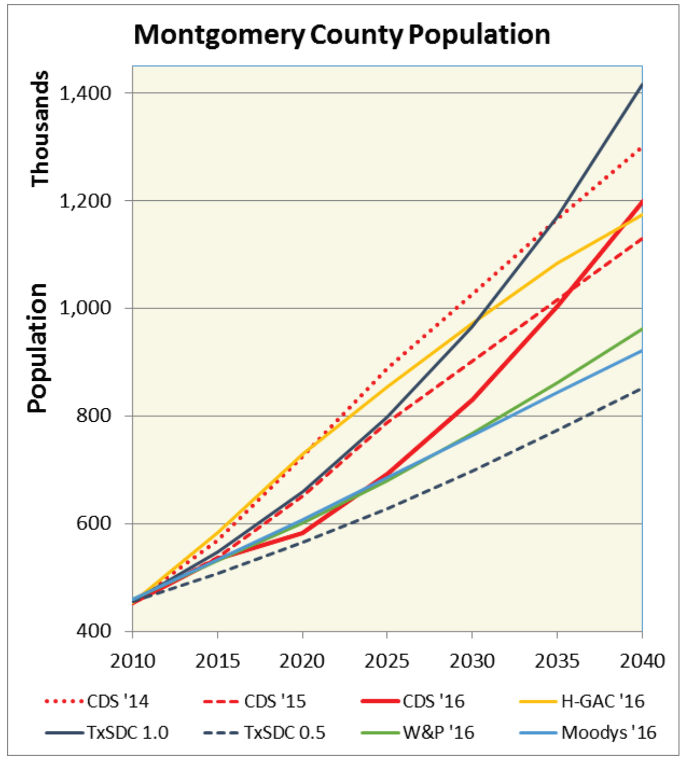
Waller County, on the region's northwest, has been growing at a modest pace over the past 10 years, with approximately 1,000 new residents each year.

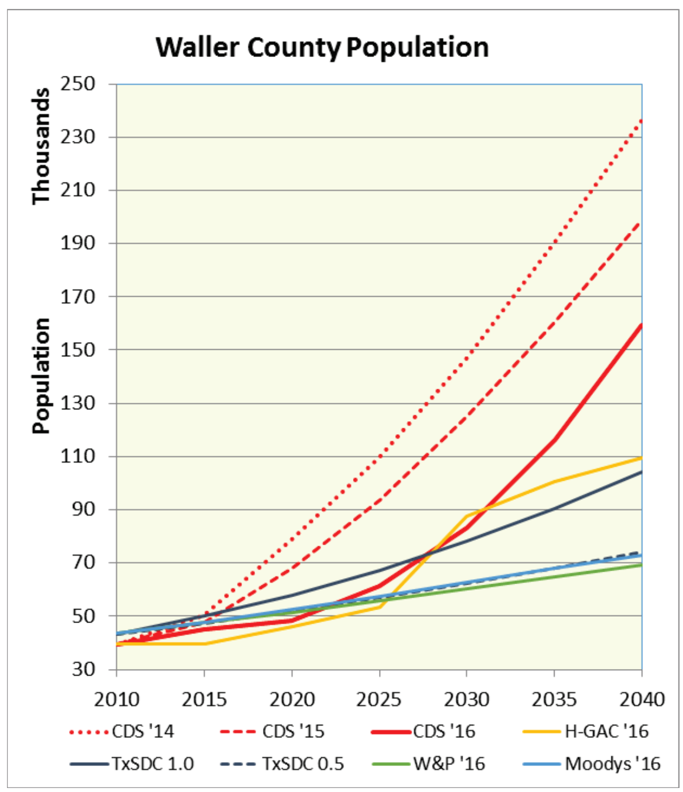
Most forecasts for Waller County (H-GAC, Woods & Poole, Moody's, and TxSDC) continue that modest growth trend with 2040 population projections topping out at between 70,000 and 110,000.

The CDS '16 forecast is much more bullish on Waller County's growth potential. The forecasts expect substantial residential growth as growth in the Houston region trends to the west, with county population topping 150,000 by 2040. Large-scale residential development is currently occurring in the southeastern part of the county.

The CDS '16 forecast is notably higher for Waller County than other forecasts being compared. The reasons for this are identical to those discussed for Chambers County earlier.

County Population Forecast Comparisons – Montgomery and Waller Counties





County Employment Comparisons

Because the Woods & Poole forecasts are based on total employment rather than payroll employment in the counties, those forecasts will not be included in this section.

Brazoria County:

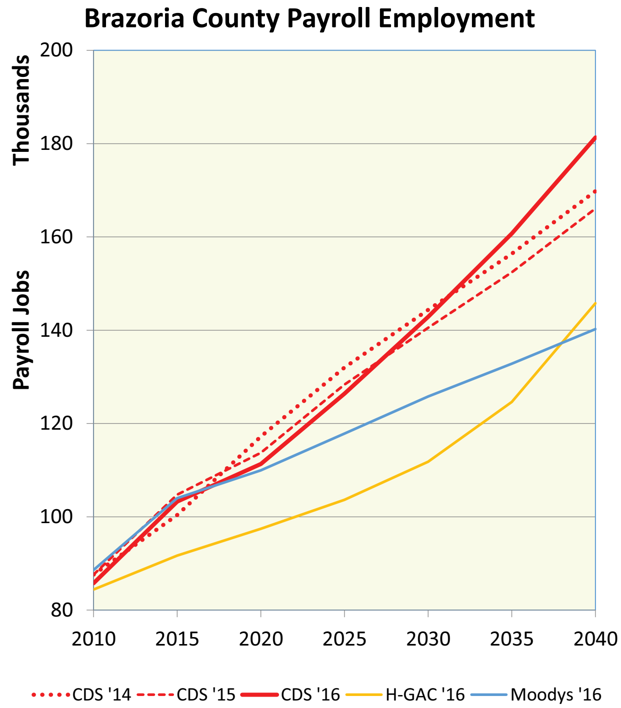
Brazoria County is home to large employers in the petrochemical and medical industries, and CDS expects it to perform better than it historically has producing new jobs in the region. While H-GAC does not project this trend from 2010 to 2020, the Moody's employment forecast does. The CDS '16 forecast diverts from Moody's after 2020, not expecting the historically moderate rate of growth to continue as Brazoria County becomes more populated and begins to create more employment centers of its own.

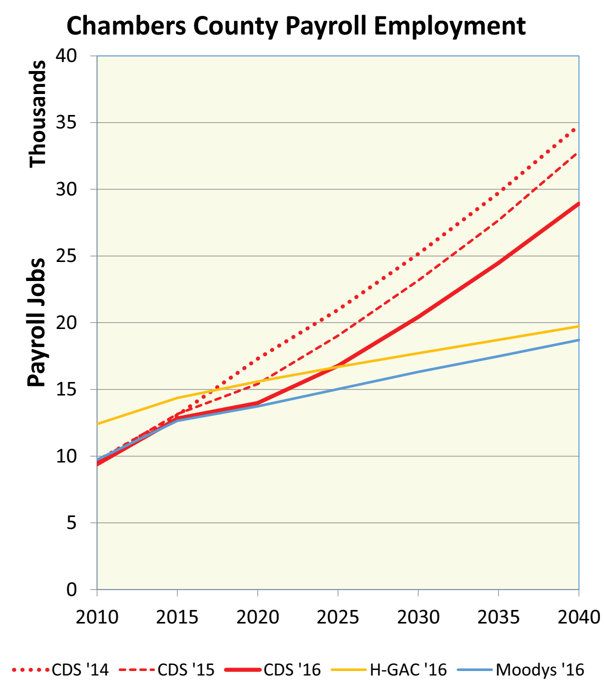
Chambers County:

Like Brazoria County, Chambers County is home to several petrochemical industry employers.

The CDS '16 forecast is much higher than the H-GAC and Moody's forecasts, showing expanded growth in county employment, from about 10,000 in 2010 to nearly 30,000 by 2040. In addition to the expected expansion of petrochemical plants in the county the reasons for this are identical to those discussed for Chambers County population.

County Jobs Forecast Comparisons – Brazoria and Chambers Counties





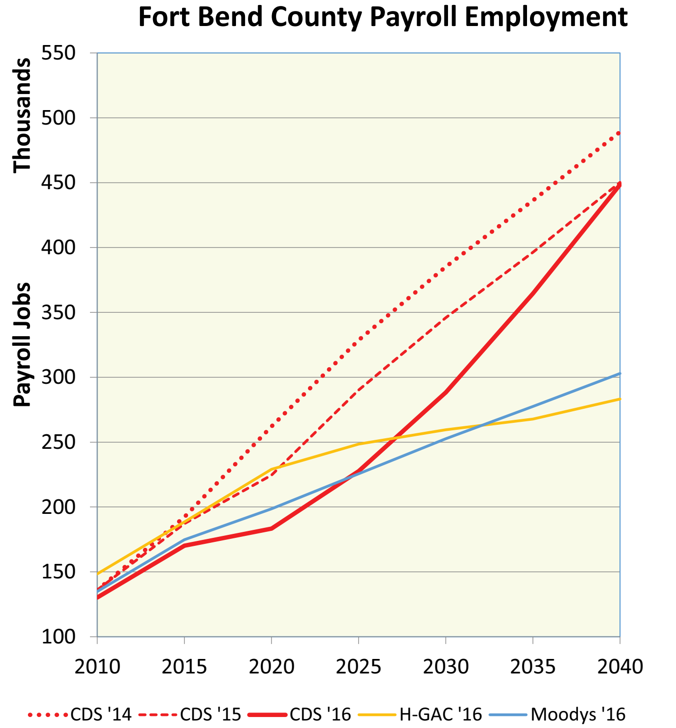
County Jobs Forecast Comparisons – Fort Bend and Galveston Counties

Fort Bend County:

Fort Bend County has seen substantial recent job growth with corporate relocation and expansion in the US 59/I-69 south corridor – primarily in Sugar Land.

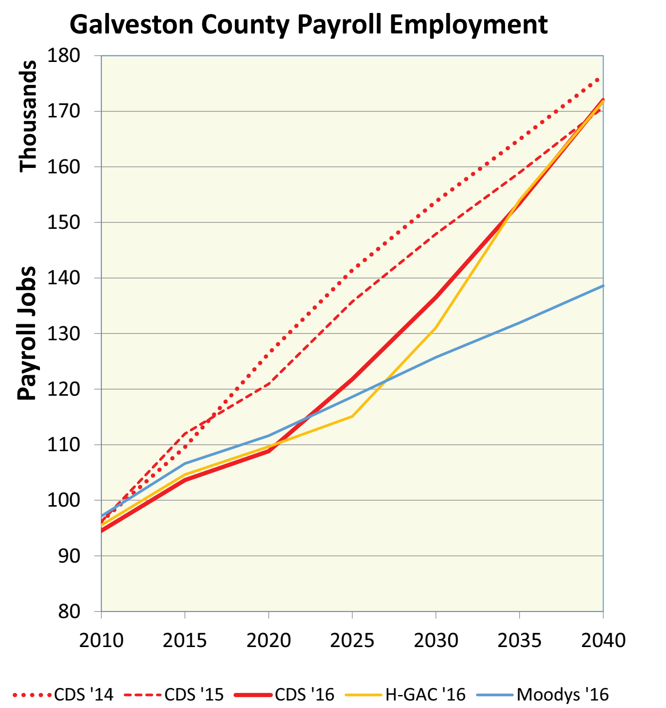
From 2000 to 2010, the county added approximately 4,500 jobs each year. The H-GAC 2016 and Moody's forecasts are fairly consistent with past trends and both reach around 300,000 jobs by 2040. H-GAC expects job growth in the county to level off from a higher rate of growth seen from 2010 to 2020.

The Fort Bend job growth trend is accelerated after 2020 in the CDS '16 forecast with 450,000 jobs expected to be located in the county by 2040.



Galveston County:

The H-GAC and CDS forecasts are quite consistent in Galveston county, with both projecting the county to hold around 170,000 jobs by 2040. The Moody's forecast expects a more modest rate of growth after 2020, bringing the county to less than 140,000 jobs by 2040.



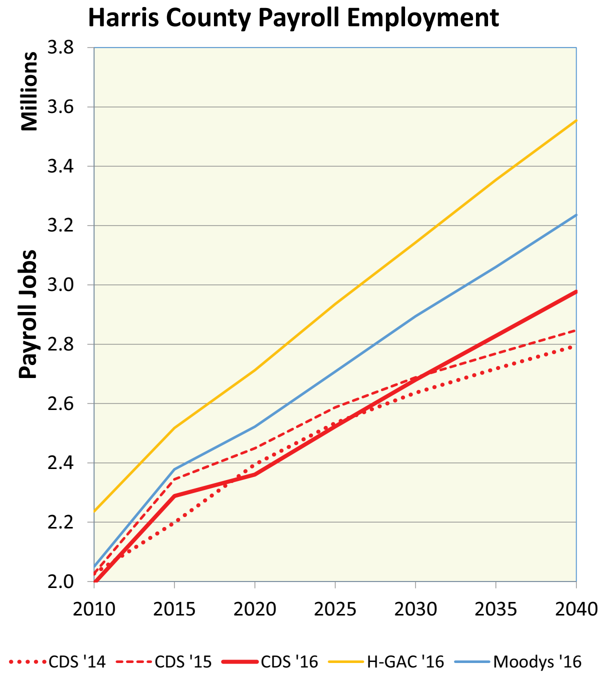
County Jobs Forecast Comparisons – Harris and Liberty Counties

Harris County:

While the H-GAC forecast shows slower job growth for many of the region's suburban counties when compared to the CDS forecasts, they are much more optimistic about job growth in Harris County.

In the past 20 years, Harris County has added jobs at the rate of approximately 26,000 annually. The H-GAC 2016 forecast starts with a higher jobs estimate for 2010 than other forecasts and approaches 3.6 million jobs in 2040. The Moody's forecast approaches about 3.2 million by 2040, but begins with about 200,000 fewer jobs.

The CDS '16 forecast is less optimistic about job growth in Harris County compared to H-GAC and Moody's, attributing a greater share of it to the other seven counties in the forecast region.

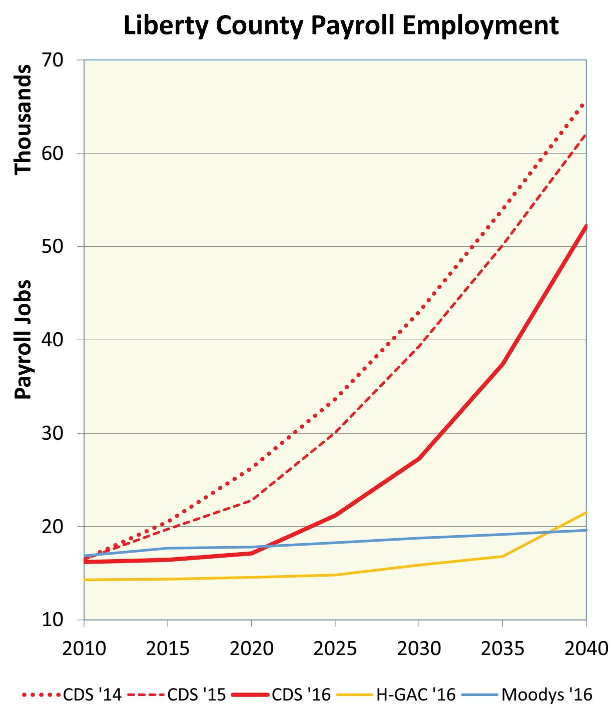


Liberty County:

The CDS '16 forecast expects strong future growth in jobs for Liberty County, reaching more than 50,000 jobs by 2040. Those forecasts are much more aggressive than recent trends for Liberty, which has added only 150 jobs per year over the past 20 years. However, it is expected that Liberty County is poised for stronger growth in the future as growth in Northeast Harris County fills available land and access improves with the construction of the Grand Parkway.

As with the population forecasts, the Moody's forecast predicts virtually no growth in Liberty County. The H-GAC forecast, similarly, shows significant growth only occurring after 2035.

The CDS '16 forecast is notably higher for Liberty County than other forecasts being compared. The reasons for this are identical to those discussed for Chambers County population earlier.



Montgomery County:

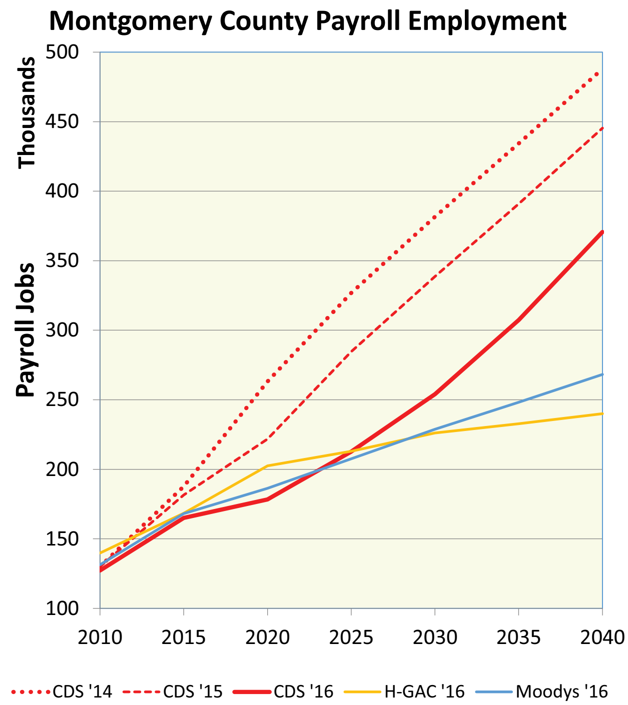
Similar to Fort Bend County, the job growth forecasts for Montgomery County diverge along two paths. The H-GAC and Moody's forecasts both expect job growth in Montgomery County to level off after 2020. The CDS '16 forecast expects job growth to return after 2020 at a similar rate seen from 2010 to 2015.

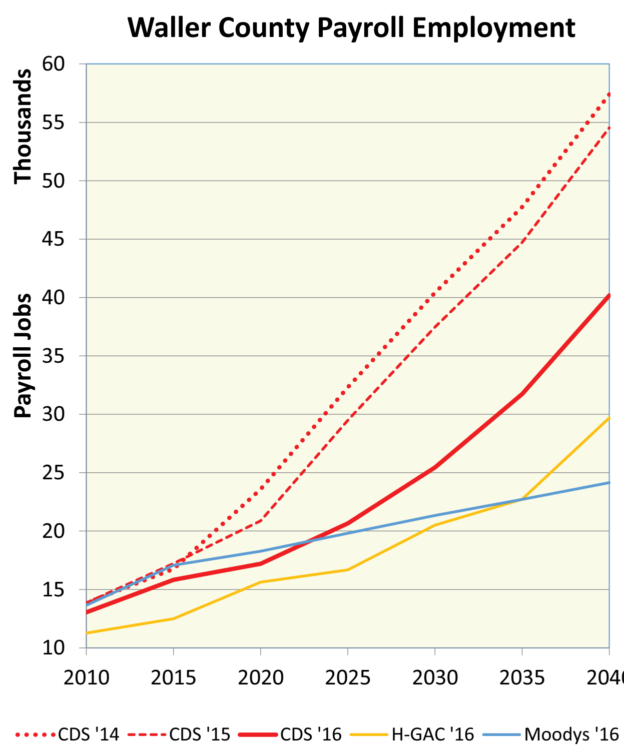
Waller County:

Similar to Liberty County, the CDS '16 forecast expects job growth to accelerate past historical levels in Waller County, as development and access from Harris County begins to abut the area. This forecast expects over 40,000 jobs in the county by 2040. The H-GAC and Moody's forecasts, however, expect the historical and modest growth trends to continue in Waller County and forecast only 25,000 to 30,000 jobs by 2040. It should be noted that H-GAC's forecast begins with more than 1,000 fewer jobs than the others.

The CDS '16 forecast is notably higher for Montgomery and Waller counties than other forecasts being compared. The reasons for this are identical to those discussed for Chambers County population discussed earlier. In addition, significant employment growth is currently occurring in the southeastern part of Waller County with the construction of several industrial and flex buildings.

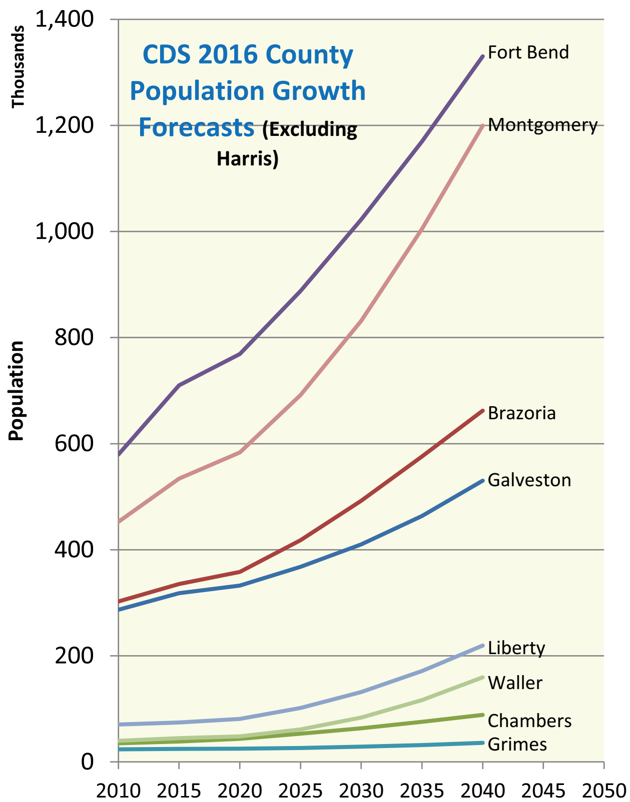
County Jobs Forecast Comparisons – Montgomery and Waller Counties

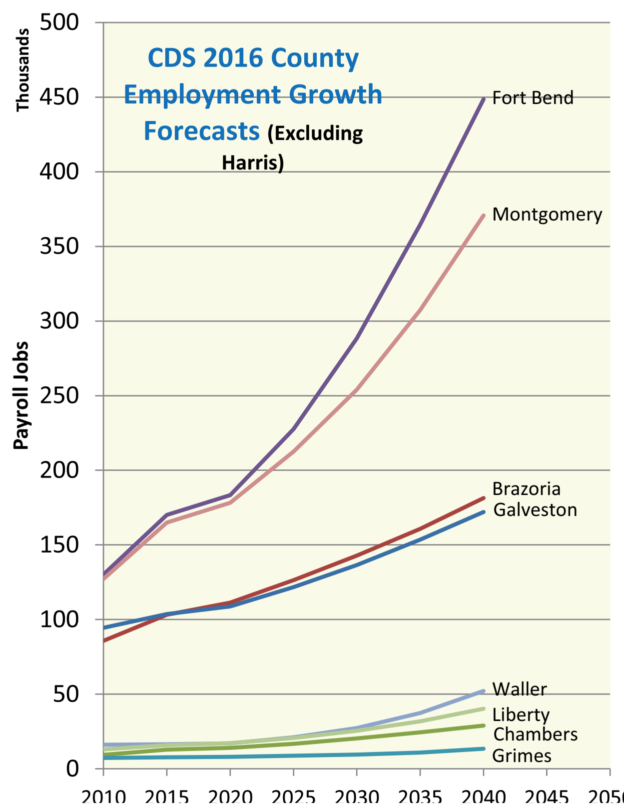




CDS 2016 County Forecast Charts

Because the previously presented county-level forecast charts have differing vertical scales, the comparison of the various county growth rates is difficult. The charts on the bottom of this page compare the outlying counties of the region, excluding Harris County in order to compare the future forecasts.





Selection of Appropriate Regional and County-level Forecasts

Long-term economic forecasts are most often a reasonable extension of historical trends into the future. There is no assurance that those trends will be sustained. Future growth is likely to deviate, higher or lower than history would suggest. The historical employment growth of the Houston region presented on page 4 of this report confirms that growth is not likely to follow a straight line or smooth curve into the future. All economies go through periods of growth and recession. For the reasons presented in this report, the Houston region is resilient and oriented to support future growth.

The key factor in evaluating forecasts is: ***Are they reasonable given all we know today?*** The best test is to consider multiple independent forecasts and consider which are most likely. Along with H-GAC's regional forecast, this report considered several forecasts of population and employment from respected organizations.

The H-GAC's 2016 regional forecasts, from which their small area forecasts are derived, tended to be in the middle of the independent forecasts considered in this project. It is the conclusion of this project team that the H-GAC 2040 forecasts at the "8-county regional level" were reasonable and consistent with other credible forecasts.

However, the small area and county-level forecast being produced in the H-GAC 2016 forecast are somewhat discordant with recent growth trends. Recent versions of the H-GAC forecast have improved and have resolved many of the discrepancies uncovered in the previous analysis. H-GAC plans on updating their forecasts year for the foreseeable future, and this improvement ought to continue.

The Woods & Poole 2016 Forecasts were reasonable as well for population but their employment forecasts considered self-employed and part-time workers – a determination not shared by the other forecasting groups. The Woods & Poole job forecasts are so much higher than previous forecasting used by the H-GAC travel demand model that their use as control totals would require adjustment in the modeling regimen. The Moody's forecasts while reasonable, were determined to be simple extensions of previous trends and don't capture the dynamics of the likely future spatial growth in the Houston region.

After considering the various forecasts, it was decided to use the 2016 update to the CDS regional forecast. The regional forecasts of the "CDS '16" will form the appropriate basis for this revised set of small area forecasts for the Grand Parkway Segments D through I Traffic and Revenue Study. Following are the key points that led to this conclusion:

- The adopted baseline forecast for county totals is the model created and updated by Dr. Barton Smith, formerly of the University of Houston Institute for Regional Forecasting (IRF) and now working as an independent consultant. The original model was not developed for UofH, but for consulting work for TxDOT and Harris County Toll Road Authority and it has been used as the primary macro tool for at least a half dozen toll road studies. Dr. Smith updated the model in 2012, retaining the underlying model structure of the previous region model. CDS Market Research updated the model to capture the remarkable increase in job growth in the region from 2010 to 2015.

- When compared to H-GAC's forecast and others gathered by CDS, the "CDS '16" forecast model is notable for the extent of anticipated decentralization of both jobs and population. This pattern is consistent with what has happened in almost every major urban area in America, including both the older cities in the northeast and the newer ones in the south and west. This results in totals for those two variables in outlying counties which are well above H-GAC's and others' projections, while

Harris County ends up with lower totals. An important reason is that the model is sensitive to two significant factors: the presence of vacant developable land (and conversely the lack of it in existing built-up areas) and the qualitative factors and market forces which tend to favor outlying locations for many types of new development.

- The "CDS '16" model, and its predecessors based on the model developed by Dr. Barton Smith for the UH-IRF, also allows counties to capture accelerating or decelerating (non-linear) shares of growth over time – signifying "tipping points" and changes in market momentum that are similar to patterns that typically play out in the marketplace. This is done through second-degree polynomial formulas incorporated into a shift-share model.
- Dr. Smith had previously adjusted the estimated coefficients further as he became aware of additional information that was particularly relevant such as the expansion of the toll road system in the region and the limited expansion of roadways in the urban core.
- While it is an alteration, the CDS '16 adjustment of the "Smith '12" forecast to consider households and household population instead of housing units and total population does not change the underlying methodology or conclusions of Dr. Smith's forecast. The method behind the alterations is quite simple. Housing units were converted to households by assuming a continuation of recent historical trends in housing occupancy, while total population was converted to household population by through the assumption that recent trends in share of population outside of households (group quarters) would continue. These alterations change the forecast totals very slightly, and do not affect the growth rates or shares in any significant way.
- The CDS '16 forecasts present a revised set of regional and county forecasts based on current conditions. However, an extended run of low oil prices and slowdown of the oil and gas industry is not out of the realm of possibility, and could make even the modified scenario that were used for the current forecast somewhat optimistic. While the CDS'16 forecast assumes a near-term downturn in regional economic growth in sharpness and duration, sharper and longer downturns are certainly possible.

Forecast Shares

The tables below illustrate the shift-share results for both population and employment in the CDS '16 and H-GAC 2016 forecasts. The percentages in the table represent the county shares of the regional growth in each time period. Historical data is included and the bold type is the forecast shares.

Shares of Historical and Future Growth by County – CDS '16 Forecast

County Share of Regional Population Change

Period	Brazoria	Chambers	Ft. Bend	Galveston	Harris	Liberty	Montgomery	Waller
1970 to 1980	6.54%	0.68%	8.39%	2.77%	71.24%	1.50%	8.30%	2.11%
1980 to 1990	3.61%	0.25%	15.42%	3.54%	66.70%	0.92%	8.97%	0.59%
1990 to 1995	5.06%	0.46%	13.35%	2.48%	63.33%	1.72%	12.72%	0.88%
1995 to 2000	5.46%	0.73%	13.93%	3.94%	61.49%	1.92%	11.52%	1.04%
2000 to 2005	6.94%	0.66%	17.00%	5.08%	56.24%	0.52%	12.83%	0.70%
2005 to 2010	5.06%	0.78%	20.22%	2.16%	56.85%	0.40%	13.55%	0.97%
2010 to 2015	**4.47%**	**0.51%**	**17.81%**	**4.22%**	**60.55%**	**0.55%**	**11.16%**	**0.74%**
2015 to 2020	**7.07%**	**1.50%**	**18.10%**	**4.49%**	**50.75%**	**2.02%**	**15.06%**	**1.01%**
2020 to 2025	**9.28%**	**1.50%**	**18.58%**	**5.52%**	**42.93%**	**3.22%**	**16.92%**	**2.05%**
2025 to 2030	**10.61%**	**1.44%**	**19.17%**	**6.01%**	**35.50%**	**4.25%**	**19.89%**	**3.15%**
2030 to 2035	**10.89%**	**1.59%**	**19.22%**	**7.00%**	**29.18%**	**5.17%**	**22.65%**	**4.30%**
2035 to 2040	**10.34%**	**1.59%**	**19.19%**	**7.97%**	**26.73%**	**5.76%**	**23.27%**	**5.16%**

County Share of Regional Employment Change

Period	Brazoria	Chambers	Ft. Bend	Galveston	Harris	Liberty	Montgomery	Waller
1970 to 1980	4.80%	0.56%	3.28%	1.95%	85.84%	0.83%	2.39%	0.35%
1980 to 1990	1.48%	-0.73%	6.64%	3.79%	79.12%	0.20%	8.62%	0.87%
1990 to 1995	1.38%	0.79%	10.27%	3.25%	72.74%	0.63%	10.24%	0.69%
1995 to 2000	1.51%	0.41%	11.49%	1.22%	73.90%	0.38%	10.63%	0.45%
2000 to 2005	3.70%	0.47%	14.90%	1.86%	56.16%	0.39%	19.00%	3.52%
2005 to 2010	3.95%	0.53%	11.74%	3.74%	65.87%	0.09%	13.50%	0.58%
2010 to 2015	**4.32%**	**0.85%**	**9.84%**	**2.25%**	**72.66%**	**0.06%**	**9.34%**	**0.69%**
2015 to 2020	**6.98%**	**1.00%**	**11.49%**	**4.49%**	**62.76%**	**0.60%**	**11.49%**	**1.20%**
2020 to 2025	**5.42%**	**1.00%**	**15.87%**	**4.63%**	**58.07%**	**1.46%**	**12.31%**	**1.24%**
2025 to 2030	**5.39%**	**1.20%**	**19.89%**	**4.85%**	**51.55%**	**2.00%**	**13.56%**	**1.57%**
2030 to 2035	**5.37%**	**1.22%**	**22.89%**	**5.08%**	**44.51%**	**3.04%**	**16.00%**	**1.89%**
2035 to 2040	**5.67%**	**1.22%**	**23.15%**	**5.10%**	**40.99%**	**4.08%**	**17.47%**	**2.32%**

Shares of Historical and Future Growth by County – H-GAC 2016 Forecast

County Share of Regional Population Change

Period	Brazoria	Cham-bers	Ft. Bend	Galves-ton	Harris	Liberty	Mont-gomery	Waller
2010 to 2015	6.15%	0.74%	21.84%	6.51%	45.48%	0.62%	18.64%	0.01%
2015 to 2020	6.05%	0.60%	18.77%	3.57%	48.60%	0.96%	20.53%	0.93%
2020 to 2025	5.48%	0.57%	16.74%	3.35%	52.74%	2.26%	17.82%	1.02%
2025 to 2030	6.44%	0.51%	10.17%	4.34%	54.87%	2.10%	16.71%	4.86%
2030 to 2035	5.78%	0.49%	13.60%	3.70%	56.28%	2.21%	16.06%	1.87%
2035 to 2040	6.03%	0.51%	15.41%	4.26%	57.18%	2.36%	13.00%	1.25%

County Share of Regional Employment Change

Period	Brazoria	Cham-bers	Ft. Bend	Galves-ton	Harris	Liberty	Mont-gomery	Waller
2010 to 2015	1.96%	0.53%	10.84%	2.47%	76.14%	0.02%	7.72%	0.33%
2015 to 2020	2.02%	0.43%	14.27%	1.77%	68.33%	0.07%	12.00%	1.10%
2020 to 2025	2.32%	0.41%	7.28%	2.03%	83.53%	0.09%	3.93%	0.39%
2025 to 2030	3.12%	0.39%	4.22%	6.10%	79.27%	0.41%	5.02%	1.46%
2030 to 2035	4.81%	0.38%	3.07%	8.62%	79.45%	0.35%	2.49%	0.83%
2035 to 2040	7.72%	0.37%	5.63%	6.50%	72.91%	1.71%	2.62%	2.54%

The tables below illustrate the forecast shift-share results for both population and employment in the Houston MSA for the CDS ’16 and H-GAC 2016 forecasts. The percentages in the table represent the county shares of the total 8-county region in each time period. Historical data is included and the bold type is the forecast shares.

County Shares of Historical and Future Population and Employment

County Share of Regional Population

Year	Brazoria	Cham-bers	Ft. Bend	Galves-ton	Harris	Liberty	Mont-gomery	Waller
1970	4.97%	0.56%	2.40%	7.78%	79.86%	1.51%	2.27%	0.65%
1980	5.44%	0.59%	4.20%	6.28%	77.27%	1.51%	4.08%	0.63%
1990	5.14%	0.54%	6.04%	5.83%	75.53%	1.41%	4.88%	0.63%
1995	5.13%	0.53%	6.57%	5.59%	74.65%	1.44%	5.45%	0.65%
2000	5.18%	0.56%	7.59%	5.36%	72.82%	1.50%	6.29%	0.70%
2005	5.35%	0.57%	8.51%	5.33%	71.20%	1.41%	6.93%	0.70%
2010	5.20%	0.60%	9.97%	4.94%	69.62%	1.21%	7.78%	0.68%
2015	**5.12%**	**0.59%**	**10.84%**	**4.86%**	**68.61%**	**1.14%**	**8.16%**	**0.69%**
2020	**5.21%**	**0.63%**	**11.19%**	**4.84%**	**67.76%**	**1.18%**	**8.49%**	**0.70%**
2025	**5.56%**	**0.71%**	**11.82%**	**4.90%**	**65.64%**	**1.35%**	**9.21%**	**0.82%**
2030	**5.99%**	**0.77%**	**12.45%**	**4.99%**	**63.07%**	**1.60%**	**10.12%**	**1.02%**
2035	**6.41%**	**0.84%**	**13.02%**	**5.16%**	**60.17%**	**1.91%**	**11.19%**	**1.30%**
2040	**6.75%**	**0.90%**	**13.55%**	**5.40%**	**57.32%**	**2.23%**	**12.22%**	**1.62%**

County Share of Regional Employment

Year	Brazoria	Cham-bers	Ft. Bend	Galves-ton	Harris	Liberty	Mont-gomery	Waller
1970	3.75%	0.39%	1.57%	6.52%	85.49%	0.88%	1.04%	0.38%
1980	4.21%	0.46%	2.32%	4.50%	85.64%	0.86%	1.63%	0.37%
1990	3.92%	0.33%	2.79%	4.43%	84.94%	0.79%	2.39%	0.42%
1995	3.77%	0.36%	3.22%	4.36%	84.24%	0.78%	2.84%	0.44%
2000	3.44%	0.37%	4.43%	3.90%	82.72%	0.72%	3.98%	0.44%
2005	3.45%	0.37%	4.81%	3.83%	81.77%	0.71%	4.52%	0.55%
2010	3.49%	0.38%	5.30%	3.82%	80.63%	0.66%	5.16%	0.55%
2015	**3.59%**	**0.45%**	**5.92%**	**3.60%**	**79.58%**	**0.57%**	**5.74%**	**0.55%**
2020	**3.72%**	**0.47%**	**6.13%**	**3.64%**	**78.93%**	**0.57%**	**5.96%**	**0.58%**
2025	**3.87%**	**0.51%**	**6.96%**	**3.72%**	**77.15%**	**0.65%**	**6.50%**	**0.63%**
2030	**4.00%**	**0.57%**	**8.06%**	**3.82%**	**74.97%**	**0.76%**	**7.11%**	**0.71%**
2035	**4.11%**	**0.63%**	**9.33%**	**3.93%**	**72.37%**	**0.96%**	**7.86%**	**0.81%**
2040	**4.25%**	**0.68%**	**10.50%**	**4.03%**	**69.70%**	**1.22%**	**8.68%**	**0.94%**

County Shares of Historical and Future Population and Employment – H-GAC 2016 Forecast

County Share of Regional Population

Year	Brazoria	Cham-bers	Ft. Bend	Galves-ton	Harris	Liberty	Mont-gomery	Waller
2010	5.21%	0.60%	9.95%	4.94%	69.62%	1.21%	7.79%	0.68%
2015	**5.31%**	**0.62%**	**11.24%**	**5.11%**	**67.00%**	**1.15%**	**8.97%**	**0.61%**
2020	**5.38%**	**0.61%**	**11.98%**	**4.96%**	**65.20%**	**1.13%**	**10.09%**	**0.64%**
2025	**5.39%**	**0.61%**	**12.40%**	**4.82%**	**64.10%**	**1.23%**	**10.78%**	**0.67%**
2030	**5.48%**	**0.60%**	**12.22%**	**4.78%**	**63.34%**	**1.30%**	**11.27%**	**1.02%**
2035	**5.50%**	**0.59%**	**12.32%**	**4.70%**	**62.81%**	**1.37%**	**11.63%**	**1.08%**
2040	**5.54%**	**0.59%**	**12.53%**	**4.67%**	**62.43%**	**1.44%**	**11.72%**	**1.09%**

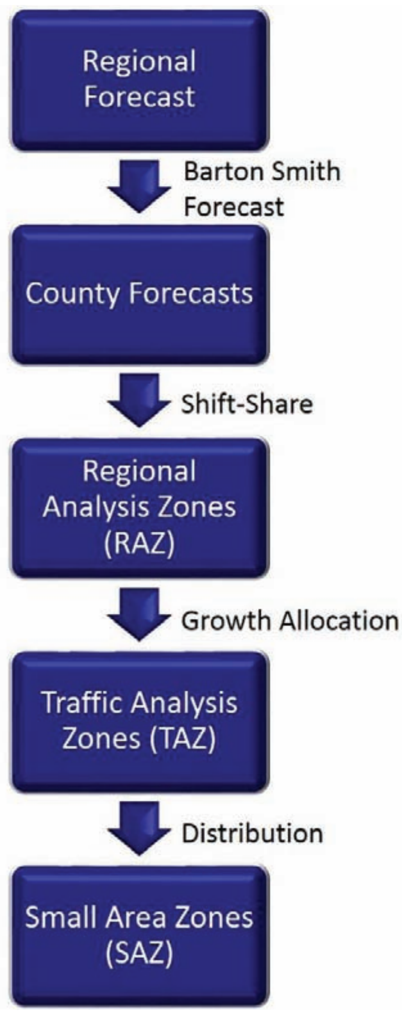
County Share of Regional Employment

Year	Brazoria	Cham-bers	Ft. Bend	Galves-ton	Harris	Liberty	Mont-gomery	Waller
2010	3.08%	0.45%	5.41%	3.48%	81.55%	0.52%	5.10%	0.41%
2015	**2.95%**	**0.46%**	**6.06%**	**3.36%**	**80.90%**	**0.46%**	**5.41%**	**0.40%**
2020	**2.87%**	**0.46%**	**6.74%**	**3.23%**	**79.85%**	**0.43%**	**5.96%**	**0.46%**
2025	**2.83%**	**0.46%**	**6.78%**	**3.14%**	**80.12%**	**0.40%**	**5.81%**	**0.46%**
2030	**2.85%**	**0.45%**	**6.61%**	**3.34%**	**80.06%**	**0.40%**	**5.76%**	**0.52%**
2035	**2.97%**	**0.45%**	**6.39%**	**3.67%**	**80.02%**	**0.40%**	**5.55%**	**0.54%**
2040	**3.26%**	**0.44%**	**6.34%**	**3.85%**	**79.59%**	**0.48%**	**5.37%**	**0.67%**

Small Area Forecast Method Overview

The previously mentioned Houston Galveston Area Council (H-GAC) forecast is available as small area forecast in addition to its county and region-wide levels. CDS was tasked with providing a forecast using H-GAC's small areas, as well as further disaggregating the three forecasts in several key areas to even smaller zones than those used by H-GAC. In general, the methodology included the following steps.

1. Utilize the two forecasts of county-level jobs and population (Smith '12, Low Growth Scenario).
2. Compile data on historical growth trends from:
    - the central appraisal districts for Harris, Waller, Montgomery and Fort Bend
    - commercial development data from O'Connor and Associates
    - PCensus for ArcView, a program that distributes and displays Neilsen/Claritas demographic data which included 1990, 2000, and 2010 Census data, estimates for 2005 and 2014 as well as projections to 2019 at the census block level
    - historical employment information for 1990 and 2000 from the Census Transportation Planning Package (CTPP)
    - the population and jobs estimates from previous the H-GAC forecasting efforts
3. Evaluate the growth trends in the previous H-GAC 2040 projections and the latest 1Q 2015 H-GAC 2040 forecasts.
4. Investigate the forecasts of area governmental agencies and private organizations.
5. Evaluate the potential growth inducing effects of the Grand Parkway and other major infrastructure improvements.
6. Implement a "shift-share" forecasting methodology at the RAZ level which takes into account:
    - the historical trends
    - the known historical growth areas for housing and jobs
    - announced major developments
    - the land available for new development
    - likely areas in the community for new development based on locally influenced qualitative factors
7. Disaggregate the RAZ forecast into the smaller zones.



Forecasting Population and Jobs – County Control Totals

County Level and Region Growth Projections

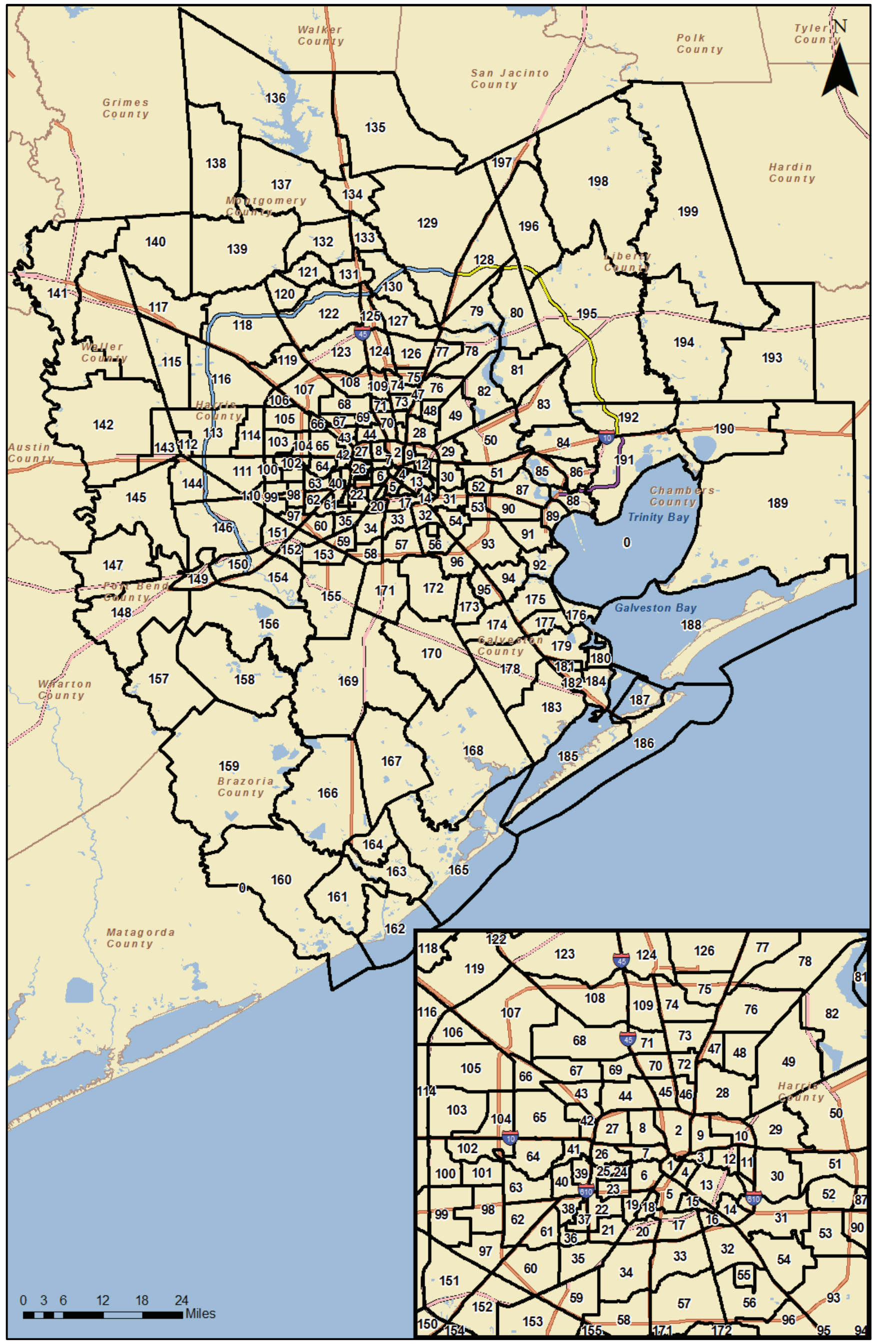
	Year	8-County CMSA	Brazoria	Cham-bers	Ft. Bend	Galveston	Harris	Liberty	Mont-gomery	Waller
POPULATION										
Popu-lation by Year	1970	2,181,316	108,312	12,187	52,314	169,812	1,741,913	33,014	49,479	14,285
	1980	3,118,480	169,587	18,538	130,962	195,738	2,409,547	47,088	127,222	19,798
	1990	3,731,131	191,707	20,088	225,421	217,399	2,818,199	52,726	182,201	23,390
	1995	4,021,841	206,421	21,416	264,235	224,620	3,002,304	57,713	219,190	25,941
	2000	4,669,589	241,767	26,031	354,452	250,158	3,400,578	70,154	293,786	32,663
	2005	5,109,124	273,338	29,122	451,391	272,316	3,604,232	75,104	367,857	35,764
	2010	5,814,383	302,607	34,867	579,439	287,012	4,047,935	70,499	452,522	39,502
	2015	6,546,400	335,300	38,600	709,800	317,900	4,491,200	74,500	534,200	44,900
	2020	6,872,088	358,332	43,472	768,763	332,515	4,656,482	81,081	583,254	48,191
	2025	7,514,223	417,897	53,135	888,058	367,946	4,932,177	101,732	691,898	61,380
	2030	8,215,477	492,277	63,207	1,022,463	410,060	5,181,124	131,520	831,360	83,467
	2035	8,981,561	575,722	75,355	1,169,734	463,684	5,404,635	171,146	1,004,905	116,379
	2040	9,818,270	662,276	88,631	1,330,309	530,338	5,628,281	219,303	1,199,620	159,512
Annual Average Pop. Growth by Period	'00-'10	114,479	6,084	884	22,499	3,685	64,736	35	15,874	684
	'10-'20	105,770	5,572	860	18,932	4,550	60,855	1,058	13,073	869
	'20-'30	134,339	13,395	1,974	25,370	7,755	52,464	5,044	24,811	3,528
	'30-'40	160,279	17,000	2,542	30,785	12,028	44,716	8,778	36,826	7,604
	'10-40	133,463	11,989	1,792	25,029	8,111	52,678	4,960	24,903	4,000
JOBS										
Jobs by Year	1970	904,142	33,873	3,509	14,159	58,934	772,907	7,919	9,403	3,438
	1980	1,616,123	68,052	7,482	37,545	72,799	1,384,104	13,854	26,388	5,899
	1990	1,811,944	70,950	6,048	50,546	80,224	1,539,045	14,251	43,268	7,612
	1995	1,922,608	72,482	6,921	61,908	83,826	1,619,544	14,951	54,602	8,373
	2000	2,252,103	77,472	8,288	99,768	94,138	1,855,051	17,901	89,634	9,851
	2005	2,343,072	80,250	8,787	112,936	96,956	1,906,019	18,862	108,484	10,778
	2010	2,469,888	85,761	9,385	130,168	94,522	1,993,657	16,201	127,153	13,041
	2015	2,875,524	103,268	12,824	170,096	103,654	2,288,404	16,428	165,027	15,823
	2020	2,990,765	111,314	13,978	183,333	108,826	2,360,724	17,119	178,264	17,207
	2025	3,269,818	126,430	16,766	227,624	121,759	2,522,767	21,180	212,623	20,669
	2030	3,574,877	142,871	20,429	288,286	136,554	2,680,015	27,266	254,004	25,453
	2035	3,908,001	160,749	24,483	364,548	153,481	2,828,295	37,399	307,305	31,741
	2040	4,271,026	181,333	28,918	448,584	171,997	2,977,091	52,209	370,717	40,178
Annual Average Jobs Growth by Period	'00-'10	21,779	829	110	3,040	38	13,861	-170	3,752	319
	'10-'20	52,088	2,555	459	5,317	1,430	36,707	92	5,111	417
	'20-'30	58,411	3,156	645	10,495	2,773	31,929	1,015	7,574	825
	'30-'40	69,615	3,846	849	16,030	3,544	29,708	2,494	11,671	1,473
	'10-'40	60,038	3,186	651	10,614	2,582	32,781	1,200	8,119	905

Starting with Historical and Forecast Data at the RAZ level

It was beyond the scope of this report and the models available to the project team to produce a complete forecast for the entire Houston metropolitan region and every Traffic Analysis Zone (TAZ) from scratch. CDS began this forecasting process, as it has every forecast since the original 2011 Grand Parkway project, by using its most recent previous forecast as a starting point in terms of shift-share allocations at the RAZ and TAZ levels. This is done to incorporate and build upon previous work and expectations, as none of the transportation projects CDS has been asked to consider are assumed to be planned in lieu of others. CDS then compiled the data on recent trends (1990 to 2010) at the TAZ geographic level and recent forecasts by H-GAC. Those data were evaluated and adjustments were made to the forecasts using a variety of methods.

Map of Regional Analysis Zones

Eight County Region



The 2010 Base

The original CDS forecast done in 2011 began by identifying the appropriate 2010 base year data for population, housing units, and employment. This data has carried through all subsequent forecast projects with one major alteration. Beginning with the Grand Parkway Segments D-I forecast issued in 2015, CDS uses population in households and total households/occupied housing units instead of total population and housing units for both base and forecast years. The following is the process at which this information was obtained.

Population and Households

The 2010 population for TAZs was based on the household and household population at the Census block level from the 2010 Census.

Employment (Jobs)

Determining the 2010 base jobs by RAZ was substantially more difficult than housing and population. The reason is that there are no small area job estimates that are based on reliable data such as the Census. The U.S. Bureau of the Census County Business Patterns provides the most verifiable data but the lowest level of geography available is zip code. For their most recent forecast, H-GAC estimated the number of jobs in small areas using the county appraisal district data, augmented by information from InfoUSA™ and from internal and other sources not revealed to CDS.

One option that CDS has access to is the Nielsen/Claritas Business Facts® database for very small areas (Census block groups) through PCensus for ArcView. Claritas Business Facts® is developed using the InfoUSA™ data file as its base source. The InfoUSA™ database of over 12 million U.S. businesses is mined from over 4,900 Yellow Page directories published each year by Regional Bell Operating Companies (RBOC's) and independent phone companies. InfoUSA™ also compiles records from over 500 Business White Pages, regular White Pages, federal, state and municipal government Blue Pages, annual reports (publicly-held companies) industrial and regional business journals. InfoUSA™ then processes the information through several routines to ensure that the final product will be dependable for use by salespeople and marketers interested in using its contents for mailing campaigns. That includes calling existing and new businesses at least once each year to verify and collect new information.

Another option for current job estimates is to use the square feet of commercial buildings, office, retail, industrial and institutional buildings from the county appraisal districts to estimate the number of jobs at each facility. CDS applied H-GAC's stated ratios of square feet per job as in the table on the right. Unfortunately that method did not produce consistent results.

Square Feet per Employee by Building Activity

Building Type	SqFt Per Employee
Education	1,400
Health Care	350
Lodging	917
Retail	500
Office	225
Public Assembly	1,000
Warehouse	1,000
Industrial	625
Mobile	0

Ultimately, the historical and current employment estimates were developed from a variety of sources. The 1990 and 2000 jobs estimates come from the special tabulations of the U.S. Decennial Census (CTTP) provided by the H-GAC. The 2005 estimates of jobs comes from the H-GAC's 2005-2035 forecast. The 2010 employment estimate was ultimately based on figures issued by Nielsen/Claritas based on the InfoUSA data previously described.

In all cases the values for the historical and base-year (2010) data for employment and population were adjusted proportionally to match the county-level totals provided by the Texas Workforce Commission/BLS and the CDS 2015 forecast control totals. The historical and projected population and jobs data by (CDS-defined) RAZ is presented in the appendices of this report.

Future Transportation Network Assumption

In preparing the small area forecasts, it is clear that future transportation networks and the accessibility of the small area zones are affected by transportation infrastructure improvements over time. It was beyond the scope of this work to develop sophisticated models that took into account all changes in the transportation network including both highways and public transit. Therefore for this analysis it was assumed that transportation improvements would continue over time to serve the existing and new residents of the community and that any transportation funding crisis, regardless of how real it may seem today, will be ultimately resolved because of citizen demands. Therefore, for the purposes of this effort, it was assumed that the relative accessibility of the various zones in the region would not significantly change over time. However, recently opened and planned facilities such as the extension of the Fort Bend Toll Road and the Westpark Toll Road, the SH 249/Tomball Tollway, the Grand Parkway, the Fort Bend and City of Houston Major Thoroughfare Plans, known enhancements to existing facilities such as improvements to US 290, SH 288, I-45 South and I-45 North, and light rail extensions were included.

The RAZ-Level Forecasts

The forecasts at the RAZ level of geography were produced using a shift-share forecasting methodology accounting for land availability throughout the process. The methodology involved establishment of county-level forecasts from 2010 to 2040. Then the shares of the future county housing units, population and jobs were estimated for each 5-year period. An example of the methodology, for Waller County is shown below.

Shift Share Analysis Example

RAZ Shares – Share of County Job Growth in Each 5-Year Period

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
140		21.9%	0.8%	13.8%	22.2%	22.4%	22.7%	23.8%	24.3%	24.3%
141		6.9%	4.7%	9.5%	11.1%	10.5%	10.1%	9.7%	9.5%	9.5%
142		67.1%	44.0%	68.1%	33.3%	34.1%	34.1%	34.7%	35.0%	36.0%
143		4.1%	50.5%	8.6%	33.3%	33.0%	33.1%	31.8%	31.1%	30.2%
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

$$\text{Jobs}_{\text{Year } n} = \text{Jobs}_{\text{Year } n\text{-}5} + \text{RAZ Share}_{\text{Year } n} \times [\text{County Jobs}_{\text{Year } n} - \text{County Jobs}_{\text{Year } n\text{-}5}]$$

Jobs – Total Number of Jobs in the RAZ in the Year Shown

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
140	4,238	4,729	4,737	5,010	5,868	7,297	9,152	11,140	13,102	14,927
141	1,874	2,029	2,072	2,260	2,691	3,361	4,186	4,995	5,760	6,473
142	1,227	2,729	3,137	4,487	5,774	7,951	10,734	13,634	16,458	19,159
143	274	365	833	1,004	2,291	4,400	7,099	9,750	12,261	14,523
Total	7,612	9,851	10,778	12,761	16,623	23,008	31,172	39,518	47,581	55,082

In each case, the shares of future growth were based on:

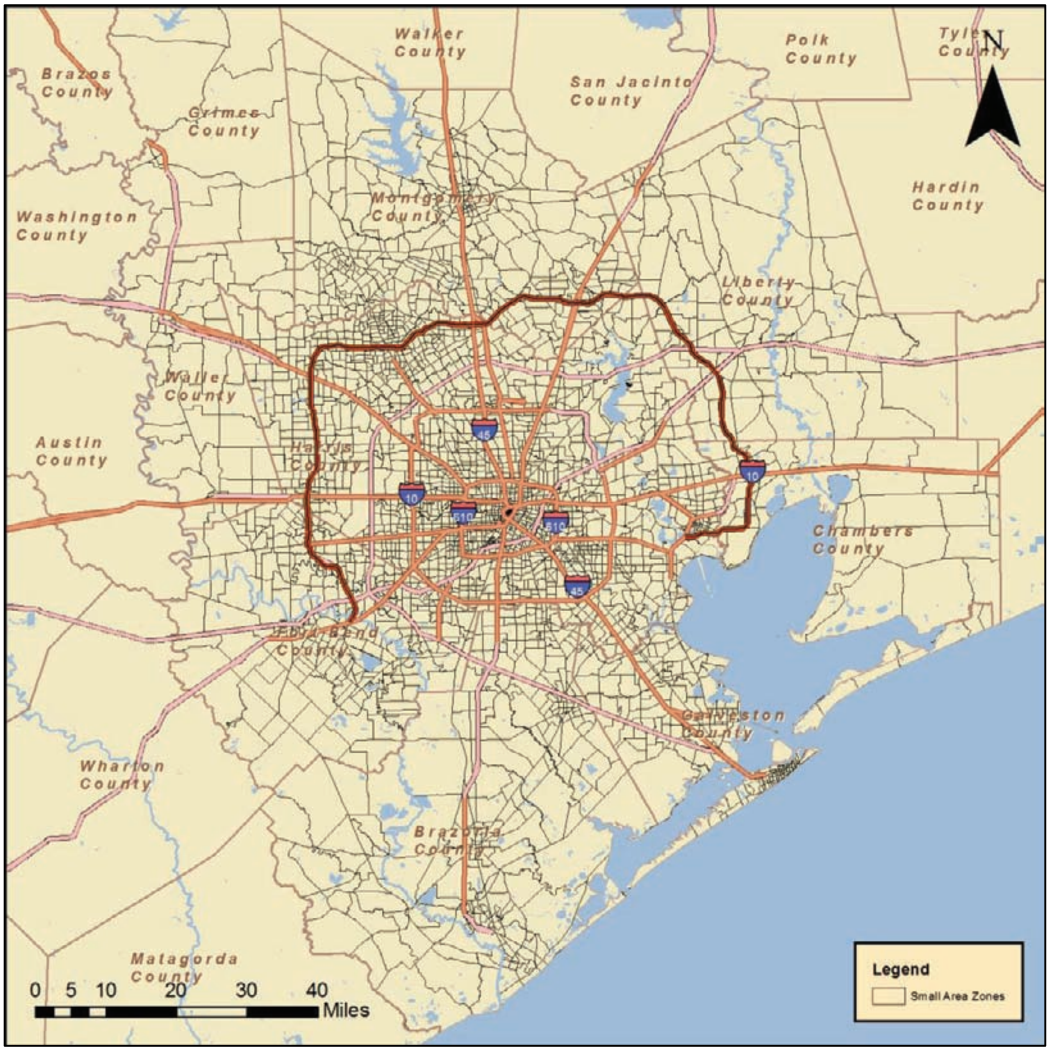
- recent history of growth capture
- information on growth from area agencies and organizations
- expected future capture of the growth
- estimation of the capacity of the vacant developable or redevelopable land in the RAZ for new development

Distributing RAZ-Level Forecast Data to the TAZ and SAZ

RAZ to TAZ Allocation

The forecasts for the 199 RAZs were distributed to the smaller TAZs, and subsequent SAZs, for the entire 8-county region plus Grimes County. The map on the right illustrates the 3,512 CDS forecast areas in the region.

CDS Forecast Areas for the Grand Parkway Analysis



The methodology for the distribution of the expected growth within the RAZ to the smaller TAZ and SAZ was straightforward but time consuming. For this effort, the CDS team:

1. Reviewed information for each RAZ, including aerial photographs, data from the appraisal districts, information from area agencies and previous TAZ-level forecasts prepared by the H-GAC;

2. Made an assessment as to the current distribution of housing units, jobs and population within each TAZ as a percentage of the total RAZ (using the team knowledge of trends and development plans); and

3. Made an assessment of the future growth of housing and jobs in each TAZ of the expected growth of the entire RAZ; and applied those growth percentages to the expected RAZ total growth to produce estimates of future growth of housing, population and jobs in the smaller zones.

TAZ to SAZ Allocation

Over the course of several projects, the CDM Smith team has split several TAZ areas into even smaller zones that we reference as Small Analysis Zones (SAZ). The purpose of this fine grain analysis is to provide the best possible information to align with proposed cross-streets and toll road access/egress configurations for use in traffic and revenue estimation. There are 2,954 H-GAC TAZs, while these forecasts use 3,512 separate TAZ and SAZ geographies.

Within each TAZ that was split into the smaller tracts, the team used the same process as with the RAZ to TAZ process described on the previous page.

Care was taken to ensure that the total housing units, population and jobs for the 3,512 forecast zones matched the total regional forecast for each period.

Summary of Considered Adjustments

The following tables illustrate the considered changes in the forecasts at the small area (RAZ and TAZ/SAZ) level. The base from which these changes were considered is the Grand Parkway forecast that CDS issued in mid-2015. In some cases, change in the forecast was required, in other cases, the original projections adequately included the growth from the newly announced projects or changing conditions. There are two tables, one for adjustments related to population and housing (residential developments) and one for adjustments related to employment (commercial developments). A total of 203 SAZ and TAZ-level examinations and adjustments were made for this forecast along with 3 RAZ-level adjustments.

Population and Housing Adjustments

County	RAZ	SAZ	Adjustment Made
Harris	111	1436	Significant apartment development ongoing and expected in this zone, Adjusted up.
Harris	111	3152	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Harris	111	3154	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Harris	113	1464	Grand Morton Town Center (retail/mixed use center), 236,000 SF, expected to be open by 2018. Forecast adjusted up significantly.
Harris	113	3182	Proposed Waterstone industrial park at Clay and SH 99, residential growth adjusted down due to dominance of commercial land use.
Harris	115	1752	Contains Katy Prairie conservancy land, forecast adjusted down.
Harris	115	1754	Contains Katy Prairie conservancy land, forecast adjusted down.
Harris	115	3199	Contains Katy Prairie conservancy land, forecast adjusted down.
Harris	115	3200	Contains Katy Prairie conservancy land, forecast adjusted down.
Harris	115	3204	Contains Katy Prairie conservancy land, forecast adjusted down.
Harris	115	3205	Contains Katy Prairie conservancy land, forecast adjusted down.
Harris	115	3252	Contains Katy Prairie conservancy land, forecast adjusted down.
Harris	118	1785	Harrigan Development 670 acre master-planned community to be called "Rosehill Reserve", 1,600 homes planned with 282 lots being developed in the first phase. Forecast adjusted up.
Harris	118	3463	Infill housing development now underway, adjusted up slightly.

County	RAZ	SAZ	Adjustment Made
Harris	119	1777	Infill housing development now underway, adjusted up slightly.
Harris	120	3574	Infill housing development now underway, adjusted up slightly.
Harris	120	3575	Infill housing development now underway, adjusted up slightly.
Harris	120	3576	Infill housing development now underway, adjusted up slightly.
Harris	121	1815	Housing developing in this area now, expected to continue, adjusted up.
Harris	122	1804	Backfilling with homes near Cypress Creek, adjusted up slightly.
Harris	122	1805	Backfilling with homes near Cypress Creek, adjusted up slightly.
Harris	122	1812	Backfilling with homes near Cypress Creek, adjusted up slightly.
Harris	122	1813	Housing developing in this area now, expected to continue, adjusted up.
Harris	122	1813	Backfilling with homes near Cypress Creek, no adjustment needed.
Harris	123	1678	Infill housing development now underway, adjusted up slightly.
Montgomery	136	2585	Handful of proposed housing, adjusted up.
Montgomery	137	2459	"Sendera Ranch" and "Montgomery Trace", development limited due to lack of vacant land, no adjustment needed.
Montgomery	138	2447	1,500 to 1,700 home "Magnolia Woods" planned, part of 6,000 acre "Woodard Tract" located here expected to be residential development, location of "Bluejack National" golf course community, adjusted up.
Montgomery	138	2449	Heavily deed restricted area, housing development should be limited, adjusted down.
Montgomery	138	2451	Part of 6,000 acre "Woodard Tract", housing expected there and in Crown Ranch and High Meadow Ranch Estates, adjusted up.
Montgomery	139	2425	Not enough land for intense development, adjusted down.
Montgomery	139	2432	"Legacy" development of 1,100 acres and 3,000 houses is proposed as well as 500 acre/1,000 home "Magnolia Ridge", adjusted up slightly.
Montgomery	139	2433	"Legacy" development of 1,100 acres and 3,000 houses is proposed, adjusted up slightly.
Montgomery	139	2436	175 acre expansion of "Mostyn Manor", some floodplain in zone, no adjustment necessary.
Montgomery	139	3583	"Woodtrace" neighborhood will continue to add housing along Woodlands Parkway extension, no adjustment needed.
Montgomery	139	3594	Not enough land for intense development, adjusted down.
Montgomery	139	3595	Not enough land for intense development, adjusted down.
Montgomery	139	3598	Additional housing growth driven by extension of Nicholls Sawmill Road, adjusted up slightly.
Montgomery	139	3599	Additional housing growth driven by extension of Nicholls Sawmill Road, adjusted up slightly.
Montgomery	139	3600	600 lots proposed in "Glen Oaks", adjusted up.
Montgomery	139	3615	"Legacy" development of 1,100 acres and 3,000 houses is proposed, adjusted up slightly.
Montgomery	139	3618	"Legacy" development of 1,100 acres and 3,000 houses is proposed as well as 500 acre/1,000 home "Magnolia Ridge", adjusted up slightly.
Montgomery	139	3638	1,100 townhomes planned on west side, adjusted up.
Waller	140	2349	Contains Katy Prairie conservancy land, forecast adjusted down.
Waller	140	2350	Contains Katy Prairie conservancy land, forecast adjusted down.

County	RAZ	SAZ	Adjustment Made
Waller	142	2325	Contains Katy Prairie conservancy land, forecast adjusted down.
Fort Bend	144	2236	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	144	2237	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	144	2240	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	144	2243	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	144	2244	Multifamily development has occurred, No adjustment, forecast sufficient.
Fort Bend	144	3139	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	144	3140	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	144	3142	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	144	3142	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	144	3147	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	144	3148	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	144	3150	Largely built out part of the Cinco Ranch area, growth should be limited, Adjusted down.
Fort Bend	145	2245	Much in floodplain, Adjusted down.
Fort Bend	145	2246	Twinwood development proposed with moderately dense clusters of residential surrounded by green space, Adjusted up in the out years.
Fort Bend	145	2247	Part of Twinwood, "Fulshear Lakes" subdivision located here as well with 7,600 residents projected and development beginning in earnest prior to 2020, Adjusted up.
Fort Bend	145	2248	Much in floodplain, Adjusted down.
Fort Bend	145	2249	Part of zone is in Johnson Development possession, Adjusted up.
Fort Bend	145	2250	Johnson Development has broken ground on "Jordan Ranch", Phase 1 includes 500 of an eventual 2,800 homes. Forecast sufficient, no adjustment made.
Fort Bend	145	2250	Development to abut sand pit, Adjusted up.
Fort Bend	145	2251	Planned subdivision, "Fulshear Run", 2020 build out, 2,300 projected residents, Adjusted up.
Fort Bend	145	2252	Planned subdivision, "Foster Farms", Adjusted up.
Fort Bend	145	2252	Planned subdivision, "Foster Farms", much is also in floodplain, Adjusted down slightly.
Fort Bend	145	3132	Planned subdivision, "Foster Farms", bulk is in this zone, Adjusted up.
Fort Bend	145	3133	Planned subdivision, "Foster Farms", No adjustment, forecast sufficient.
Fort Bend	145	3134	Zoned for 1+ acre homes, much in floodplain, Adjusted down.
Fort Bend	145	3136	"Harrison Tract", all residential, Adjusted up.

County	RAZ	SAZ	Adjustment Made
Fort Bend	145	3447	Johnson Development has broken ground on "Jordan Ranch", Phase 1 includes 500 of an eventual 2,800 homes. Forecast sufficient, no adjustment made.
Fort Bend	145	3448	Johnson Development has broken ground on "Jordan Ranch", Phase 1 includes 500 of an eventual 2,800 homes. Forecast sufficient, no adjustment made.
Fort Bend	145	3449	"Tamarron" subdivision getting underway, 2022 build-out and 8,320 projected residents, Adjusted up.
Fort Bend	145	3456	"Westin Lakes", very limited growth, Adjusted down.
Fort Bend	146	2207	Clinton Wong tract will be developed, No adjustment, forecast sufficient.
Fort Bend	146	2228	Too much land to not develop extensively, Adjusted up.
Fort Bend	146	3129	Small parcels to develop, probably as apartments, No adjustment, forecast sufficient.
Fort Bend	147	2296	More growth expected in and around Orchard, Brazos ISD is relatively well-regarded, Adjusted up.
Fort Bend	147	2299	More growth expected in and around Orchard, Brazos ISD is relatively well-regarded, Adjusted up.
Fort Bend	147	3457	More growth expected in and around Orchard, Brazos ISD is relatively well-regarded, Adjusted up.
Fort Bend	150	2180	Multifamily development, Adjusted up.
Fort Bend	150	3109	Midway partnering with George Foundation to develop land at 762-59 corner, possible mixed use, Adjusted up.
Fort Bend	151	2220	"Imperial" beginning home sales in 2015, Adjusted up slightly.
Fort Bend	154	2196	Proposed wrap multifamily, Adjusted up.
Fort Bend	155	2134	"Sienna South", 10,000 homes possible, first homes closing in mid-late 2015, Adjusted up slightly.
Fort Bend	155	3671	"Sienna South", 10,000 homes possible, first homes closing in mid-late 2015, Adjusted up slightly.
Fort Bend	155	3672	"Sienna South", 10,000 homes possible, first homes closing in mid-late 2015, Adjusted up slightly.
Fort Bend	155	3672	"Sienna South", 10,000 homes possible, first homes closing in mid-late 2015, Adjusted up slightly.
Fort Bend	158	2315	Remove growth from Brazos Bend State Park, adjusted down.
Fort Bend	158	3065	Remove growth from Brazos Bend State Park, adjusted down.
Chambers	190	2692	Growth severely limited by wetlands, adjusted down significantly.

Employment Adjustments

County	RAZ	SAZ	Adjustment Made
Harris	59		Employment growth too low in whole RAZ, Adjusted up slightly.
Harris	59	855	Bayou Bend Business Park being developed by Stream, 378,000 SF in total, Adjusted up.
Harris	60	1298	ICO Commercial recently opened 90,000 SF of flex space, Adjusted up.
Harris	60	1299	Conor Commercial Real Estate 525,800 SF business park begin construction in late 2015, called Gateway Southwest Industrial Park, Adjusted up.
Harris	81	546	80.4 acres along US Hwy 90 sold, expected to be used for industrial park. Forecast adjusted up.
Harris	100	1349	Energy Corridor employment growth expected above previous forecast, adjusted up.
Harris	100	1350	Energy Corridor employment growth expected above previous forecast, adjusted up.
Harris	100	1416	Energy Corridor employment growth expected above previous forecast, adjusted up.
Harris	111	1436	Katy Ranch Crossing development, two new flex space users signed up, retail in zone as well, Adjusted up.
Harris	113		Employment forecast too low in RAZ to account for all job growth, adjusted up significantly.
Harris	113	1460	New Katy ISD elementary middle and high schools, planned opening in 2018. Forecast adjusted up.
Harris	113	1461	70 acre Grand Parkway Industrial Park, expected to open in early 2016 with two 20,000 SF buildings. Forecast adjusted up.
Harris	113	1462	Unannounced development, 70 acres, 300 jobs created. Forecast adjusted up.
Harris	113	1464	Grand Morton Town Center reduces opportunities for residential development, forecast adjusted down.
Harris	113	1465	Grand Morton Town Center (retail/mixed use center), 410,000 SF, expected to be open by 2018. Grandway West business park, 780,000 SF of flex space proposed. Forecast adjusted up significantly.
Harris	113	1470	Mason Creek business park, 700,000 SF of industrial to open soon, Adjusted up.
Harris	113	3156	Kobelco machinery leased 100,000 SF in the 552,000 SF now in Ten West Crossing, Adjusted up.
Harris	113	3162	First Grand Parkway Commerce Center, 48.9 acres, 830,000 SF of warehouse space, opening TBD. Forecast adjusted up significantly.
Harris	113	3170	Ag energy facility planned, 500,000 SF facility and 150 jobs expected. Forecast adjusted up slightly.
Harris	113	3179	Energy Park West, 30,000 SF building to be added to existing facility, 170 jobs expected to be added by 3 companies / Optimized Process Designs facility expansion proposed, 50-100 jobs expected / Ag energy company facility proposed, second site of facility at 3170 with 50 jobs expected. Forecast adjusted up.

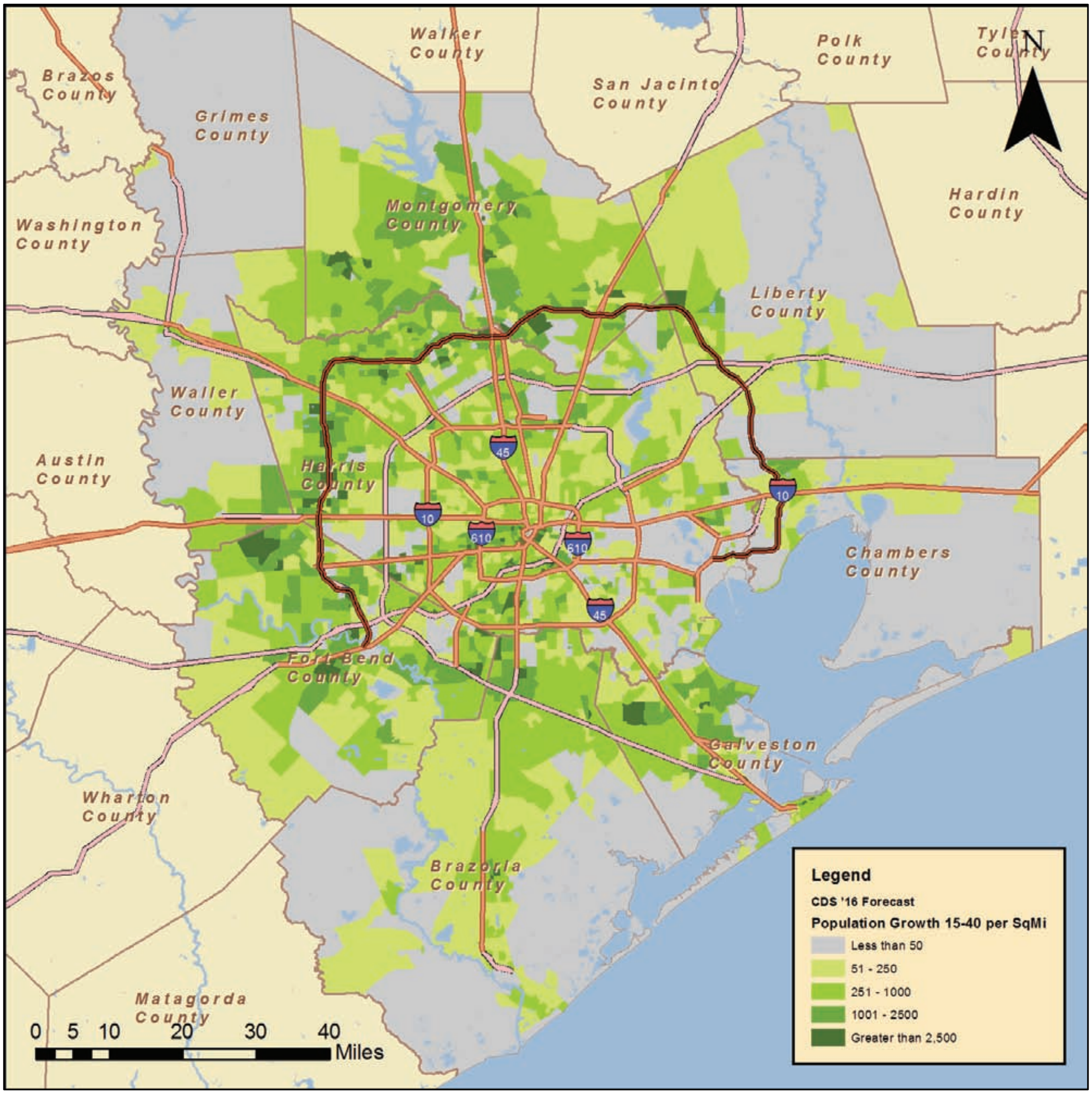
County	RAZ	SAZ	Adjustment Made
Harris	113	3182	Proposed Waterstone industrial park at Clay and SH 99, 750,000 SF of warehouse space, with another 375,000 SF planned future expansion / Chevron facility proposed as well, development expected to add 250 jobs but not expected now until after 2020. Forecast adjusted up significantly after 2020.
Harris	114	1445	6 story/220,000 SF addition to Methodist Hospital-West Houston, expected to be complete by 2018, forecast adjusted up.
Harris	115	3208	New plant to open, forecast adjusted up.
Harris	115	3208	Daikin Plant construction incorrectly attributed in this SAZ in previous forecast, forecast adjusted down significantly.
Harris	116	3178	FedEx Distribution Center, 484 acres, 800,000 SF building, intended to employ 400. Forecast adjusted up significantly.
Harris	117		Employment forecast too low in RAZ to account for all job growth, adjusted up significantly.
Harris	117	1758	Jobs at firms supplementing Daikin expected, adjust up slightly.
Harris	117	1760	Daikin Plant construction, 4 million SF and 5,000 employees expected. Adjusted up to account for growth attributed to SAZ 1760 in previous forecast plus additional job growth.
Harris	117	1761	Jobs at firms supplementing Daikin expected, adjust up slightly.
Harris	117	1762	Jobs at firms supplementing Daikin expected, adjust up slightly.
Harris	118	1785	Employment forecast adjusted up slightly to account for jobs likely to be created alongside new residents of Harrigan Development master-planned community.
Harris	118	3251	Developing as industrial, new county Precinct facility to be built as well, adjusted up slightly.
Harris	118	3513	Developing as industrial, adjusted up.
Harris	121	1815	Job growth expected to occur elsewhere in area, adjusted down.
Harris	121	3537	Job growth expected to occur elsewhere in area, adjusted down.
Harris	121	3538	Job growth expected to occur elsewhere in area, adjusted down.
Harris	122	3269	Southwest Energy offices, 300 laid off in January 2016. Forecast adjusted down slightly, robust employment growth still expected in this zone, which also contains the ExxonMobil campus.
Harris	122	3270	Employment growth expected near ExxonMobil campus, forecast adjusted up.
Harris	123	1669	Growth expected but not attributed in prior forecast, adjusted up.
Montgomery	136	2462	New middle and high school planned, retail expected on north end, adjusted up.
Montgomery	136	2585	New business park under construction, adjusted up.
Montgomery	136	2587	Planned grocery-anchored shopping center and business park, adjusted up significantly.
Montgomery	138	2444	New medical facilities planned, expected to draw employment in office/warehouse type buildings, adjusted up.
Montgomery	138	2447	Location of "Bluejack National" golf course community, 368 homes and 10+ year buildout, adjusted up slightly.

County	RAZ	SAZ	Adjustment Made
Montgomery	138	2449	Planned new schools and some rail-served industrial possibilities, no adjustments needed.
Montgomery	139	2423	Expected to be industrial corridor along FM 1488 as well as site of Lone Star College campus, adjusted up.
Montgomery	139	2424	Expected to be industrial corridor along FM 1488 as well as site of Lone Star College campus, adjusted up.
Montgomery	139	2425	Not enough land for intense development, adjusted down.
Montgomery	139	2429	No dense job growth expected, adjusted down.
Montgomery	139	2430	No dense job growth expected, adjusted down.
Montgomery	139	2435	20 acres purchased for major retail center with grocery and home improvement anchors, adjusted up.
Montgomery	139	3563	No dense job growth expected, adjusted down.
Montgomery	139	3579	No dense job growth expected, adjusted down.
Montgomery	139	3583	Retail expected in front of Woodtrace, adjusted up.
Montgomery	139	3594	Not enough land for intense development, adjusted down.
Montgomery	139	3595	Not enough land for intense development, adjusted down.
Montgomery	139	3637	New high school planned, post 2020, adjusted up slightly.
Montgomery	139	3638	Major retail and office/warehouse business park planned near west end of zone as well as proposed Tomball Regional Hospital location, adjusted up significantly.
Waller	143	2320	West 10 Business Park, Adjusted up in near term.
Waller	143	2322	Point West Business Park, 900 acres, and new Katy ISD elementary school opening summer 2016, Adjusted up.
Fort Bend	144	2232	West 10 Business Park, 419,000 SF Transwestern building is underway, No adjustment, forecast sufficient.
Fort Bend	144	2235	New Katy ISD elementary and middle schools, opening July 2016, forecast adjusted up slightly.
Fort Bend	144	2236	Too aggressive, job growth reduced, Adjusted down.
Fort Bend	144	2242	Growth should be more limited, Adjusted down.
Fort Bend	144	3139	Not enough room for such high job growth, Adjusted down.
Fort Bend	144	3142	Possible 10+ story office building in the future, No adjustment, forecast sufficient.
Fort Bend	144	3446	New Walmart and shopping, should be 2,000+ jobs between this zone and 3620, Adjusted up.
Fort Bend	145	2247	Twinwood development proposed, will have commercial sites and schools, Adjusted up.
Fort Bend	145	2251	Business Park and DMAC located here, Adjusted up.
Fort Bend	145	3136	Harrison Tract, all residential, limited jobs, Adjusted down.
Fort Bend	145	3454	Planned for 2 high, 1 middle, 2 elementary schools, and 2 grocery stores, one as a 199,000 SF center, 442 apartments, No adjustment, forecast sufficient.
Fort Bend	145	3455	Planned for 2 high, 1 middle, 2 elementary schools, and 2 grocery stores, one as a 199,000 SF center, 442 apartments, No adjustment, forecast sufficient.
Fort Bend	145	3456	Grocery retail center planned, Adjusted up.

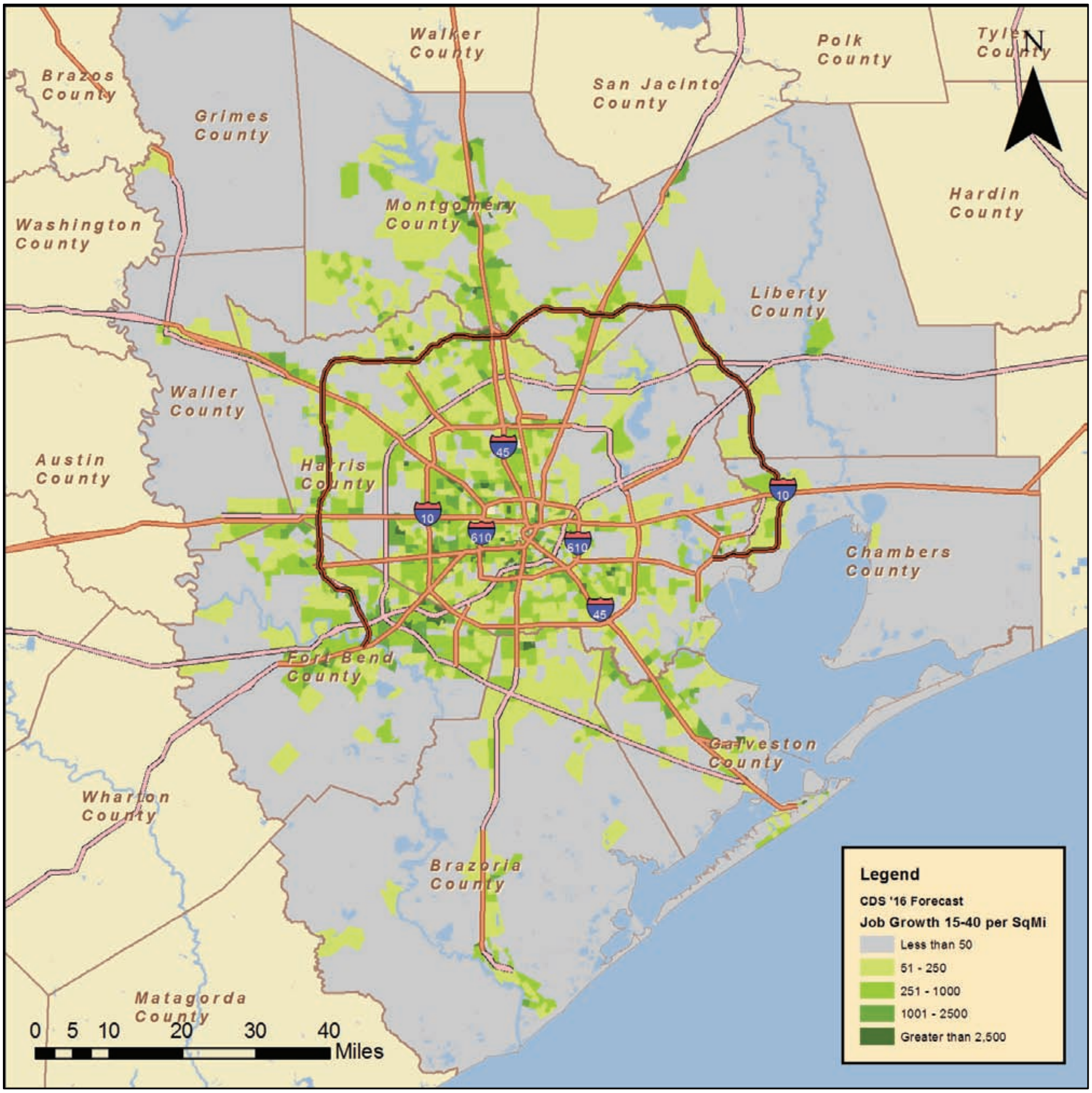
County	RAZ	SAZ	Adjustment Made
Fort Bend	146	2207	Too little job growth, Adjusted up.
Fort Bend	146	2211	No employment growth, most of it is parkland, Adjusted down.
Fort Bend	146	2226	Grocery-anchored shopping center planned, Adjusted up.
Fort Bend	146	3099	Land not yet closed on, Sugar Land intends to develop a light industrial park, Adjusted up.
Fort Bend	146	3111	Limited employment growth in Aliana zones that do not front the Grand Parkway, Adjusted down.
Fort Bend	146	3113	Limited employment growth in Aliana zones that do not front the Grand Parkway, Adjusted down.
Fort Bend	146	3118	Limited employment growth in Aliana zones that do not front the Grand Parkway, Adjusted down.
Fort Bend	146	3125	Shops at Bella Terra, shift growth to first part of development, Adjusted down.
Fort Bend	146	3130	Elementary school already there and commercial planned along FM 1093, Adjusted up.
Fort Bend	148	2288	Part of Triple Fork industrial park, Adjusted up.
Fort Bend	148	2289	Aldi 650,000 SF distribution facility under construction, Triple Fork industrial park, Adjusted up.
Fort Bend	149	2260	Job growth expected in Richmond Historic District, Adjusted up.
Fort Bend	149	2278	TSTC Fort Bend planned, 6 to 8 building 5,000 student campus, Adjusted up.
Fort Bend	149	2282	Brazos Town Center, development continues, Adjusted up.
Fort Bend	150	2180	40,000 to 100,000 SF office under construction and proposed, new Costco now open, Adjusted up.
Fort Bend	150	2254	Recently opened County Courthouse, other county government offices to open, Adjusted up.
Fort Bend	151	2175	150,000 SF office building and 134 room hotel planned on site to open by 2017, Flour vacating 1 million SF of space when lease expires in 2021 that will need to be absorbed, No adjustment, forecast sufficient.
Fort Bend	151	2178	Team Industrial Services corporate headquarters adding 80 jobs immediately with 20 more planned, OptumRx leasing space in Granite Towers II adding 330 jobs, No adjustment, forecast sufficient.
Fort Bend	151	2204	Applied Optoelectronics facility expansion from 2016-2026, 500 new jobs, Adjusted up.
Fort Bend	151	2218	Nalco-Champion corporate headquarters, 133,510 SF of office space, 860 new jobs and another 250 jobs recaptured from Houston, Adjusted up.
Fort Bend	152	2125	2,000,000+ SF mixed use development planned on Texas Instruments campus site, construction to begin in 2016 or 2017, develop in phases, retail (outlet mall)/office/MF/ even warehouse on east end of property, No adjustment, forecast sufficient.
Fort Bend	152	2128	Dishaka building 185,000 SF food processing facility, Imperial Linen facility to be built, HCC to expand their campus, No adjustment, forecast sufficient.
Fort Bend	152	2129	HC4 purchased former building supply facility for redevelopment, Adjusted up slightly.
Fort Bend	152	2130	3,000,000 SF FedEx distribution facility under construction, Adjusted up.

County	RAZ	SAZ	Adjustment Made
Fort Bend	152	2184	Job growth expected, Adjusted up.
Fort Bend	152	2187	First Data Telecheck bringing 600 jobs, United Healthcare 800 jobs, and Money Management International 440 jobs into former Unocal building, Adjusted up.
Fort Bend	153	2139	Trammell Crow and Artis Reit to build 127 acre "Park 8-Ninety" business park, 1.75 million SF of office/industrial space possible, 3 buildings initially at 330,000 SF, Adjusted up.
Fort Bend	153	2140	Lakeview Business Park, 240,000 SF of flex space in new buildings plus expansion of SWE and Lufkin buildings, 800-1,500 jobs expected to be added by build-out, Adjusted up slightly.
Fort Bend	153	2186	HCC Campus relocating from Sienna Plantation 75,000 SF, 2016-2017, forecast sufficient, no change made.
Fort Bend	154	2189	Sugar Land Town Square office buildings, 100 jobs from Cosentino America, No adjustment, forecast sufficient.
Fort Bend	154	2196	Texas Instruments 40,000 SF expansion of 160,000 sf facility with 375 jobs total as well as new Flour building by 2021 with 2,000 employees guaranteed to the City of Sugar Land and 1 million SF, mixed-use retail/midrise office and wrap multifamily/hotel/conference center planned, UH campus expansion, Adjusted up.
Fort Bend	154	2257	Marriott hotel planned at US 59 at Williams Way, Adjusted up.
Fort Bend	155	3653	HCC Campus closing, No adjustment, forecast sufficient.
Fort Bend	156	2273	Rosenberg Business Park, 184 acres, No adjustment, forecast sufficient.
Fort Bend	156	3107	Brazos Town Center, development continues, Adjusted up slightly.
Fort Bend	156	3108	400,000 SF outlet mall to be built by Paragon Outlet Partners, 1,000+ jobs possible, opening 2016 or 2017, Adjusted up.
Brazoria	163	2062	Dow Chemical plant expansion, complete in 2019, 50 permanent workers and as many as 1,400 construction workers, forecast adjusted up.
Chambers	190	2692	Growth severely limited by wetlands, adjusted down significantly.
Chambers	191	2682	Clay development has purchased 80 acres and is beginning construction on the first of three 500,000 SF distribution centers. Forecast sufficient, no adjustment made.
Chambers	191	3726	Clay development has purchased 80 acres and is beginning construction on the first of three 500,000 SF distribution centers. Forecast adjusted up.

2010 – 2040 Projected Population Growth per Square Mile by Small Area



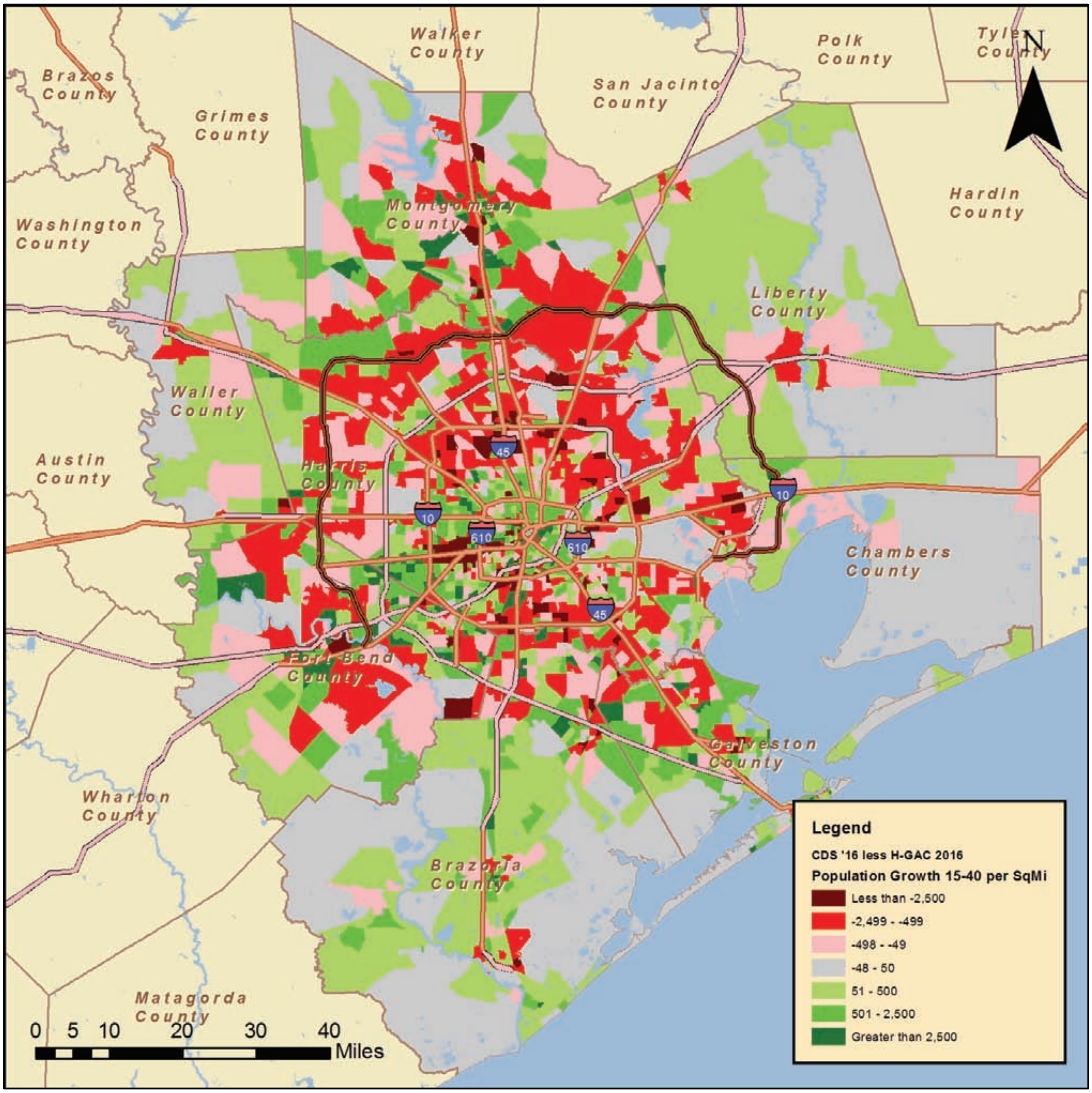
2010 – 2040 Projected Job Growth per Square Mile by Small Area



The following charts compare this most recent CDS forecast with the H-GAC 2040 provided to CDS in the spring of 2016. The green areas are where the CDS forecast of population or job growth from 2015 to 2040 is greater than that of H-GAC. The red areas are those where CDS' forecasts are lower than H-GAC. These charts divide the change by the area of the zone to eliminate bias for large vs. small zones. It is important to note that the H-GAC forecasts are expected to be modified and updated every year for the foreseeable future.

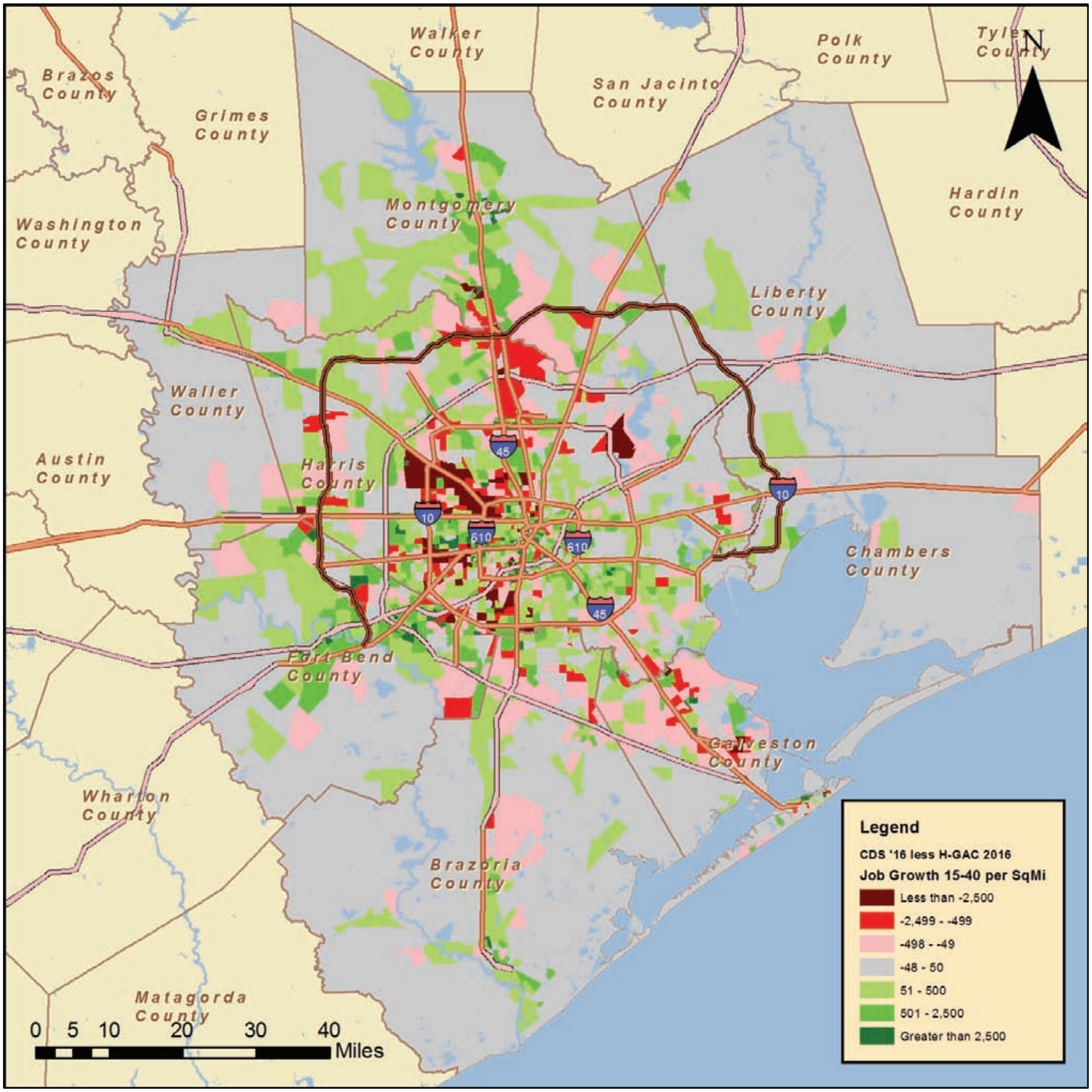
Comparison of Population Growth Density 2015 – 2040

CDS Forecast Compared with 2016 H-GAC 2040 Forecast by TAZ



Comparison of Job Growth Density 2015 – 2040

CDS Forecast Compared with 2016 H-GAC 2040 Forecast by TAZ



Project Deliverables

In addition to this report, electronic datasets for the forecast were produced and sent to CDM Smith. A list of the delivered files is below.

1. An Excel spreadsheet file:
   a. ***5-20-2016 CDS Forecast 2010-2040 Data and Summary.xlsx***

2. ARC GIS shape files:
   a. ***5_20_2016_CDS_Forecast.cpg***
   b. ***5_20_2016_CDS_Forecast.dbf***
   c. ***5_20_2016_CDS_Forecast.prj***
   d. ***5_20_2016_CDS_Forecast.sbn***
   e. ***5_20_2016_CDS_Forecast.sbx***
   f. ***5_20_2016_CDS_Forecast.shp***
   g. ***5_20_2016_CDS_Forecast.shx***

Appendix A – RAZ-Level Forecasts

Population

Harris County Population (RAZ 1 to 127)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
1	7,059	6,733	7,070	2,298	4,342	5,104	6,374	7,565	8,624	9,641
2	34,882	40,537	38,432	30,622	31,889	32,539	33,227	33,769	34,212	34,625
3	3,451	3,310	3,572	3,691	4,543	5,284	6,472	7,615	8,629	9,598
4	5,224	5,819	6,743	6,466	8,984	10,077	12,157	14,353	16,307	18,180
5	23,136	23,668	24,054	20,031	22,078	22,986	24,762	26,532	28,122	29,676
6	30,347	32,828	33,931	36,071	38,576	39,507	41,058	42,767	44,309	45,875
7	10,008	10,263	11,901	15,368	19,627	20,852	23,630	24,975	26,178	27,355
8	32,026	30,313	28,539	28,984	30,688	31,349	32,195	33,543	34,742	35,911
9	31,094	32,503	31,681	27,745	28,372	28,674	29,074	29,461	29,809	30,147
10	5,500	5,171	4,638	4,780	5,071	5,273	5,660	6,055	6,412	6,756
11	4,305	3,948	4,016	3,610	4,194	4,414	4,787	5,147	5,471	5,787
12	9,001	9,230	9,004	8,408	8,699	8,809	8,996	9,176	9,339	9,496
13	53,057	54,171	50,745	44,820	46,459	46,913	47,283	47,640	47,962	48,276
14	22,863	24,108	23,126	21,761	23,050	23,820	25,097	26,341	27,448	28,508
15	6,816	7,133	8,392	4,797	5,166	5,332	5,610	5,879	6,119	6,353
16	7,891	10,180	11,002	10,077	13,354	13,958	15,227	16,672	18,165	19,830
17	23,623	24,055	24,432	25,495	28,907	30,025	31,782	33,460	34,945	36,363
18	4,360	4,387	4,396	4,918	6,989	7,485	8,332	9,140	9,859	10,561
19	13,164	12,918	12,544	11,944	12,764	13,066	13,495	13,935	14,333	14,715
20	16,649	19,881	20,735	20,746	23,088	23,893	25,263	26,583	27,771	28,928
21	17,650	20,123	20,835	22,611	25,068	25,673	26,434	26,923	27,362	27,791
22	21,524	25,383	27,226	27,444	27,862	28,019	28,286	28,543	28,774	29,001
23	11,567	14,906	14,658	18,139	23,055	24,869	25,889	26,379	26,818	27,247
24	5,799	6,304	5,919	6,227	6,518	6,631	7,431	8,718	9,876	11,054
25	7,210	8,413	8,118	8,057	11,635	12,948	14,858	16,101	16,661	17,221
26	4,247	4,315	5,321	6,293	7,358	7,664	8,175	8,664	9,103	9,532
27	16,446	16,375	17,513	19,927	24,433	24,915	25,353	25,662	25,902	26,120
28	36,343	35,346	33,431	32,781	33,601	34,054	35,069	36,605	37,973	39,282
29	17,507	18,981	18,621	18,219	19,899	20,679	22,090	23,443	24,643	25,788
30	22,071	23,223	22,235	23,448	24,310	24,696	25,371	26,040	26,640	27,215
31	36,736	43,658	42,406	40,868	41,195	41,316	41,519	41,711	41,881	42,047
32	43,282	50,987	50,646	49,203	50,371	50,941	51,961	52,979	53,893	54,769
33	42,160	40,988	40,022	42,021	45,523	46,669	48,467	50,186	51,706	53,156
34	13,848	15,958	16,908	22,329	27,245	29,062	34,870	39,777	44,171	48,470
35	31,636	34,003	32,734	32,165	33,425	34,049	35,284	36,443	37,473	38,463
36	12,130	12,633	12,263	12,095	12,181	12,214	12,270	12,324	12,372	12,419
37	7,537	8,327	8,990	8,720	8,928	9,146	9,589	10,046	10,462	10,862
38	32,158	45,475	45,779	42,538	44,995	45,600	46,361	47,325	48,260	49,154
39	10,144	10,860	11,210	14,922	20,656	22,753	26,185	28,594	30,726	32,808
40	28,108	33,039	35,142	39,480	41,578	42,515	44,205	45,913	47,216	48,466
41	8,433	9,898	10,288	10,165	10,367	10,441	10,566	10,685	10,791	11,321
42	4,128	5,086	5,248	5,063	5,938	6,172	6,502	6,805	7,070	7,321

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
43	27,826	31,932	31,716	30,018	30,838	31,442	31,684	31,964	32,229	32,486
44	31,464	32,420	31,728	29,582	31,626	32,314	33,405	34,452	35,380	36,266
45	17,983	21,232	21,035	20,698	21,313	21,626	22,104	22,555	22,953	23,334
46	9,300	10,846	10,753	11,708	12,204	12,370	12,632	12,883	13,105	13,318
47	9,240	9,568	9,669	9,559	9,772	9,855	10,133	10,267	10,387	10,504
48	17,151	16,225	15,761	15,531	16,740	17,201	17,969	18,718	19,385	20,025
49	17,404	21,503	23,153	29,302	33,080	34,485	36,305	38,258	39,560	40,663
50	70,823	84,595	90,484	101,675	108,601	111,176	115,336	118,265	121,086	123,443
51	8,193	9,263	9,232	9,144	9,186	9,202	9,229	9,255	9,278	9,301
52	22	47	67	0	42	75	353	487	607	725
53	53,656	60,887	59,208	60,762	60,762	61,056	61,715	62,413	63,051	63,666
54	53,537	62,017	62,150	63,936	65,110	65,875	67,330	68,809	70,144	71,427
55	60	34	31	33	48	65	93	227	347	464
56	17,586	23,450	27,229	38,284	43,322	44,595	45,975	47,260	48,420	49,597
57	21,080	21,826	22,604	28,176	33,910	36,332	40,121	42,197	44,072	45,249
58	12,928	15,404	16,031	22,417	26,513	28,328	32,133	35,992	38,188	40,288
59	12,759	14,774	17,103	25,604	30,642	32,203	34,543	36,740	38,475	40,140
60	62,877	79,845	82,704	76,613	77,197	77,768	78,916	80,101	81,177	82,212
61	30,861	38,268	39,039	34,689	34,718	34,729	34,748	34,766	34,782	34,798
62	51,030	70,290	72,699	69,126	70,489	70,999	71,861	72,664	73,390	74,175
63	37,548	43,258	44,563	48,956	51,823	53,335	56,113	58,524	60,684	62,375
64	22,154	22,884	23,092	23,460	24,335	24,673	25,240	25,789	26,280	26,760
65	72,139	85,193	86,253	81,823	83,542	84,369	84,924	85,463	85,944	86,416
66	6,814	8,137	8,104	9,878	11,138	11,606	12,386	13,118	13,769	14,394
67	22,112	27,488	27,790	24,664	27,876	28,990	30,778	32,500	34,029	35,490
68	59,259	67,714	66,482	73,030	75,350	76,259	77,819	79,527	81,263	83,136
69	10,621	10,940	11,425	11,590	13,209	13,764	14,651	15,504	16,261	16,983
70	21,482	26,282	26,742	28,847	29,189	29,338	29,588	29,830	30,046	30,256
71	11,795	15,152	15,212	17,466	18,096	18,564	19,344	20,076	20,727	21,352
72	10,895	12,591	12,225	11,639	11,681	11,698	11,726	11,807	11,904	12,021
73	17,838	21,347	23,476	23,000	23,086	23,136	23,248	23,516	23,756	23,990
74	17,412	20,111	20,619	20,003	21,717	22,354	23,416	25,124	27,078	29,159
75	6,373	7,181	7,201	10,334	13,255	14,088	16,168	18,365	20,427	22,508
76	9,999	11,306	11,797	16,440	19,507	20,262	21,283	22,199	22,992	23,744
77	11,110	12,956	12,687	16,118	19,545	20,950	23,550	26,236	28,622	31,120
78	25,001	41,496	51,791	72,936	85,181	88,478	92,788	96,536	99,436	101,888
79	41,486	52,748	53,484	56,280	57,994	58,822	61,045	63,192	65,113	66,986
80	7,404	9,538	10,498	13,812	16,472	18,934	23,026	26,259	28,723	30,924
81	9,955	11,421	12,913	15,976	18,577	19,724	21,628	23,593	25,578	27,339
82	2,682	3,263	4,734	13,009	17,974	19,449	21,896	23,862	25,626	27,137
83	8,368	8,830	9,345	9,977	11,742	12,561	14,872	17,330	19,755	22,176
84	18,022	20,803	22,808	29,482	34,335	36,465	40,272	43,958	47,266	50,347
85	8,937	7,745	7,148	6,376	6,620	6,715	6,875	7,031	7,170	7,304
86	45,135	47,632	47,879	50,263	53,184	54,324	56,237	58,106	59,774	61,370
87	25	32	30	8	8	8	8	8	8	8
88	6,305	6,204	5,917	6,095	6,264	6,355	6,519	6,685	6,835	6,978
89	10,041	9,574	9,319	8,431	9,599	10,095	10,949	11,790	12,544	13,266
90	42,301	44,920	45,092	49,553	52,911	54,316	56,396	57,861	59,163	60,413
91	13,449	16,266	17,833	18,956	19,796	20,264	21,304	22,524	23,827	25,285

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
92	14,593	18,368	19,808	20,793	22,837	23,609	24,891	26,138	27,250	28,315
93	45,634	67,185	71,646	79,010	85,489	86,808	89,005	91,068	92,759	94,230
94	42,359	46,270	45,266	48,821	49,680	50,176	51,287	52,364	53,326	54,269
95	16,485	21,585	23,687	27,042	29,399	29,900	30,507	31,022	31,460	31,871
96	39,003	38,650	41,634	53,903	59,161	60,061	60,925	61,559	62,062	62,524
97	43,968	53,531	53,040	53,320	55,657	56,473	57,787	59,054	60,179	61,253
98	34,559	43,660	46,218	50,289	53,285	54,438	56,376	58,786	61,203	63,899
99	41,111	55,811	61,926	71,838	79,384	81,184	84,231	87,069	89,631	92,231
100	16,362	23,565	25,636	32,537	33,879	34,863	35,409	35,906	36,130	36,579
101	31,343	36,953	37,126	34,231	34,231	34,248	34,305	34,358	34,407	34,480
102	30,719	31,640	32,029	32,535	34,874	35,665	36,924	38,132	39,205	40,228
103	114	543	721	463	522	543	1,225	1,258	1,287	1,623
104	21,795	25,103	24,799	23,639	25,737	26,518	27,818	29,038	30,122	31,164
105	23,533	36,702	43,344	46,426	49,784	51,016	53,064	54,931	56,613	58,296
106	8,865	12,732	15,906	17,342	19,052	19,464	20,148	20,771	21,332	21,894
107	42,190	67,320	74,873	84,329	93,092	96,351	100,251	103,668	106,489	108,571
108	29,336	38,191	43,196	51,738	56,356	58,081	60,999	63,719	64,927	65,664
109	25,313	30,555	31,360	31,592	34,530	35,779	38,119	40,560	42,947	45,445
110	18,157	22,395	25,462	29,334	32,101	33,176	35,009	36,762	38,320	39,841
111	29,835	48,607	57,263	61,266	63,303	64,211	65,726	67,173	68,470	69,738
112	6,359	9,611	10,964	11,330	13,636	14,904	17,234	19,580	21,693	23,720
113	27,234	45,245	61,276	110,533	140,470	152,238	172,237	191,105	210,348	230,800
114	27,372	39,961	47,008	67,026	77,671	80,979	83,799	85,147	86,345	87,515
115	665	1,392	1,917	2,062	4,109	6,755	11,829	17,287	23,680	32,009
116	21,618	34,912	49,563	90,894	121,553	132,636	152,932	174,620	193,803	212,961
117	3,312	5,084	5,950	6,440	8,487	10,755	15,828	21,130	27,123	34,143
118	18,576	46,091	68,711	100,709	121,980	133,622	153,158	170,894	187,732	205,777
119	41,607	51,629	58,452	68,047	76,240	78,507	81,298	83,753	85,701	87,449
120	7,587	10,429	11,742	11,709	15,459	17,098	20,089	23,529	26,937	31,339
121	2,329	5,813	7,676	14,152	20,533	23,194	28,217	33,675	38,787	43,678
122	69,796	91,845	105,419	150,318	189,940	203,389	227,239	240,701	251,526	262,352
123	93,646	121,457	132,514	150,909	162,273	165,669	169,979	172,656	173,865	174,846
124	13,861	17,941	22,015	44,226	56,987	60,314	65,985	68,681	72,276	74,495
125	15,643	17,505	18,625	26,658	31,767	33,586	36,406	38,574	40,706	42,788
126	2,905	3,638	4,321	4,832	6,109	6,734	7,975	9,926	11,244	12,506
127	32,857	35,788	39,821	57,461	68,957	71,981	76,548	81,892	86,031	90,922
Total	**2,818,203**	**3,400,582**	**3,604,235**	**4,048,360**	**4,491,625**	**4,656,907**	**4,932,602**	**5,181,549**	**5,405,060**	**5,628,706**

Montgomery County Population (RAZ 128 to 139)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
128	16,590	22,420	27,358	29,312	34,325	37,480	44,987	55,223	69,143	82,713
129	27,814	40,085	49,293	60,822	70,848	77,961	95,978	119,009	148,396	180,624
130	3,633	7,026	8,828	31,203	40,539	45,793	56,941	69,518	88,216	107,763
131	24,567	31,077	37,110	35,781	38,882	40,216	42,218	44,777	46,302	47,914
132	21,022	51,447	69,738	81,725	93,356	97,801	102,806	107,924	112,564	115,956
133	4,263	4,778	7,678	10,698	13,501	15,492	20,346	26,706	35,733	47,461
134	22,636	28,640	31,207	33,979	36,995	39,242	44,457	50,894	58,623	66,982
135	17,623	25,523	30,019	35,285	39,022	41,244	47,250	56,206	67,511	80,430
136	18,028	33,425	41,183	53,802	67,373	72,316	81,704	90,716	99,742	108,908
137	6,171	12,641	16,571	21,298	29,052	35,720	51,735	74,766	102,606	136,531
138	2,612	5,142	6,696	6,426	7,262	8,051	10,520	14,516	19,390	25,254
139	17,244	31,582	42,175	52,290	63,145	72,036	93,056	121,205	156,779	199,184
Total	**182,203**	**293,786**	**367,856**	**452,621**	**534,299**	**583,353**	**691,997**	**831,459**	**1,005,004**	**1,199,719**

Waller County Population (RAZ 140 to 143)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
140	11,236	16,032	16,776	18,128	19,945	20,975	25,211	32,946	44,878	60,560
141	5,709	7,573	9,539	9,117	9,450	9,661	10,515	12,209	15,309	20,158
142	5,155	7,684	7,833	9,663	10,912	11,623	14,330	19,253	27,588	39,736
143	1,290	1,374	1,616	2,508	4,507	5,846	11,237	18,972	28,518	38,972
Total	**23,390**	**32,663**	**35,764**	**39,416**	**44,814**	**48,105**	**61,294**	**83,381**	**116,293**	**159,426**

Fort Bend County Population (RAZ 144 to 158)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
144	2,686	19,074	36,706	77,420	102,537	108,758	117,646	123,570	126,853	128,717
145	3,059	4,656	5,759	10,372	22,422	32,086	54,955	86,077	120,178	152,034
146	31,624	51,744	64,485	111,193	141,320	149,910	167,062	185,735	206,195	230,087
147	1,575	1,865	1,867	1,948	2,683	3,148	4,212	5,523	8,386	13,185
148	4,407	5,655	6,060	7,704	10,216	13,443	20,788	29,460	38,514	48,768
149	29,234	33,803	39,546	35,273	37,409	38,186	39,632	41,301	42,982	44,899
150	4,335	21,407	30,825	33,705	38,729	41,902	48,400	55,975	62,727	68,532
151	30,468	40,185	46,897	51,943	55,711	57,828	60,808	64,243	66,022	68,032
152	16,656	30,337	36,540	36,383	39,230	40,524	43,154	46,187	47,077	47,479
153	38,817	45,727	53,196	50,280	51,536	52,947	54,437	54,609	54,787	54,989
154	23,718	44,277	56,870	61,389	73,765	78,332	86,421	94,151	102,358	111,679
155	28,563	41,940	56,918	78,382	97,221	105,780	122,932	140,969	159,331	178,193
156	2,341	3,343	4,073	11,135	21,035	27,887	44,064	63,389	88,814	117,107
157	4,798	5,843	6,591	6,754	8,958	10,017	12,997	17,291	22,629	30,667
158	3,140	4,594	5,057	5,799	7,268	8,256	10,789	14,224	23,121	36,183
Total	**225,421**	**354,450**	**451,390**	**579,680**	**710,041**	**769,004**	**888,299**	**1,022,704**	**1,169,975**	**1,330,550**

Brazoria County Population (RAZ 159 to 172)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
159	11,591	11,937	12,894	12,036	13,107	13,887	16,138	19,044	22,271	25,565
160	16,761	17,949	19,044	16,742	17,537	18,089	19,540	21,677	24,043	26,903
161	2,998	3,026	3,011	2,844	3,208	3,428	4,027	4,408	4,827	5,340
162	6,931	7,131	7,029	6,593	6,957	7,177	7,476	8,237	9,244	10,442
163	9,784	13,052	13,860	13,619	14,346	14,786	15,985	16,745	17,585	18,441
164	31,015	33,090	33,718	33,770	34,724	35,166	35,746	36,458	37,247	38,064
165	1,377	1,785	1,852	1,672	1,831	1,941	2,232	2,588	2,982	3,391
166	10,860	13,137	14,177	13,503	15,733	17,490	22,427	28,934	36,434	44,201
167	18,756	20,668	20,337	20,083	22,313	24,070	29,297	35,804	43,699	51,875
168	1,917	2,297	2,479	2,727	2,909	3,041	3,460	4,221	5,900	8,465
169	11,299	15,111	16,177	11,324	13,964	17,057	26,484	41,285	59,167	81,591
170	31,835	38,268	40,021	41,776	46,403	49,997	60,410	73,907	89,536	108,150
171	8,164	21,190	32,473	65,628	74,883	80,590	93,744	109,940	126,313	137,947
172	28,419	43,126	56,266	60,140	67,235	71,463	80,780	88,878	96,321	101,750
Total	**191,707**	**241,767**	**273,338**	**302,457**	**335,150**	**358,182**	**417,747**	**492,127**	**575,572**	**662,126**

Galveston County Population (RAZ 173 to 188)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
173	15,214	21,432	25,192	25,319	27,096	27,814	28,485	29,099	29,801	30,658
174	13,089	17,610	24,581	38,985	47,713	51,998	61,375	71,264	82,129	91,039
175	20,133	32,714	40,104	47,881	55,849	58,596	64,013	67,356	68,478	70,546
176	9,641	12,215	12,391	14,387	15,655	16,361	18,381	21,179	25,037	30,091
177	16,382	18,387	18,614	21,382	23,515	24,456	26,917	30,218	34,721	40,599
178	16,471	19,615	20,841	22,073	23,666	25,182	30,286	37,702	48,090	61,770
179	4,059	5,643	5,878	8,180	10,305	11,246	14,602	20,172	29,131	41,704
180	24,800	25,325	26,603	25,748	26,279	26,486	26,553	26,611	26,676	26,754
181	9,756	8,806	9,824	9,263	10,116	10,298	10,540	10,749	10,978	11,254
182	11,848	11,197	11,084	10,673	11,096	11,376	12,223	13,415	15,068	17,237
183	7,786	8,916	9,873	9,794	10,639	11,400	13,853	17,562	23,470	31,758
184	5,006	5,146	5,160	4,766	5,192	5,356	5,757	6,280	6,986	7,906
185	4,661	6,453	6,746	6,679	7,526	7,940	8,622	9,257	9,989	10,888
186	53,504	50,213	49,103	39,043	39,931	40,218	41,098	41,934	43,056	44,435
187	1,740	1,976	2,161	622	707	967	1,909	3,305	5,272	7,867
188	3,310	4,511	4,161	2,397	2,796	3,002	3,510	4,136	4,978	6,013
Total	**217,400**	**250,159**	**272,316**	**287,192**	**318,080**	**332,695**	**368,126**	**410,240**	**463,864**	**530,518**

Chambers County Population (RAZ 189 to 192)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
189	7,780	9,788	10,429	9,936	10,449	11,027	12,064	13,061	14,311	15,688
190	2,941	3,188	3,407	2,885	3,640	4,698	7,029	9,830	13,194	17,443
191	5,052	7,797	9,532	15,558	16,514	17,696	19,911	22,040	24,596	27,288
192	4,315	5,258	5,754	6,506	8,015	10,069	14,149	18,294	23,272	28,230
Total	**20,088**	**26,031**	**29,122**	**34,885**	**38,618**	**43,490**	**53,153**	**63,225**	**75,373**	**88,649**

Liberty County Population (RAZ 193 to 199)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
193	545	723	825	795	907	1,080	1,620	2,426	3,728	5,287
194	12,006	12,549	13,054	11,915	12,129	12,469	13,519	15,511	19,149	23,979
195	13,936	24,746	26,869	24,107	25,392	27,372	32,625	41,161	52,530	65,947
196	6,192	8,244	9,180	9,516	11,352	14,328	24,190	36,399	49,192	63,758
197	6,014	7,148	7,332	6,586	6,649	6,803	7,448	8,672	10,945	13,705
198	6,245	7,824	8,810	8,774	9,141	9,736	11,709	14,761	19,878	27,161
199	7,787	8,920	9,034	8,836	8,960	9,321	10,651	12,620	15,753	19,497
Total	**52,725**	**70,154**	**75,104**	**70,529**	**74,530**	**81,111**	**101,762**	**131,550**	**171,176**	**219,333**

Grimes County Population

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
Total	**18,790**	**23,529**	**25,068**	**23,592**	**24,500**	**24,998**	**26,353**	**28,627**	**31,708**	**35,927**

Jobs

Harris County Jobs (RAZ 1 to 127)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
1	131,096	143,372	129,297	144,954	157,757	159,054	165,857	173,083	179,965	187,215
2	14,428	14,288	15,389	17,063	22,804	24,038	26,751	29,554	32,218	35,023
3	12,904	4,411	4,211	4,714	5,291	5,317	5,296	5,247	5,192	5,131
4	10,732	10,053	11,064	11,642	14,252	14,844	16,171	17,550	18,864	20,248
5	13,624	12,600	15,133	15,481	18,091	18,726	20,184	21,711	23,168	24,705
6	35,281	34,724	36,975	34,673	36,096	36,446	38,066	39,720	41,283	42,870
7	16,882	17,668	13,177	13,775	16,358	16,698	17,348	17,680	17,994	18,157
8	14,287	13,813	14,981	16,549	20,064	20,654	21,823	22,986	24,076	25,219
9	4,014	3,899	3,758	3,775	4,381	4,545	4,931	5,339	5,730	6,142
10	8,720	8,249	8,059	8,844	10,606	10,900	11,480	12,055	12,595	13,161
11	5,024	4,185	4,485	5,937	8,782	9,483	11,103	12,757	14,319	15,936
12	11,079	10,268	9,987	11,431	14,089	14,474	15,174	15,845	16,467	17,115
13	23,191	21,600	22,682	23,947	26,606	26,991	27,691	28,362	28,984	29,632
14	3,914	3,739	6,297	6,602	7,175	7,311	7,644	7,810	7,967	8,129
15	12,399	8,294	14,642	14,473	15,996	16,441	17,513	18,652	19,746	20,901
16	5,787	4,968	6,552	7,640	10,505	10,845	11,170	11,336	11,493	11,656
17	8,275	7,908	9,850	12,060	15,960	16,519	17,532	18,502	19,398	20,333
18	45,099	60,437	37,708	72,914	76,423	77,529	80,239	83,136	85,921	88,751
19	15,931	15,109	22,250	23,656	26,427	26,807	27,471	28,098	28,674	29,274
20	20,386	24,252	26,727	28,173	32,441	33,493	35,923	38,403	40,747	43,172
21	7,225	4,880	5,793	7,024	8,375	8,437	8,437	8,438	8,517	8,598
22	11,020	8,790	13,400	13,186	14,945	15,478	16,771	18,151	19,476	20,876
23	52,916	64,887	53,149	51,490	52,923	53,262	54,075	54,905	56,475	58,100
24	4,347	4,213	4,138	4,425	7,933	8,419	9,654	10,429	11,153	11,742
25	10,951	12,440	17,060	17,525	20,266	20,903	22,342	23,842	25,273	26,780
26	3,319	4,158	3,939	4,206	4,703	4,768	4,876	4,976	5,067	5,162
27	24,641	21,351	28,221	29,975	34,761	35,377	36,405	37,353	38,218	39,115
28	6,823	5,415	6,136	6,521	7,628	7,837	8,274	8,718	9,137	9,577
29	7,787	9,683	11,373	12,015	13,678	13,967	14,547	15,128	15,674	16,246
30	5,425	7,306	11,871	12,252	13,672	13,954	14,554	15,168	15,749	16,360
31	19,908	17,061	13,304	13,796	15,709	16,105	16,963	17,844	18,681	19,561
32	16,392	15,253	20,927	20,695	23,368	24,152	26,039	28,046	29,973	32,007
33	6,840	5,779	7,635	7,983	8,931	9,096	9,427	9,758	10,070	10,396
34	10,858	10,543	16,085	15,870	18,715	19,557	21,501	23,485	25,829	28,254
35	7,561	7,764	11,726	11,911	12,771	13,042	13,693	14,357	14,828	15,316
36	2,757	2,845	3,081	3,365	3,493	3,523	3,548	3,559	3,565	3,570
37	5,686	7,704	7,902	7,745	8,429	8,645	9,173	9,737	10,280	10,853
38	15,362	14,034	16,702	16,444	17,017	17,153	18,295	19,511	20,680	21,915
39	57,417	65,455	74,551	70,787	82,480	84,750	89,382	93,256	96,877	100,558
40	28,207	29,849	31,939	30,120	31,552	31,892	32,705	33,535	34,320	35,133
41	6,195	7,593	8,001	7,492	7,550	7,889	8,702	8,736	8,767	8,800
42	16,160	22,261	21,164	21,433	23,464	23,921	24,944	26,007	27,019	28,085
43	19,039	25,482	21,921	21,446	23,813	24,564	26,405	28,374	30,268	32,269
44	18,672	20,100	19,285	19,889	23,002	23,706	25,282	26,920	28,481	30,124
45	8,097	7,621	8,668	8,555	9,979	10,404	11,431	12,526	13,576	14,686

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
46	3,072	4,864	3,332	3,425	3,952	4,073	4,346	4,630	4,901	5,187
47	2,181	1,638	3,776	4,046	4,481	4,527	4,591	4,643	4,688	4,734
48	1,693	2,173	2,180	2,204	2,626	2,738	3,002	3,280	3,546	3,827
49	3,466	4,141	5,230	5,458	6,260	6,442	6,867	7,329	7,796	8,282
50	16,632	18,561	19,194	20,087	22,380	22,762	23,513	24,259	24,958	25,690
51	6,754	12,297	15,234	14,955	16,784	17,348	18,722	20,188	21,598	23,086
52	2,645	1,059	1,552	1,437	1,542	1,597	1,745	1,906	2,063	2,228
53	17,293	15,650	21,703	22,002	25,076	25,838	27,596	29,439	31,200	33,058
54	13,992	17,993	23,573	24,475	28,232	29,035	30,799	32,620	34,351	36,173
55	5,382	5,823	2,220	2,114	2,296	2,370	2,560	2,766	2,964	3,175
56	12,243	11,348	12,690	13,282	15,470	15,925	16,913	17,929	18,894	19,909
57	3,172	3,071	4,768	5,419	8,264	8,965	10,585	12,239	13,802	15,418
58	3,063	3,666	4,518	4,790	6,836	7,485	9,338	11,352	12,945	14,418
59	3,626	3,524	4,275	4,993	6,030	6,267	6,823	7,072	7,310	7,549
60	10,970	16,157	12,353	12,609	14,557	15,028	16,106	17,234	18,311	19,446
61	17,964	13,058	21,916	21,325	23,368	23,852	25,011	26,194	27,314	28,473
62	29,433	32,187	34,593	33,161	35,453	36,064	37,528	39,187	42,329	45,759
63	31,034	39,113	42,891	41,598	45,497	46,516	49,523	52,915	56,233	59,897
64	12,549	14,767	16,994	16,101	17,793	18,468	20,200	22,075	23,885	25,800
65	26,716	31,206	33,472	33,999	37,738	38,594	40,518	42,521	44,429	46,440
66	15,903	27,599	26,678	26,322	29,504	30,449	32,737	35,172	37,510	39,980
67	9,398	16,571	17,091	17,295	19,214	19,671	20,713	21,801	22,839	23,933
68	7,959	9,380	11,883	12,636	14,870	15,300	16,205	17,127	17,999	18,915
69	4,609	3,965	5,164	5,366	6,319	6,534	7,013	7,510	7,983	8,482
70	6,038	5,316	5,671	5,860	6,848	7,074	7,582	8,110	8,614	9,144
71	5,785	6,435	5,948	5,927	7,047	7,367	8,132	8,945	9,724	10,547
72	2,991	2,823	4,890	5,473	6,334	6,421	6,538	6,631	6,710	6,791
73	6,566	4,731	4,701	5,068	6,073	6,262	6,654	7,052	7,428	7,823
74	6,439	10,235	12,804	12,670	14,871	15,261	16,054	16,851	17,601	18,388
75	6,094	14,867	13,417	13,099	14,777	15,313	16,629	18,038	19,392	20,823
76	1,535	1,550	2,322	2,746	3,318	3,371	3,431	3,474	3,508	3,542
77	9,531	10,367	9,551	10,299	11,418	11,521	11,641	11,726	11,795	11,864
78	3,450	7,206	9,028	9,250	10,959	11,380	12,350	13,367	14,339	15,363
79	7,462	10,852	9,720	9,866	10,904	11,141	11,670	12,220	12,744	13,297
80	916	1,576	1,178	1,534	2,229	2,341	2,558	2,772	2,972	3,181
81	1,068	1,366	1,168	1,486	2,339	2,550	3,036	3,532	4,313	5,121
82	1,910	993	2,057	2,184	3,745	4,287	5,848	7,388	8,554	9,291
83	1,557	2,890	2,295	2,528	3,245	3,391	3,706	4,030	4,337	4,659
84	7,134	7,814	6,664	7,299	8,841	9,114	9,669	10,226	10,750	11,299
85	6,700	7,091	4,334	4,239	4,706	4,854	5,218	5,608	5,983	6,379
86	17,590	19,394	19,262	20,039	22,388	22,816	23,698	24,588	25,428	26,309
87	18,213	9,220	7,305	6,803	7,349	7,616	8,319	9,087	9,831	10,618
88	449	1,461	1,453	1,665	3,087	3,508	4,642	5,965	7,371	8,988
89	9,472	7,764	5,956	6,417	7,321	7,450	7,680	7,899	8,102	8,314
90	6,028	19,940	16,719	16,740	18,717	19,241	20,470	21,768	23,011	24,322
91	5,739	9,865	8,140	7,758	8,746	9,112	10,035	11,032	11,993	13,009
92	3,663	10,075	6,509	6,549	7,406	7,628	8,146	8,691	9,213	9,764
93	14,408	27,825	26,217	27,668	31,351	31,978	33,228	34,473	35,642	36,868
94	44,760	36,687	42,258	40,386	42,579	43,001	43,464	44,709	45,878	47,103

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
95	5,367	7,378	9,006	9,836	10,830	10,877	10,988	11,102	11,209	11,317
96	5,973	8,476	10,852	11,566	13,277	13,563	14,128	14,690	15,217	15,769
97	12,637	17,139	15,030	15,344	17,318	17,771	18,791	19,852	20,864	21,929
98	16,275	22,769	25,052	24,624	26,486	27,029	28,330	29,990	31,561	33,187
99	9,702	10,929	10,200	10,420	11,658	11,975	12,802	13,959	15,041	16,140
100	9,665	15,192	13,768	23,549	38,166	40,174	44,074	47,924	51,132	52,605
101	10,966	16,968	14,224	14,693	16,004	16,220	16,644	17,063	17,456	17,868
102	29,548	21,214	23,541	23,508	24,941	25,744	27,070	28,456	29,914	30,872
103	879	557	1,419	1,433	2,292	2,632	4,258	5,918	7,488	9,428
104	15,980	27,527	27,687	26,635	29,268	30,005	32,033	34,343	36,530	38,372
105	6,603	22,725	31,149	30,459	33,503	34,573	37,226	39,998	42,768	45,568
106	1,763	7,136	10,583	10,802	11,863	12,083	12,562	13,055	13,523	14,015
107	11,316	31,415	29,074	29,721	33,622	34,514	36,516	38,600	40,585	42,677
108	5,996	15,264	15,492	15,943	17,870	18,405	20,121	21,661	22,974	24,005
109	24,333	33,477	32,591	31,431	35,472	36,864	40,338	44,072	47,668	51,469
110	5,623	4,753	3,233	3,472	3,963	4,037	4,172	4,302	4,423	4,550
111	6,501	15,291	13,360	13,848	15,567	15,974	16,957	17,964	18,906	20,372
112	4,294	3,866	3,722	3,911	4,492	4,634	4,943	5,258	5,480	5,712
113	2,065	6,248	8,497	9,218	12,704	14,052	17,225	20,323	23,275	26,206
114	6,052	17,100	20,920	21,038	28,938	30,136	32,164	34,320	37,205	40,300
115	38	236	387	794	1,955	2,313	3,237	4,183	5,072	6,001
116	2,226	6,849	7,575	7,945	9,688	10,760	13,842	16,993	20,255	24,126
117	171	893	940	1,273	2,725	8,837	13,649	16,779	18,260	19,585
118	1,836	8,867	9,451	11,234	14,139	15,031	17,343	19,706	21,931	24,253
119	13,495	27,605	15,891	16,476	19,217	20,148	21,379	22,653	23,864	25,140
120	5,668	9,165	8,887	9,610	11,904	12,725	14,553	16,116	17,328	18,603
121	48	447	409	700	1,862	2,076	2,538	3,011	3,456	3,921
122	10,178	21,715	23,170	24,288	38,812	42,685	54,876	61,128	66,927	70,024
123	34,009	44,302	50,188	49,931	61,399	63,925	68,435	73,051	75,127	76,985
124	9,575	14,194	18,993	19,730	21,764	22,192	22,809	23,124	23,420	23,575
125	5,168	7,207	5,576	5,797	6,959	7,173	7,525	7,885	8,227	8,586
126	15,816	27,792	12,666	12,696	13,555	13,759	14,247	14,745	15,216	15,704
127	5,374	5,900	4,443	4,628	5,790	6,076	6,846	7,634	8,154	8,701
Total	**1,539,045**	**1,855,054**	**1,906,018**	**1,993,657**	**2,288,404**	**2,360,724**	**2,522,767**	**2,680,015**	**2,828,295**	**2,977,091**

Montgomery County Jobs (RAZ 128 to 139)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
128	1,058	6,400	6,374	8,488	12,434	13,800	17,474	21,833	28,033	35,811
129	9,741	6,848	5,967	6,982	9,174	10,496	13,941	18,255	24,117	31,868
130	207	527	1,290	1,723	2,600	2,967	4,498	6,322	8,689	11,402
131	5,155	13,348	21,143	22,302	25,397	26,345	28,457	30,578	32,735	34,657
132	879	20,041	20,532	23,530	28,792	30,408	34,235	38,238	42,184	45,413
133	2,571	952	2,507	2,937	5,576	6,612	9,391	12,869	17,157	22,070
134	9,432	16,260	16,681	19,751	26,898	29,190	34,502	40,794	49,310	59,210
135	2,915	6,844	6,300	8,318	13,004	14,447	18,396	23,236	29,384	37,392
136	9,044	11,448	12,601	14,941	17,572	18,620	21,227	24,683	29,190	34,546
137	110	1,668	2,958	3,631	5,385	6,031	7,945	10,302	13,571	17,447
138	651	740	542	644	1,082	1,229	1,612	2,168	3,013	4,305
139	1,505	4,558	11,589	13,906	17,111	18,116	20,945	24,728	29,921	36,596
Total	**43,268**	**89,634**	**108,484**	**127,153**	**165,027**	**178,264**	**212,623**	**254,004**	**307,305**	**370,717**

Waller County Jobs (RAZ 140 to 143)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
140	4,238	4,729	4,737	5,120	5,738	6,047	6,834	7,974	9,504	11,557
141	1,874	2,029	2,072	2,310	2,620	2,765	3,115	3,579	4,176	4,977
142	1,227	2,729	3,137	4,585	5,512	5,984	7,165	8,826	11,029	14,067
143	274	365	833	1,026	1,953	2,410	3,555	5,074	7,032	9,578
Total	**7,612**	**9,851**	**10,778**	**13,041**	**15,823**	**17,207**	**20,669**	**25,453**	**31,741**	**40,178**

Fort Bend County Jobs (RAZ 144 to 158)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
144	1,071	5,672	5,265	6,491	10,486	11,864	16,555	23,279	32,104	42,622
145	323	925	1,896	2,497	3,483	3,874	5,393	8,043	11,000	13,523
146	6,359	5,763	5,038	6,445	11,571	13,564	20,352	30,084	42,854	57,151
147	90	365	417	652	1,148	1,320	1,903	2,739	3,836	5,144
148	484	1,948	2,783	3,618	4,942	5,399	6,954	9,183	12,109	15,596
149	10,100	12,870	19,693	22,330	25,813	26,680	29,054	31,611	34,036	35,883
150	609	6,528	5,132	5,929	8,065	8,932	12,256	17,369	24,646	33,056
151	12,881	21,542	21,683	23,244	27,515	28,382	31,231	34,427	37,661	40,824
152	11,046	23,221	27,177	29,667	35,281	37,227	43,277	50,341	57,797	64,145
153	4,103	4,813	7,685	8,459	10,635	11,386	13,942	17,606	22,414	28,145
154	1,159	8,726	6,697	8,410	11,895	13,089	17,067	22,463	29,855	38,265
155	1,348	4,048	4,234	6,008	9,055	10,106	13,684	18,813	25,545	33,568
156	403	1,939	2,972	3,464	6,076	6,976	10,043	14,440	20,210	27,087
157	516	790	1,421	1,706	2,142	2,292	2,803	3,536	4,497	5,644
158	56	619	843	1,250	1,988	2,243	3,111	4,354	5,986	7,931
Total	**50,548**	**99,769**	**112,936**	**130,168**	**170,096**	**183,333**	**227,624**	**288,286**	**364,548**	**448,584**

Brazoria County Jobs (RAZ 159 to 172)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
159	13,316	3,510	3,239	3,221	3,372	3,656	4,348	5,251	5,811	6,712
160	2,216	3,740	2,267	2,506	2,993	3,202	3,618	4,145	4,689	5,412
161	125	272	181	165	170	210	330	402	424	441
162	9,642	1,429	1,057	1,090	1,901	2,250	2,735	3,262	3,651	4,102
163	9,158	16,650	10,909	11,671	13,326	14,006	15,558	16,578	18,217	19,832
164	9,373	11,582	15,108	15,717	17,787	18,439	19,264	20,556	22,892	25,209
165	191	1,038	418	400	465	494	550	595	641	687
166	1,794	4,228	4,703	5,214	6,331	7,077	8,279	10,226	11,550	13,075
167	4,931	6,548	6,379	6,783	7,946	8,222	8,864	9,518	10,526	11,887
168	4,229	1,795	296	364	1,176	1,594	2,010	2,461	2,772	3,134
169	89	2,819	1,288	1,322	2,945	3,711	5,375	7,182	9,514	12,225
170	9,330	11,200	10,679	11,524	13,455	14,211	15,881	17,357	19,105	21,856
171	130	1,455	4,707	5,598	8,179	10,040	13,944	17,982	21,774	25,919
172	6,426	11,226	19,019	20,186	23,222	24,201	25,675	27,358	29,184	30,842
Total	**70,950**	**77,492**	**80,250**	**85,761**	**103,268**	**111,314**	**126,430**	**142,871**	**160,749**	**181,333**

Galveston County Jobs (RAZ 173 to 188)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
173	2,455	5,573	3,417	3,547	4,467	5,012	6,381	7,950	9,750	11,813
174	1,475	3,563	2,122	2,525	4,044	4,901	7,152	9,719	12,661	15,831
175	8,695	9,705	11,520	11,475	12,547	13,141	14,621	16,327	18,280	20,450
176	1,643	2,757	5,161	5,175	5,406	5,480	5,616	5,754	5,905	6,076
177	4,734	4,052	3,327	3,435	4,254	4,742	5,965	7,368	8,977	10,821
178	730	3,643	8,585	8,426	8,996	9,317	10,112	11,018	12,056	13,245
179	2,077	4,584	2,076	2,533	4,080	4,938	7,041	9,435	12,174	15,312
180	6,212	6,454	2,708	2,796	3,173	3,387	3,791	4,101	4,456	4,654
181	965	2,628	1,868	2,003	2,751	3,197	4,314	5,595	7,064	8,748
182	3,240	2,714	1,794	1,749	1,794	1,821	1,888	1,965	2,053	2,154
183	1,155	2,676	5,506	5,483	5,534	5,587	5,716	5,863	6,031	6,223
184	11,834	6,926	5,569	5,257	5,542	5,702	6,100	6,628	7,234	7,828
185	474	2,461	2,568	2,683	2,871	2,979	3,376	3,841	4,374	4,966
186	32,604	32,759	34,664	31,166	31,261	31,316	31,451	31,608	31,787	31,987
187	1,806	3,283	4,878	4,826	5,300	5,622	6,416	7,549	8,846	10,035
188	125	360	1,193	1,442	1,632	1,686	1,818	1,833	1,833	1,853
Total	**80,224**	**94,138**	**96,956**	**94,522**	**103,654**	**108,826**	**121,759**	**136,554**	**153,481**	**171,997**

Chambers County Jobs (RAZ 189 to 192)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
189	2,174	2,997	1,925	1,184	1,427	1,507	1,694	1,937	2,202	2,491
190	100	197	312	373	525	577	748	1,003	1,350	1,730
191	2,292	2,497	2,781	3,324	4,998	5,564	6,910	8,664	10,573	12,661
192	1,482	2,597	3,769	4,504	5,873	6,331	7,414	8,824	10,358	12,036
Total	**6,048**	**8,288**	**8,787**	**9,385**	**12,824**	**13,978**	**16,766**	**20,429**	**24,483**	**28,918**

Liberty County Jobs (RAZ 193 to 199)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
193	1	27	45	39	41	51	113	211	384	654
194	7,233	7,228	7,371	6,461	6,516	6,678	7,541	8,843	11,168	14,822
195	1,826	3,828	4,631	3,861	3,932	4,126	5,151	6,677	9,323	13,440
196	8	1,077	1,007	732	760	882	1,960	3,588	5,913	8,653
197	3,634	4,828	5,129	4,132	4,186	4,340	5,152	6,359	8,449	11,771
198	985	77	75	50	59	84	212	402	732	1,246
199	564	839	603	925	934	959	1,050	1,187	1,430	1,624
Total	**14,251**	**17,904**	**18,861**	**16,201**	**16,428**	**17,119**	**21,180**	**27,266**	**37,399**	**52,209**

Grimes County Jobs

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
Total	**7,460**	**9,260**	**10,110**	**7,274**	**7,737**	**7,968**	**8,693**	**9,516**	**10,811**	**13,407**

Households

Harris County Households (RAZ 1 to 127)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
1	374	1,619	1,971	1,736	2,444	2,744	3,222	3,672	4,076	4,466
2	10,542	11,538	11,594	10,140	10,578	10,834	11,093	11,299	11,467	11,625
3	1,078	1,158	1,348	1,324	1,619	1,911	2,358	2,791	3,177	3,548
4	1,446	1,699	2,549	2,949	3,821	4,251	5,034	5,865	6,609	7,327
5	9,045	11,087	11,771	9,434	10,143	10,500	11,168	11,839	12,444	13,040
6	16,219	21,213	23,005	21,916	22,783	23,150	23,734	24,381	24,968	25,568
7	3,367	4,536	6,850	8,311	9,785	10,268	11,313	11,823	12,281	12,732
8	12,969	14,627	15,182	14,061	14,651	14,911	15,230	15,740	16,197	16,644
9	10,003	11,452	11,343	9,195	9,412	9,531	9,682	9,828	9,961	10,090
10	1,762	1,940	1,942	1,675	1,776	1,855	2,001	2,150	2,286	2,418
11	1,532	1,577	1,572	1,386	1,588	1,675	1,815	1,951	2,075	2,196
12	2,362	2,690	2,689	2,396	2,497	2,540	2,611	2,679	2,740	2,801
13	14,790	16,918	16,917	14,261	14,828	15,007	15,146	15,282	15,404	15,524
14	6,450	6,839	7,038	6,325	6,771	7,074	7,555	8,026	8,448	8,854
15	1,600	1,818	2,026	1,978	2,106	2,171	2,276	2,377	2,469	2,559
16	2,299	2,795	2,988	2,900	4,034	4,272	4,750	5,297	5,866	6,503
17	8,147	9,627	10,720	10,040	11,221	11,661	12,323	12,958	13,523	14,067
18	1,753	2,322	2,931	2,711	3,428	3,623	3,942	4,248	4,522	4,791
19	5,525	6,152	6,352	5,825	6,109	6,228	6,389	6,556	6,707	6,854
20	9,011	12,015	12,950	11,886	12,697	13,014	13,529	14,029	14,482	14,925
21	8,821	11,044	11,964	11,208	12,059	12,297	12,583	12,768	12,936	13,100
22	9,188	10,872	11,146	10,770	10,915	10,977	11,077	11,174	11,262	11,349
23	7,104	10,645	12,138	11,431	13,133	13,847	14,231	14,416	14,583	14,748
24	2,671	3,144	3,118	2,800	2,901	2,945	3,246	3,733	4,175	4,626
25	3,798	4,993	4,866	4,461	5,700	6,216	6,935	7,406	7,619	7,834
26	2,056	3,045	3,584	3,465	3,834	3,954	4,146	4,332	4,499	4,663
27	6,666	7,110	8,910	9,719	11,279	11,468	11,634	11,750	11,842	11,925
28	11,507	12,889	12,847	11,023	11,307	11,485	11,867	12,449	12,970	13,471
29	5,475	6,122	6,328	5,591	6,173	6,480	7,011	7,523	7,980	8,419
30	6,884	7,280	7,431	6,877	7,175	7,327	7,581	7,835	8,063	8,283
31	12,082	13,410	13,441	11,573	11,686	11,734	11,810	11,883	11,948	12,011
32	15,495	17,122	17,278	15,486	15,890	16,115	16,499	16,884	17,232	17,568
33	13,286	14,835	15,588	14,527	15,739	16,190	16,867	17,518	18,097	18,653
34	4,150	4,854	6,353	7,252	8,954	9,669	11,855	13,713	15,387	17,033
35	11,968	13,643	13,705	12,835	13,271	13,517	13,982	14,421	14,813	15,192
36	5,453	5,677	5,681	5,201	5,231	5,244	5,265	5,285	5,304	5,321
37	3,086	3,219	3,259	3,108	3,180	3,266	3,432	3,606	3,764	3,917
38	12,302	17,052	16,947	14,208	15,059	15,297	15,583	15,948	16,304	16,647
39	5,562	6,901	8,683	8,701	10,686	11,512	12,803	13,716	14,527	15,325
40	16,015	20,912	21,831	19,854	20,580	20,949	21,585	22,232	22,728	23,207
41	4,214	5,599	5,602	5,244	5,314	5,343	5,390	5,435	5,475	5,679
42	1,388	1,627	1,871	1,691	1,994	2,086	2,210	2,325	2,426	2,522
43	11,146	12,679	12,889	11,503	11,787	12,025	12,116	12,222	12,323	12,421
44	11,715	13,028	13,194	11,639	12,347	12,617	13,028	13,424	13,778	14,117
45	5,814	6,826	6,922	6,437	6,650	6,773	6,953	7,124	7,276	7,421

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
46	2,967	3,584	3,815	3,586	3,758	3,823	3,922	4,017	4,101	4,183
47	2,666	3,040	3,083	2,850	2,924	2,957	3,061	3,112	3,158	3,202
48	4,816	5,357	5,621	5,339	5,758	5,939	6,228	6,512	6,766	7,011
49	5,222	6,664	7,957	8,386	9,694	10,247	10,932	11,671	12,167	12,590
50	23,744	28,681	31,401	30,774	33,172	34,185	35,751	36,860	37,935	38,837
51	2,642	3,003	2,940	2,573	2,588	2,594	2,604	2,614	2,623	2,631
52	0	14	7	0	15	28	132	183	229	274
53	18,273	20,795	20,883	18,756	18,756	18,872	19,120	19,384	19,627	19,863
54	18,281	20,855	21,268	19,149	19,555	19,856	20,404	20,964	21,473	21,964
55	20	19	18	15	20	27	37	88	134	179
56	6,504	8,488	10,509	11,589	13,333	13,834	14,353	14,840	15,282	15,733
57	6,599	7,901	9,720	9,950	11,935	12,888	14,314	15,101	15,815	16,266
58	3,714	4,711	6,022	6,858	8,276	8,990	10,423	11,884	12,720	13,525
59	3,728	4,581	6,306	7,436	9,180	9,794	10,675	11,507	12,168	12,806
60	24,817	30,700	31,395	27,662	27,864	28,089	28,521	28,970	29,379	29,776
61	12,561	14,390	14,255	12,202	12,212	12,216	12,224	12,230	12,236	12,243
62	21,980	27,244	27,946	23,891	24,363	24,563	24,888	25,192	25,469	25,769
63	20,752	25,388	26,444	24,484	25,476	26,072	27,117	28,030	28,853	29,501
64	9,024	10,094	9,746	9,108	9,411	9,544	9,757	9,965	10,152	10,336
65	24,874	29,351	30,052	27,307	27,902	28,228	28,437	28,641	28,824	29,004
66	3,107	3,546	3,808	3,428	3,864	4,048	4,342	4,619	4,867	5,107
67	9,470	12,181	12,540	9,685	10,797	11,235	11,908	12,561	13,143	13,702
68	19,653	22,598	23,925	22,767	23,570	23,928	24,515	25,162	25,823	26,541
69	3,459	4,018	4,218	3,973	4,533	4,752	5,086	5,409	5,697	5,974
70	6,770	7,940	8,322	7,944	8,062	8,121	8,215	8,307	8,389	8,470
71	3,784	4,538	4,685	4,497	4,715	4,899	5,193	5,470	5,718	5,958
72	3,055	3,447	3,417	2,973	2,988	2,994	3,005	3,035	3,072	3,117
73	4,918	5,926	6,152	5,814	5,844	5,864	5,905	6,007	6,098	6,188
74	4,937	5,850	5,809	5,249	5,842	6,093	6,493	7,140	7,884	8,681
75	2,108	2,468	3,214	3,590	4,601	4,929	5,712	6,544	7,329	8,127
76	3,116	3,774	5,074	5,549	6,611	6,908	7,292	7,639	7,941	8,229
77	4,228	5,018	5,583	5,462	6,648	7,201	8,180	9,197	10,106	11,063
78	7,411	13,141	19,072	23,928	28,167	29,465	31,087	32,506	33,611	34,550
79	13,346	18,983	20,509	20,650	21,243	21,569	22,406	23,219	23,951	24,668
80	2432	3,543	4,340	4,713	5,634	6,603	8,143	9,367	10,306	11,149
81	3,387	4,213	5,096	5,589	6,489	6,941	7,657	8,402	9,158	9,832
82	886	1150	2,891	4,330	6,049	6,629	7,550	8,295	8,967	9,546
83	2,768	3,378	3,632	3,479	4,090	4,412	5,282	6,213	7,137	8,064
84	6,031	7,741	9,300	10,079	11,759	12,598	14,031	15,426	16,686	17,866
85	3,041	3,066	2,798	2,250	2,334	2,372	2,432	2,491	2,544	2,595
86	16,157	18,770	19,855	17,717	18,728	19,177	19,897	20,605	21,240	21,852
87	12	4	3	3	3	3	3	3	3	3
88	1996	2,306	2,321	2,005	2,064	2,099	2,161	2,224	2,281	2,336
89	3,454	3,908	3,916	3,274	3,678	3,874	4,195	4,514	4,801	5,077
90	13,662	15,795	16,894	17,129	18,291	18,844	19,627	20,182	20,678	21,157
91	4,363	5,823	6,384	6,643	6,934	7,118	7,509	7,972	8,468	9,026
92	6,091	8,160	8,824	8,308	9,016	9,320	9,802	10,274	10,698	11,106
93	16,891	24,924	27,420	28,383	30,626	31,145	31,972	32,753	33,397	33,961
94	18,643	22,377	23,686	22,276	22,573	22,769	23,187	23,594	23,961	24,322

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
95	5,913	8,084	9,322	9,988	10,804	11,001	11,229	11,425	11,591	11,749
96	12,693	13,212	16,021	17,912	19,732	20,086	20,412	20,652	20,843	21,020
97	17,196	19,628	19,881	17,370	18,179	18,500	18,995	19,474	19,903	20,314
98	13,321	17,850	19,445	18,702	19,739	20,193	20,922	21,835	22,755	23,789
99	16,312	21,274	24,348	24,388	27,000	27,709	28,856	29,930	30,906	31,902
100	8,043	13,029	15,132	15,549	16,013	16,401	16,606	16,795	16,880	17,052
101	12,900	17,346	17,500	15,317	15,317	15,324	15,345	15,365	15,384	15,412
102	11,075	12,411	13,367	12,636	13,446	13,757	14,231	14,688	15,097	15,489
103	43	365	360	228	248	257	513	526	537	666
104	7,650	8,900	9,222	8,432	9,158	9,466	9,955	10,417	10,830	11,229
105	8,637	13,004	14,614	15,332	16,494	16,979	17,750	18,457	19,098	19,743
106	3,082	4,673	5,786	6,468	7,060	7,222	7,479	7,715	7,929	8,144
107	13,698	24,358	28,447	30,212	33,246	34,528	35,996	37,290	38,365	39,162
108	9,714	12,021	14,019	14,581	16,180	16,858	17,957	18,987	19,447	19,729
109	8,665	10,216	10,273	9,132	10,149	10,641	11,521	12,446	13,355	14,312
110	5,906	8,018	9,412	9,680	10,638	11,061	11,751	12,415	13,008	13,591
111	9,237	16,285	19,412	21,493	22,198	22,556	23,126	23,674	24,168	24,653
112	2,019	3,124	3,503	3,750	4,548	5,047	5,925	6,813	7,618	8,394
113	8,708	14,422	24,335	32,549	42,912	47,545	55,072	62,217	69,546	77,381
114	9,179	13,908	18,776	22,070	25,755	27,057	28,119	28,629	29,085	29,533
115	216	474	565	587	1,296	2,337	4,247	6,313	8,749	11,939
116	7,181	11,572	21,125	29,133	39,746	44,109	51,749	59,960	67,267	74,606
117	1087	1840	2038	2,052	2,761	3,653	5,563	7,570	9,853	12,542
118	5,925	15,567	24,931	32,988	40,351	44,934	52,288	59,003	65,416	72,329
119	13,722	18,967	22,993	25,340	28,176	29,069	30,119	31,049	31,791	32,460
120	2,860	4,318	4,802	4,796	6,094	6,739	7,865	9,168	10,466	12,152
121	916	2237	3774.5	4,706	6,915	7,962	9,853	11,920	13,867	15,741
122	22,100	31,153	42,481	50,854	64,570	69,864	78,841	83,939	88,061	92,209
123	36,416	49,508	56,439	55,318	59,252	60,589	62,211	63,225	63,685	64,061
124	6,102	8,045	12,022	13,770	18,188	19,497	21,632	22,653	24,022	24,872
125	5,932	7,169	8,844	9,385	11,154	11,870	12,931	13,752	14,564	15,362
126	1,174	1,624	1,871	1,910	2,352	2,598	3,065	3,804	4,306	4,790
127	10,499	12,212	16,133	18,731	22,711	23,901	25,620	27,643	29,220	31,094
Total	**1,018,601**	**1,288,410**	**1,443,554**	**1,436,014**	**1,589,459**	**1,654,521**	**1,758,297**	**1,852,556**	**1,937,683**	**2,023,363**

Montgomery County Households (RAZ 128 to 139)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
128	5,440	8,453	10,146	10,816	12,533	13,775	16,600	20,476	25,778	30,976
129	9,139	14,289	18,118	20,123	23,556	26,356	33,138	41,858	53,051	65,398
130	1156	2386	6,477	10,153	13,350	15,418	19,615	24,376	31,498	38,986
131	8,836	12,726	14,282	14,555	15,617	16,142	16,896	17,865	18,445	19,063
132	7058	17,858	25,381	31,007	34,990	36,740	38,624	40,561	42,329	43,628
133	1,344	1595	2,648	3,482	4,442	5,226	7,053	9,461	12,899	17,392
134	8,336	11,027	12,075	12,133	13,166	14,050	16,013	18,451	21,394	24,597
135	5,714	8,761	10,629	11,372	12,652	13,527	15,787	19,178	23,484	28,433
136	7,100	16,462	21,423	21,962	26,609	28,555	32,089	35,501	38,939	42,450
137	2347	5,091	6,599	7,594	10,249	12,874	18,902	27,623	38,226	51,223
138	918	1938	2266	2,332	2,618	2,929	3,858	5,371	7,227	9,474
139	5,616	11,038	14,593	17,151	20,868	24,368	32,280	42,938	56,487	72,733
Total	**63,004**	**111,624**	**144,634**	**162,680**	**190,650**	**209,960**	**250,855**	**303,660**	**369,757**	**444,353**

Waller County Households (RAZ 140 to 143)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
140	3,119	5,328	6,389	6,601	7,160	7,565	9,160	12,089	16,633	22,641
141	2,126	3,128	3,483	3,422	3,524	3,607	3,929	4,570	5,751	7,609
142	1,655	2,849	3,259	3,207	3,591	3,871	4,890	6,754	9,928	14,582
143	347	431	657	831	1,446	1,973	4,002	6,931	10,567	14,572
Total	**7,247**	**11,736**	**13,788**	**14,061**	**15,721**	**17,016**	**21,981**	**30,344**	**42,879**	**59,403**

Fort Bend County Households (RAZ 144 to 158)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
144	990	6,336	15,739	24,220	31,728	34,177	37,522	39,765	41,015	41,729
145	1092	1749	2,831	3,644	7,246	11,050	19,658	31,442	44,430	56,634
146	9,069	15,572	25,778	34,470	43,475	46,856	53,313	60,383	68,175	77,328
147	480	647	734	695	915	1,098	1,498	1,995	3,085	4,923
148	1402	1,998	2,356	2,505	3,256	4,526	7,291	10,575	14,023	17,951
149	9,046	11,083	11,941	11,754	12,393	12,698	13,243	13,874	14,515	15,249
150	1418	6,160	8,524	10,524	12,026	13,275	15,721	18,589	21,160	23,384
151	9,625	14,008	16,374	18,001	19,127	19,961	21,082	22,383	23,061	23,831
152	5,554	10,462	12,110	13,198	14,049	14,558	15,548	16,697	17,036	17,190
153	11,551	14,114	15,441	16,019	16,394	16,950	17,511	17,576	17,644	17,721
154	7,155	13,979	17,423	20,232	23,931	25,729	28,774	31,701	34,827	38,397
155	8,475	12,920	19,472	24,452	30,083	33,452	39,909	46,738	53,731	60,957
156	807	1,450	2,663	3,582	6,541	9,239	15,328	22,645	32,328	43,167
157	1,597	2,101	2,345	2,409	3,068	3,485	4,606	6,232	8,265	11,345
158	1,041	1,634	1,892	1,988	2,427	2,816	3,770	5,070	8,459	13,463
Total	**69,302**	**114,213**	**155,621**	**187,693**	**226,659**	**249,869**	**294,774**	**345,664**	**401,754**	**463,271**

Brazoria County Households (RAZ 159 to 172)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
159	4,071	4,886	5,062	4,592	4,941	5,248	6,095	7,196	8,425	9,687
160	5,385	6,951	7,176	6,393	6,652	6,870	7,416	8,225	9,126	10,222
161	1036	1203	1171.5	1,035	1,154	1,240	1,466	1,610	1,770	1,966
162	2,330	2,717	2,656	2,066	2,185	2,271	2,384	2,672	3,056	3,514
163	3,402	5,525	5,768	5,150	5,387	5,560	6,011	6,299	6,619	6,947
164	11,001	12,854	13,329	12,509	12,820	12,994	13,212	13,482	13,783	14,096
165	561	1,661	1878	765	817	860	970	1,104	1,255	1,411
166	3,232	4,408	4,812	4,806	5,533	6,225	8,083	10,547	13,404	16,379
167	6,360	7,684	7,885	7,401	8,128	8,820	10,788	13,251	16,258	19,390
168	676	1,020	1114.5	1,025	1,084	1,136	1,294	1,582	2,222	3,204
169	1909	3,068	3,550	3,648	4,509	5,726	9,275	14,879	21,690	30,280
170	10,898	14,138	15,029	14,691	16,200	17,614	21,534	26,645	32,597	39,728
171	2877	7,927	15,900	22,350	25,368	27,614	32,566	38,698	44,934	49,391
172	9,738	15,728	18,725	20,322	22,636	24,300	27,807	30,873	33,708	35,788
Total	**63,476**	**89,770**	**104,053**	**106,753**	**117,414**	**126,480**	**148,902**	**177,064**	**208,845**	**242,004**

Galveston County Households (RAZ 173 to 188)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
173	5,008	7,354	8,255	8,861	9,120	9,421	9,725	10,007	10,318	10,708
174	4,299	6,146	9,833	13,016	14,020	15,525	18,425	21,459	24,711	27,262
175	7,485	13,241	16,665	18,578	19,628	20,781	22,781	24,006	24,407	25,114
176	3,565	5,639	5,991	5,372	5,565	5,864	6,755	8,010	9,743	12,058
177	5,693	6,863	7,463	7,541	7,809	8,172	9,008	10,121	11,602	13,451
178	5623	7,321	7,990	8,053	8,304	8,915	10,725	13,335	16,902	21,393
179	1,563	2,242	3,056	3,302	3,622	4,022	5,503	8,004	12,058	17,879
180	8,929	9,968	10,096	9,243	9,318	9,402	9,432	9,459	9,488	9,523
181	3809	3,744	4,048	3,744	3,871	3,948	4,055	4,149	4,252	4,377
182	4,419	4,678	4,661	4,078	4,143	4,263	4,637	5,174	5,916	6,909
183	2,862	3,861	4,067	3,677	3,807	4,131	5,211	6,679	8,960	12,020
184	1,873	2,644	2,797	2,203	2,250	2,314	2,490	2,726	3,058	3,493
185	2159	6,229	7,436	3,309	3,290	3,422	3,725	4,022	4,415	4,889
186	21,731	24,590	24,611	16,892	17,077	17,225	17,652	18,035	18,571	19,230
187	421	664	519	274	293	414	830	1,452	2,312	3,488
188	1274	5424	4,066	1,071	1,029	1,080	1,281	1,542	1,891	2,348
Total	**80,713**	**110,608**	**121,550**	**109,214**	**113,145**	**118,898**	**132,235**	**148,181**	**168,604**	**194,139**

Chambers County Households (RAZ 189 to 192)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
189	2,758	4,016	4,047	3,567	3,738	3,966	4,356	4,734	5,210	5,737
190	1031	1352	1327	1,118	1,370	1,787	2,664	3,725	5,006	6,634
191	1,675	2,899	4,189	5,061	5,381	5,846	6,680	7,486	8,459	9,490
192	1,397	1,933	2,184	2,243	2,748	3,556	5,092	6,661	8,557	10,457
Total	**6,861**	**10,200**	**11,746**	**11,989**	**13,237**	**15,155**	**18,792**	**22,606**	**27,232**	**32,319**

Liberty County Households (RAZ 193 to 199)

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
193	197	293	302	290	330	398	601	906	1,402	2,000
194	4,262	5,000	4,998	4,428	4,504	4,638	5,033	5,788	7,173	9,024
195	4,688	7,665	8,460	8,274	8,732	9,512	11,489	14,721	19,051	24,191
196	2174	3,129	3,396	3,262	3,917	5,088	8,800	13,423	18,296	23,876
197	1,943	2,621	2,634	2,346	2,368	2,429	2,672	3,135	4,001	5,059
198	2211	3267	3444.5	3,128	3,259	3,493	4,236	5,391	7,340	10,130
199	2871	4109	4188	3,401	3,445	3,587	4,088	4,833	6,027	7,461
Total	**18,346**	**26,084**	**27,422**	**25,129**	**26,556**	**29,146**	**36,920**	**48,198**	**63,291**	**81,740**

Grimes County Households

RAZ	1990	2000	2005	2010	2015	2020	2025	2030	2035	2040
Total	**6,032**	**9,460**	**10,178**	**8,902**	**9,200**	**9,396**	**9,906**	**10,767**	**11,941**	**13,557**

Appendix B – Regional Real Estates Trends

REGIONAL REAL ESTATE TRENDS

Market Area Definitions

Grand Parkway Submarkets

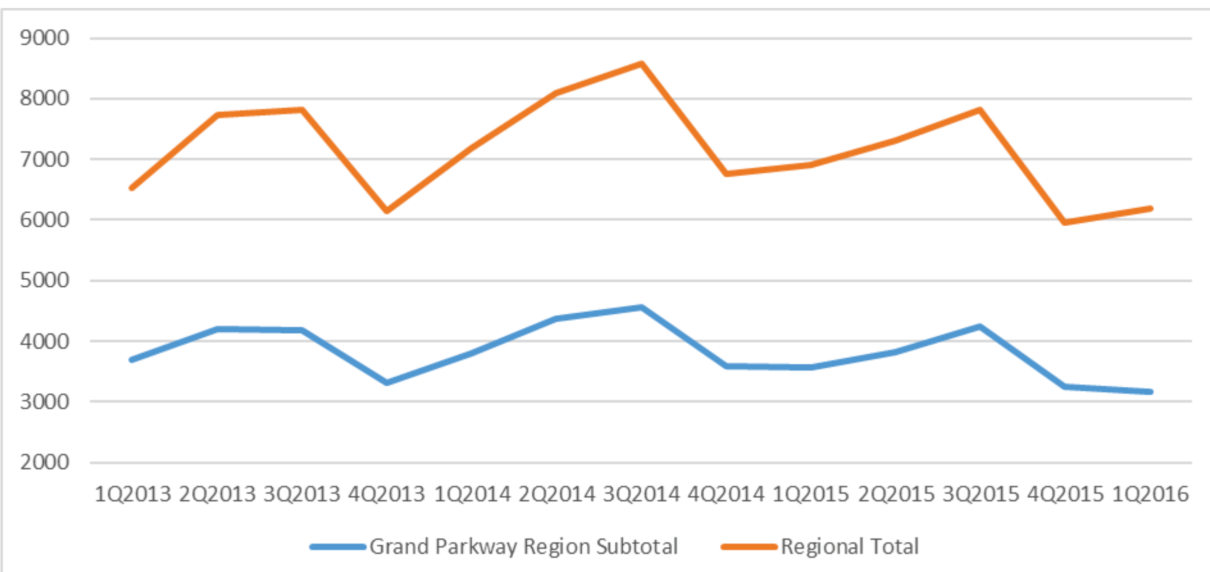
Each of these different sources divides the Houston area in to different sets of submarkets. For these statistical comparisons, CDS combined all submarkets that contain or are very near Sections D through I of the Grand Parkway. Across the different sources, these amalgamations of submarkets are roughly similar in size and shape, but they are not directly comparable.

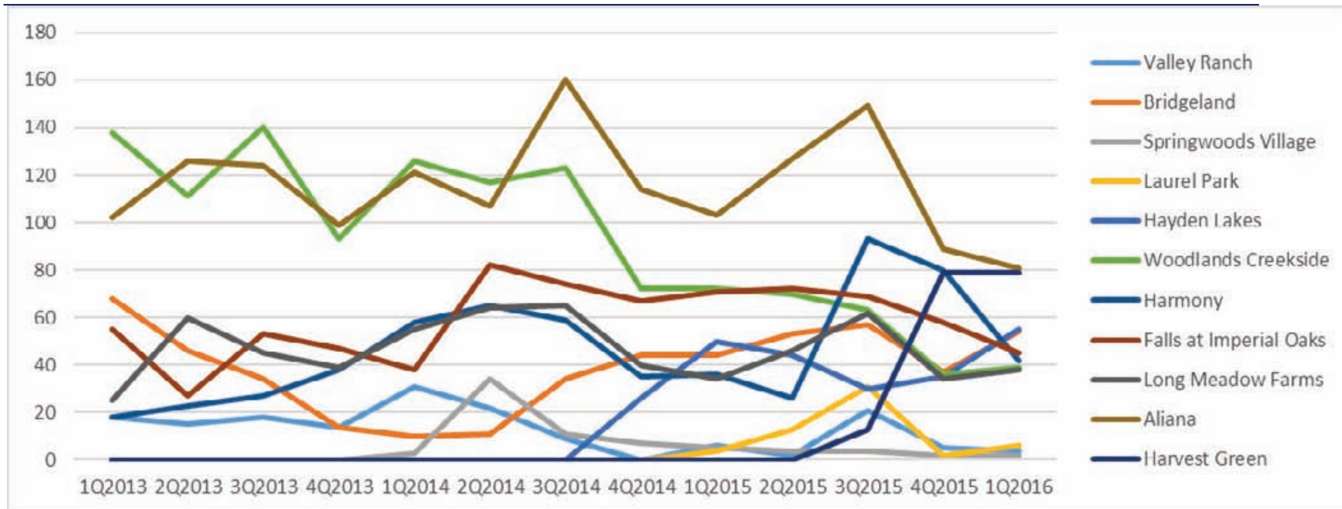
Houston Region

The basic definition of the Houston region in each of these three sources is the eight county area containing Harris County and the seven counties that border it; Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, and Waller. All of these sources consider a limited number of properties outside of this eight county area, but the number is statistically insignificant when compared to the properties in the eight county area.

Single Family – Housing Starts

Clear trend in decelerating housing starts since Q1 and especially since Q3 2015; most GP area developments reflect this, having peaked in 2014 or mid-2015



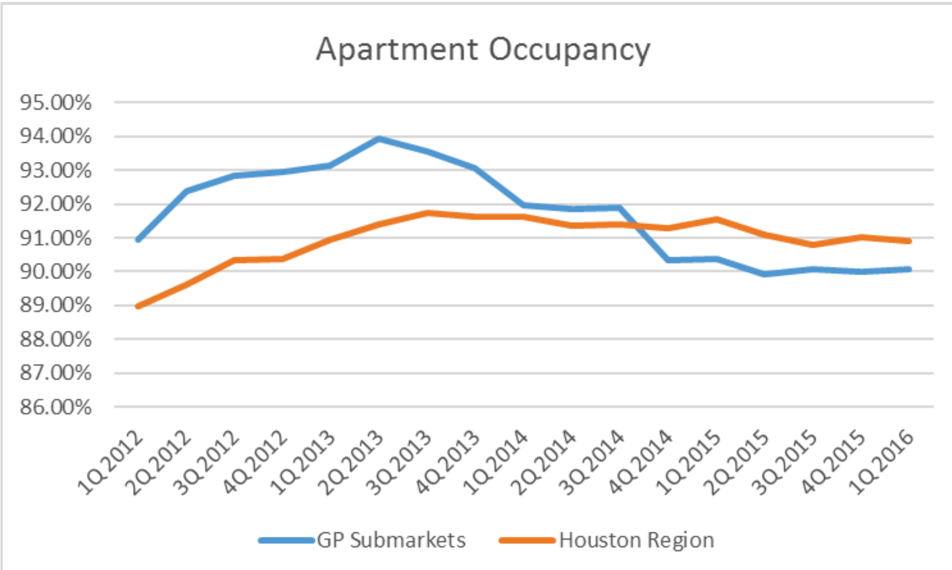


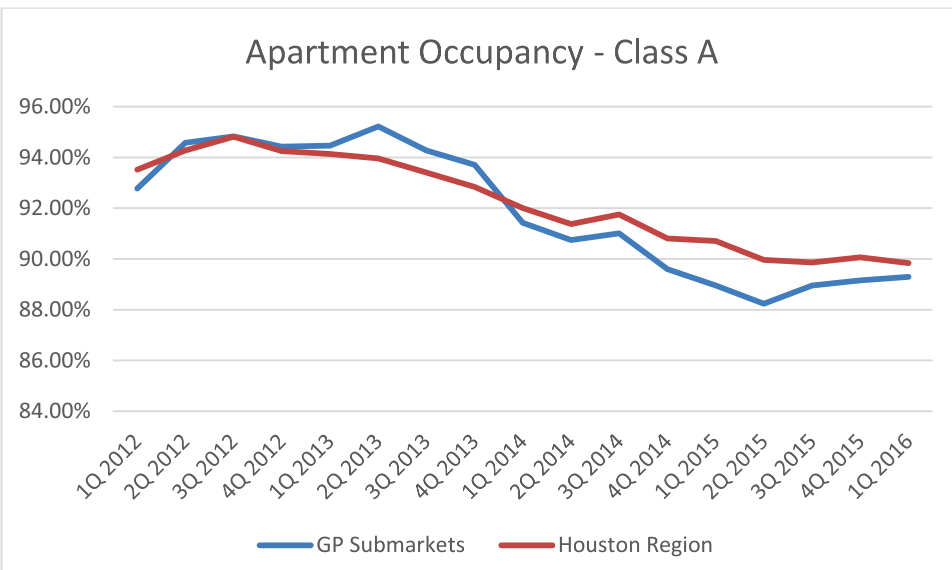
Source: Houston Area Housing Study, CDS

Note: Laurel Park and Harvest Green only began home construction in late 2014 and early 2015 respectively. Bridgeland was heavily restricted in lot development during 2013 into 2014 due to drainage engineering issues which were then resolved.

Multifamily Apartments

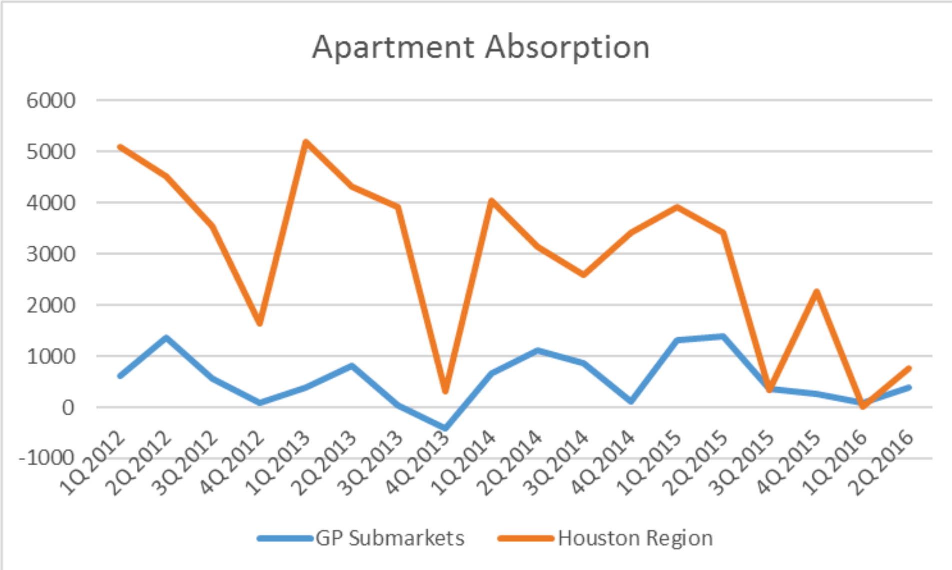
Occupancy – Regional trends show moderately declining occupancy since early 2015. Data show Class A properties, which are what are typically chosen for new construction by developers (as opposed to Class B quality), have been declining the most as supply has been added while regional job growth has slowed dramatically. Occupancies at 90% or below generally discourage new construction.

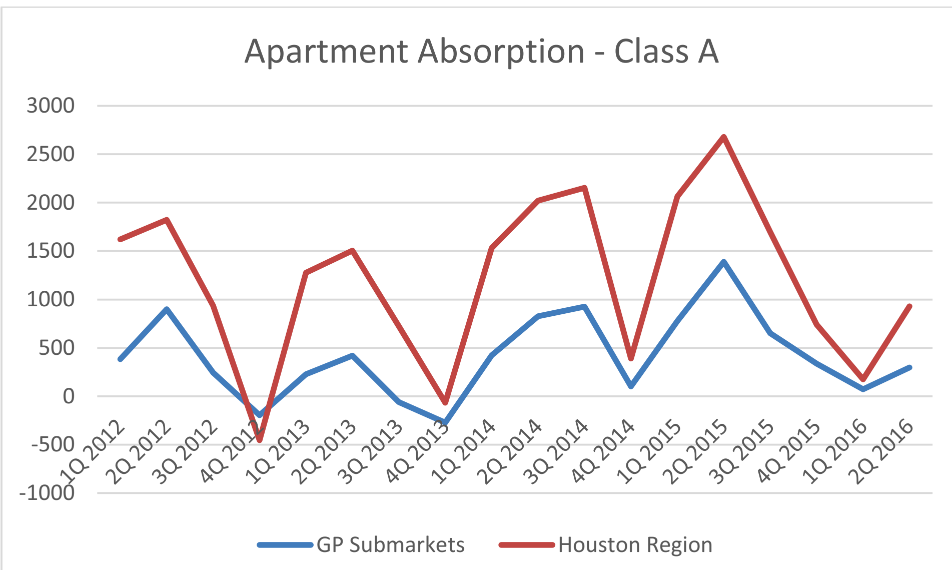




Source: Enriched Data

Absorption – Absorption of vacant units is clearly on a downward trend, discouraging new construction, especially with recent quarters below 1,000 units regionally. A strong indicator of weakening demand. Q2 absorption for Class A units far below the 2015 figure.



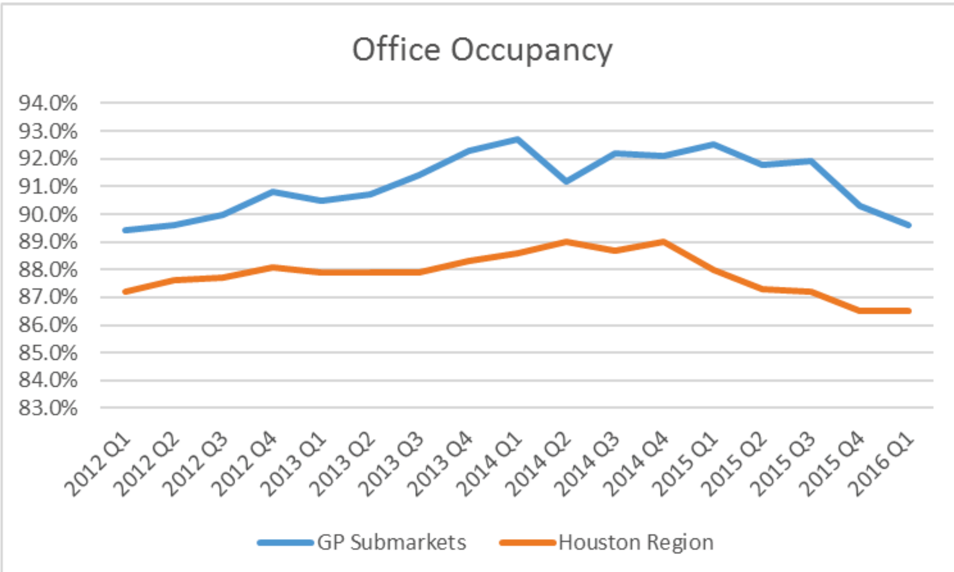


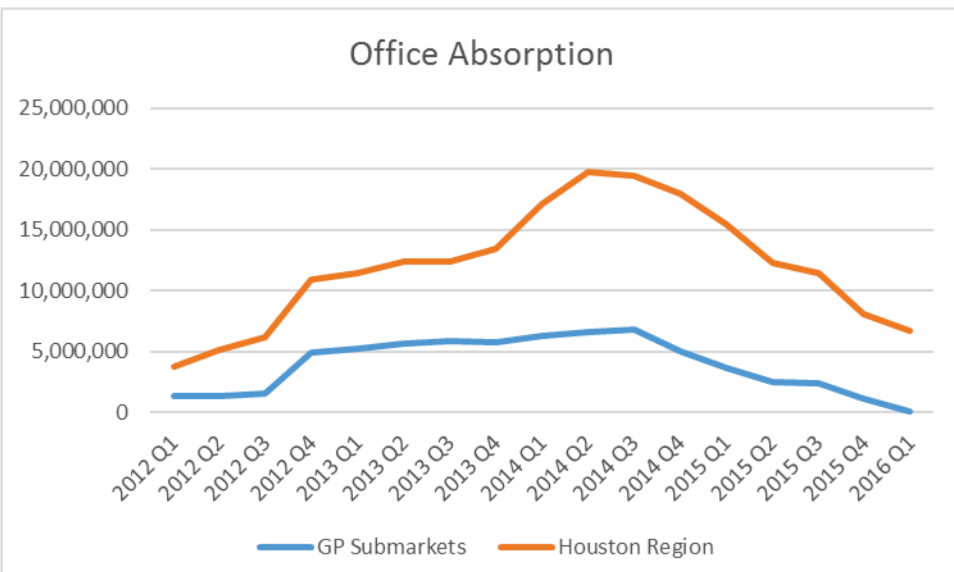
Source: Enriched Data

Office Market

Occupancy – Note sharp declines in occupancy since early 2015, due to increased supply while employment (mostly related to upstream oil and gas) has decreased. Grand Parkway submarkets strongly affected. Very discouraging for new supply in the near term.

Absorption – Strong declines in space absorption since late 2014. Shows rapidly weakening demand for additional office space.





Source: CoStar

Appendix C – Articles On Regional Real Estate

OFFICE MARKET

What does the immediate future hold for Houston's office market as the economic downturn continues?

Mar 21, 2016, 8:56am CDT

By Patsy Fretwell

Expert Contributor

Experienced office brokers in Houston have agreed on one thing when it comes to what the future holds for Houston's office market in these uncertain economic times: No one knows for sure. Factors such as job growth, oil prices, construction costs and the global economy, among others, will map the future.

Two office brokers at the recent CCIM Forecast presented similar overall but specifically different viewpoints. Chad Beck, a senior director with Cushman & Wakefield of Texas, and Bob Parsley, co-chairman of the Houston office of Colliers International, offered two contrasting outlooks regarding net absorption for 2016: Beck predicted a negative 2.5 million square feet while Parsley predicted 1.2 million square feet of positive absorption. Taking a closer look, the two predictions are based on different parameters within their statistics including the type and size of buildings and if only direct vacant space is counted or if sublease space is added as vacant.

Enlarge

Patsy Fretwell is a senior market analyst with Commercial Gateway and has more than 25... more

COURTESY

Another office leasing specialist, Brandon Clarke, a senior vice president of CBRE, said the underlying issue is increased supply and lack of demand. The current under-construction market of more than 7.4 million square feet will definitely have a major impact on the market along with the large amount of sublease space. He singled out the Energy Corridor, which historically boasted 5 percent vacancy for the last 10 years, as an area that could easily go as high as 20 percent vacancy later this year if the increased sublease space along with the new product coming online remains available.

Landlords are getting aggressive on large deals but not so much on smaller deals, he said.

“They are definitely trying to get you into the vacant buildings,” Clarke said.

Rental rates are predicted to stabilize and not drop considerably in the near future, but most agree rental rate changes will take place at an individual building level. Concessions rather than base rate modifications are already happening, and Clarke reported free rent is currently being offered with tenant improvement dollars increasing.

These concessions will continue to escalate and will be most obvious in the legacy Class A buildings; those buildings must compete with both sublease space with lower rates in their own buildings and with a newer product entering the marketplace offering larger concessions to get the new building leased.

The main driver for office space growth has always been job growth. The Greater Houston Partnership is predicting about 22,000 new jobs this year, which is about 25 percent of the job growth reported in each year from 2009-2014.

The GHP also noted a bright spot reported by JLL's Houston office in its year-end report: after 2016, less than 2 million square feet of office space is scheduled for delivery. And the cycle continues.

Four Basic Takeaways

Chad Beck, a senior director with Cushman & Wakefield of Texas, and Bob Parsley, co-chairman of the Houston office of Colliers International, agreed on these points:

1. There is a lot of excess space on the market — 20 percent to 30 percent more than we need due to the oil and gas downturn.
2. 2016 will get better; many companies have already gone through the process. Transactions have slowed.
3. Smaller users are taking longer to make decisions.
4. The medical office market is becoming a big component as doctors move to the suburbs to care for the aging population living there.

By the numbers

***900* —** Buildings listed in HBJ's Spring Office Leasing Guide with available office space.

***360* —** Available office spaces that are up for sublease.

Patsy Fretwell is a senior market analyst with Commercial Gateway and has more than 25 years of experience in real estate market research. She can be reached at patsy@commgate.com.

Oil woes further stress the local office market

By Nancy Sarnoff, Houston Chronicle

March 10, 2016 Updated: March 12, 2016 1:02am

Photo: ©2007 Steve Hinds 214-638-2210

IMAGE 1 OF 2

The Northborough Tower is empty and may go back to the lender.

The owner of an empty office building in the Greenspoint area missed a January deadline to pay off its loan on the property, which is now moving into the hands of its lender.

Dallas-based fund manager Behringer Harvard said it tried to sell the building last year but did not receive any offers above what it owed on the loan. The mortgage was for $21 million, the Wall Street Journal reported.

The company has owned the building, Northborough Tower, at 100 Glenborough since 2008.

At the time, the 14-story building was 100 percent leased through April 2018, according to Thomas Kennedy, president of Behringer Harvard Opportunity REIT I. In the third quarter of last year, the company leasing the property vacated but continued to pay rent, he said. That main tenant was Noble Energy, which relocated to new space off Louetta and Texas 249.

Behringer Harvard is in "ongoing discussions to transfer the asset to the lender," Kennedy said in an email.

The situation represents the latest example of how the local office market is buckling under the weight of low oil prices and a weakening economy.

Houston's office-leasing market has been struggling as few companies are looking to move and many are scaling back.

More than 9 million square feet of space in Houston-area office buildings are available for sublease, a report from commercial real estate firm JLL says. In February, Shell Oil Co., Marathon Oil Corp. and BHP Billiton offered up more than 900,000 square feet.

Of all the sublease space on the market, nearly 7.4 million square feet are in blocks greater than 10,000 square feet. But for the most part, companies taking advantage of the space glut aren't interested in large chunks of space.

So far this year, signed subleases have averaged 4,321 square feet, about half of what they were in 2015, JLL said.

Office market woes to last a while

Even strong areas are likely to feel effects, observers say

By Nancy Sarnoff, Houston Chronicle

April 21, 2016 Updated: April 22, 2016 11:18pm

Photo: Gary Coronado, Staff

IMAGE 1 OF 5

Open work space at HOK, a global design, architecture, engineering and planning firm, Monday, April 11, 2016, in Houston, Texas. (Gary Coronado / Houston Chronicle)

Houston's weakest office submarkets, those areas on the west and north sides of town that have seen sublease space pile up, will continue to slide through 2017. But as they do, markets with higher occupancies and very little sublease space may start to lose steam as well.

That's because companies that occupy space in the fullest buildings with the strongest rents may be lured to markets with a lot more space to spare.

"There are going to be such great economic deals," said Jon Silberman, managing partner with NAI Partners in Houston. In better performing markets like Uptown and Greenway Plaza, "landlords will have to be more competitive."

Available office space across the Houston area, including sublease space, is at a 16-year high of nearly 20 percent, NAI's first-quarter data show. That's 11 percent over what it was a year ago.

Tenants signing new leases are getting months of free rent, free parking, increased build-out allowances and even drops in rental rates, the company said.

Sublease space has grown to 9.3 million square feet, three times its historical average. The volume has not yet leveled off.

"The question is how long is this all going to take to wash out? It's not going to be a 12-, 24-month kind of fix. There's no way," Silberman said. "Particularly on the west side, it's going to be a 3- to 5-year problem over there."

The longer that it takes for the office market to recover, the more risk that landlords face.

While the market so far hasn't seen a lot of distress, expiring subleases pose a potentially large problem.

"When there's a 100,000-square-foot (sublease) block in a building that's 200,000 square feet and the other 50 percent is leased, when the sublease space rolls that's 50 percent of the income that goes away overnight," said NAI partner Dan Boyles Jr.

Springwoods Village mixed-use lands Houston nonprofit's global headquarters

May 27, 2016, 5:00am CDT

Cara Smith ReporterHouston Business Journal

It's tough to talk about Springwoods Village and not mention Exxon Mobil (NYSE: XOM), but a Houston-based nonprofit is laying claim to its own corner of the master-planned community.

Houston-based American Bureau of Shipping, which provides classification services to the marine and offshore industries, signed a prelease for a 326,800-square-foot building in CityPlace, a mixed-use development in Springwoods Village, a master-planned community built around Irving, Texas-based Exxon Mobil Corp.'s new 385-acre corporate campus and its employees.

Enlarge

When completed, CityPlace will include 4 million square feet of Class A office space with… more

COURTESY PATRINELY

ABS will move its global headquarters to CityPlace 2, a 10-story building that includes 23,700 square feet of ground-floor retail. Construction will start in early 2017 and is expected to be complete in late 2018.

“This is a great start to kicking off the office component of the project,” saidRobert Fields, president and CEO of Houston-based Patrinely Group, which is the joint venture owner and developer of CityPlace, along with San Antonio-based USAA Real Estate Co. and CDC Houston Inc.

Chrissy Wilson, senior vice president at JLL, represented the landlord in the deal.Tim Relyea and Kevin Snodgrass of Cushman & Wakefield represented the tenant.

Wilson said CityPlace’s access to the Grand Parkway, U.S. 59 and Interstate 45 helped to sell ABS on CityPlace, as well as its entertainment amenities.

"We always knew (CityPlace) would be a finely tuned machine," Wilson said. "People don't want to go there and be a lone ranger. You want to have places for your employees to eat and work out and entertain."

Retail construction and leasing is underway, and Houston-based Transwestern is in charge of retail leasing.

"Restaurant activity has been excellent, and we'll be moving several of those (prospective tenants) closer to leases with the announcement of ABS and a firm date for occupancy for them," Fields said. "We're going to mix in some fast casual along with some white tablecloth, so we're going to try to hit all spectrums."

CityPlace was announced before oil prices started to fall and was later delayed. Exxon Mobil finished moving into its new 385-acre corporate campus in Springwoods Village in mid-2015, and Southwestern Energy Corp. (NYSE: SWN) moved its headquarters to the community early last year.

"Demand drivers are very different today than they were 24 months ago, but our focus is the same," Fields said. "We're focused on delivering a high-end, mixed-use environment. We're not wavering from that at all."

Closer Look: CityPlace

Developer: Houston-based Patrinely Group, San Antonio-based USAA Real Estate Co. and CDC Houston Inc.

Architect: Gensler

General contractor: D.E. Harvey Builders

Location: 30 miles north of downtown Houston and around six miles south of The Woodlands

Scope: When completed, CityPlace will include 4 million square feet of Class A office space with 400,000 square feet of integrated retail space, a full-service hotel and CityPlace Plaza, a lakefront plaza.

SINGLE FAMILY MARKET

Dallas overtakes Houston as top U.S. homebuilding market

May 15, 2016, 2:52pm CDT **Updated** May 15, 2016, 9:29pm CDT

Paul Takahashi Reporter*Houston Business Journal*


Enlarge

Lawrence Dean, senior… more

For years, Houston has led the nation in new home starts — but not any more.

Dallas has overtaken Houston as the top homebuilding market in the U.S., according to Metrostudy Inc., a housing research firm.

A home under construction in the Lakes of Bella Terra, a growing residential community in… more

PAUL TAKAHASHI / HBJ

After the first quarter, Dallas-Fort Worth builders are on track to start construction on 28,878 new homes in 2016. That's 1,615 more homes than expected in Houston, according to Metrostudy.

New home starts in Dallas were up more than 20 percent in the first quarter while Houston starts plunged by 10 percent, according to Metrostudy.

At the current rate of new home starts, Dallas homebuilders will have 5,000 additional new home starts in 2016 compared to 2015. On the other hand, new home starts in Houston are expected to decline by 3,000 starts year over year, according to Metrostudy.

Lawrence Dean, senior adviser overseeing Metrostudy's Texas region, saidHouston homebuilders are starting fewer homes for three reasons:

1. **Oil slump**: As energy companies announce bankruptcies and layoffs, local builders are taking down fewer lots from land developers and pulling back on new homes projects. "We're seeing a slightly reduced demand for new homes given the turbulence in the energy industry," Dean said.

2. **Maturing communities**: Slowing home starts were long expected in mature communities like The Woodlands and Cinco Ranch, which have fewer lots to offer builders as they near completion. "We're seeing a decline in the number of new home communities as many stalwart communities like Cinco Ranch are reaching build-out," Dean said.

3. **Skyrocketing prices**: Houston has experienced a sharp increase in new home prices during the energy boom, which has forced some buyers into the resale market. "The value proposition of a new home is less compelling," Dean said.

Houston has been the No. 1 new home market for several years. In 2015, Houston homebuilders had permitted 38,315 new homes, compared with Dallas' 22,550 new homes, according to the U.S. Census Bureau.

Homebuilders adjust to slower housing market

By Nancy Sarnoff, Houston Chronicle

January 19, 2016 Updated: January 20, 2016 9:15am

Photo: Brett Coomer, Staff

IMAGE 1 OF 6

New home are shown for sale and under construction in the Springwoods Village subdivision, a new master-planned community near the Exxon Mobil campus, on Tuesday, Jan. 19, 2016, in Spring. (Brett Coomer / ... more

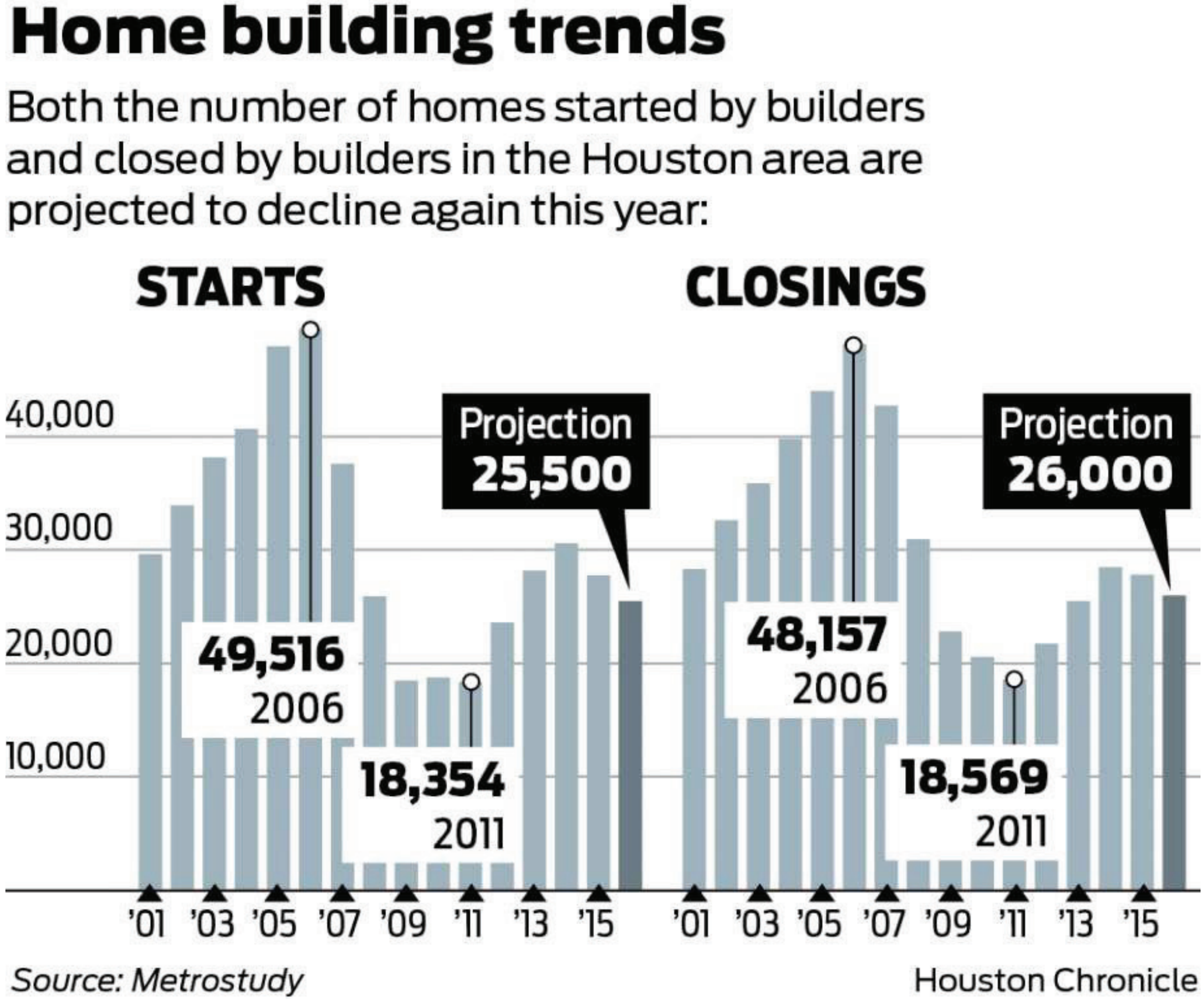
Mark and Linda Thering's brand-new house in Spring boasts 3,100 square feet, a fireplace, game room and two patios. The couple also got something homebuyers until recently could only dream of - a $15,000 discount.

"It was a really good deal considering it was a new house," said Linda Thering, a paralegal.

The Therings, who moved into the two-story, four-bedroom house east of the Hardy Tollroad in November, are the beneficiaries of a new reality in the local housing market. Mass layoffs in the energy sector and fears of slower growth ahead curbed demand throughout 2015, giving buyers leverage they hadn't had in years.

Builders started 9 percent fewer homes than the year before, new data from housing research firm Metrostudy show. The dropoff followed three straight years of growth and is expected to drop another 8 percent in 2016.

After rushing to build houses for an influx of workers flush with cash from the energy boom, some builders are now discounting prices and offering generous specials to those still shopping for homes. Others are buying fewer lots and trying to negotiate better deals from land owners who had been getting top-of-the-market prices when crude was at $100 a barrel.



They started 27,778 homes last year, and Metrostudy expects that number to fall to 25,500 this year.

"I think this oil thing is probably going to last longer than anybody has suggested," said Scott Davis, Metrostudy's Houston regional director.

Doug Goff, chief operating officer of Houston-based Johnson Development, says "the sky is not falling," but he knows it's time for those in the building industry "to be realistic."

"This is a challenging market," he said.

Johnson is bringing four master-planned communities in the Houston area to market this year - three in Fort Bend and one in Montgomery County on the former Camp Strake Boy Scout property. The company has started allowing builders to buy home sites bit by bit. During the boom, community developers like Johnson sold large chunks of lots through sealed bids.

"We're modifying some of our terms with builders to allow them to continue their investment," Goff said.

Taking the long view

Davis said developers like Johnson have to take a long view.

Large-scale planned communities with development timelines of a decade or more are bound to encounter slowdowns.

"Given that these cycles run at about five- to eight-year intervals historically, you had to anticipate you're going to run into one of them at some point," Davis said.

Will Holder, president of Trendmaker Homes, said he wants to be prepared for when the market recovers.

His company has started buying lots now that prices have started to come down.

"What I'm promoting inside our company is we need to buy lots in the best communities we can find. And we do it on today's terms," Holder said. "The bottom line is, I'm not running from this. I believe in Houston, and I believe as soon as it turns around, then we'll all be back scrambling for lots, and those who ran away will find themselves in a diminished market position."

Houston's overall housing market, until recently one of the strongest in the nation, is feeling the impact of stubbornly low crude-oil prices that are also taking a toll on jobs, auto sales and other elements of the local economy.

"We're beginning to see a lot of sectors begin to feel this lack of momentum," said Bill Gilmer, chairman of the Institute for Regional Forecasting at the University of Houston C.T. Bauer College of Business.

During the recent housing boom, Gilmer said, lots became so expensive that builders had to fill them with pricey homes to turn a profit. When the flow of energy executives and well-paid engineers dried up, builders were left with fewer customers.

"The problem is, we just built the wrong kind of houses," he said.

Trendmaker is downsizing some of its models to attract today's buyer.

"I'm not sensing anybody wants to go to a lower feature level, but they might buy a 4,000-square-foot house instead of a 4,400-square-foot house and get the price down 50 grand and feel better about it," Holder said.

North side slowdown

The slowdown is especially evident to the north, where builders put up high-priced homes along newly paved streets in anticipation of a rush of well-to-do buyers, many of whom never materialized. Construction of the Grand Parkway also dampened home buying activity in the area because the work made it hard to access some of the communities there. Housing in Houston's northwest market close to U.S. 290, as well as the west side near the Energy Corridor, has also softened.

The new home market remains strong on the east side, where a boom in petrochemical construction is driving growth. And Davis said some northeastern subdivisions are growing as well, as are neighborhoods in the southwest, such as Aliana and Harvest Green.

Davis said buyers this year will migrate to areas like that in what experts call a "flight to quality."

In an average year, homes in the nicest master-planned communities account for about 40 percent of new home closings. During downturns, that share has been as much as 55 percent.

"In times of risk we believe consumers will go to less risky communities," he said.

Another bit of good news is that the market isn't overbuilt, said David Jarvis, a senior vice president with John Burns Real Estate Consulting. "We just went through a period of five years where we generated 400,000 new jobs, and now we're kind of at a zero-net-sum game," he said.

Still, some impacts of the recent housing boom linger.

The median price of a new home, for example, rose to $276,600 last year, up 6 percent from 2014 and up almost 40 percent since 2011.

Nancy Sarnoff

Real Estate Reporter, Houston Chronicle

Woodlands white-hot market for homes cools

Real estate experts say conditions are still healthy here

By Nora Olabi

June 7, 2016

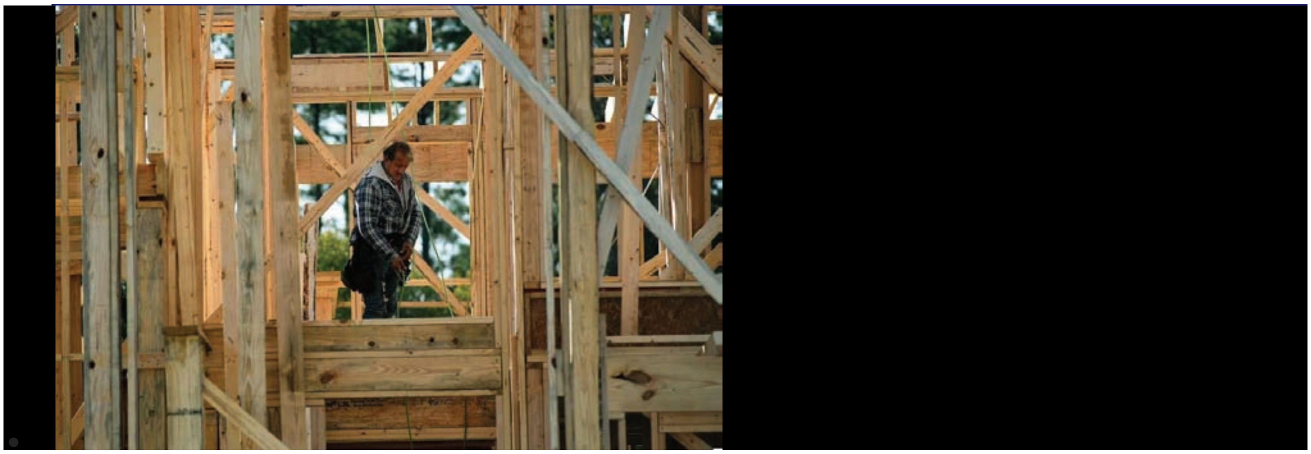


Photo: Jerry Baker, Freelance

IMAGE 1 OF 9

Work continues on a Taylor Morrison Home in the new Notchwood subdivision in Creekside Park in The Woodlands on Nov. 12, 2015. (Photo by Jerry Baker/Freelance)

The Woodlands residential real estate market has slowed as single-family home sales and list prices continue to inch downward.

Home sales for the first quarter of 2016 tumbled to 341, down 14.3 percent from sales in the first quarter of 2015, with fewer pending sales, according to the Houston Association of Realtors' Multiple Listing Service.

In addition to the home resale market, new home sales in The Woodlands didn't move much during the first quarter from last year.

"For The Woodlands, new homes were about flat with the same time period as about a year ago," said Tim Welbes, co-president at The Woodlands Development Co.

And while there are fewer sales, more homes have flooded the market in the past year. Total home inventory jumped to 5.4 months in the first quarter, up from 3.8 during the same period last year.

Typically, a market that balances supply and demand floats around 6 months of home inventory. Dip below that, and it's a seller's market. The Woodlands was a hot market for sellers for the last few years, but as supply has caught up with demand

and the economy has slowed down in response to lower oil prices, home sales have slowed.

"It still is a healthy market here. It has slowed down a little bit from last year. Our inventory levels have gone up a little bit, but it is a healthy market," said Realtor Brian Schweiker who co-manages an office for Re/Max The Woodlands and Spring. "The Woodlands has fared much better than other areas."

And while the first quarter of this year was slow, April was a big comeback month, with 283 contracts written as compared to 191 contracts in March or 279 contracts in April of 2015.

But with more homes on the market, sales prices have also dipped. In the first quarter of 2015, the median sales price for homes in The Woodlands was $356,250. For the first quarter of this year, median sales price has fallen to $318,500, which is an almost 11 percent drop year-over-year, according to HAR's MLS.

"We came off of a good couple years where they were abnormally good or excellent. Now, we're back to a good healthy market," Schweiker said. "We're back to what a normal market would be for The Woodlands, which is still very good."

Home owners aren't the only ones feeling a slow down. Homebuilders are buying fewer lots. The Woodlands Development Co. only sold 4.1 acres in the first quarter, down from 10.6 acres during the same period in 2015. Howard Hughes, The Woodlands Development Co.'s parent company, attributed the slowdown as "primarily due to the mix of lots sold, furthered by economic uncertainty in the Houston market," according to its first quarter report released in May.

Residential lot prices were down as well.

"I think it's more to do with six, nine months ago when the industry was talking about new home sales and what the forecasts for 2016, which was to target lower priced homes and lots, so as we and the market have responded by trying to produce smaller lots, that's going to take some of that pricing down. Part of the problem is whether those particular lots were an amenity lot - on lakes or greenbelts - where there's a reason for a lot premium," Welbes said of the decline in lot sales and prices.

The drop in available lots and lot sizes is a direct result of The Woodlands nearing build-out. By 2017 or 2018, all developable lots are expected to be sold to builders. The final frontier for home builders in The Woodlands are the villages of Sterling Ridge and Creekside Park, the top two neighborhoods for listed homes, according to HAR.

The drop in home prices and sales correlates with the uncertain economic climate due to low, fluctuating oil prices. The Woodlands is home to 17 energy company headquarters, including major employers like Anadarko Petroleum Corp. and Repsol USA. The energy sector alone, not including ancillary services like logistics that may be tied to oil and gas, represents 32 percent of all workers employed by major employers in The Woodlands.

The No. 1 employer, Anadarko Petroleum Corp., laid off 17 percent of its global workforce including an undisclosed number from its headquarters in The Woodlands after posting dismal results. The company suffered a $1.25 billion net loss in the fourth quarter of 2015 with a total net loss of $6.7 million over the year, which led to huge budget cuts. After announcing the workforce cuts before the end of the first quarter, its first quarter results released in May showed another $1 billion loss.

Though The Woodlands as a whole has felt a slowdown, the low-end of the single-family home market has seen an uptick.

Homes priced between $150,000 and $250,000 have seen a 10 percent increase in sales year-over-year during the first quarter of 2016. But that only represents a fraction of home sales in The Woodlands. Even with the boost, homes priced below

$250,000 represented about one-quarter of total home sales in the first quarter of 2016, according to HAR's MLS.

While the area may be on the tail-end of what was a white hot sellers market for residential sales, The Woodlands is a buyers' market for high-end homes, particularly those priced above $700,000.

The Woodlands has 8.9 months of inventory for homes priced between $700,000 and $800,000 and up to 15 months worth of inventory for homes priced above $1 million, Schweiker said of Re/Max The Woodlands and Spring's market report for April. While the bulk of the market is homes below $1 million, those top-priced homes represented about 6 percent of home sales in the first quarter of 2016, according to HAR's MLS. That means buyers may have more bargaining power to negotiate prices in their favor.

"Sell when you're ready to sell, but its more important than ever to hire a good real estate agent," Schweiker said.

MULTIFAMILY APARTMENTS

Rents, occupancy rates signal shifts in apartment market

Concessions are offered at Class A properties, while prices are increasing for less costly units

By Erin Mulvaney and Nancy Sarnoff

June 7, 2016 Updated: June 8, 2016 9:44am

Photo: Michael Ciaglo, Staff

IMAGE 1 OF 5

The view of the Uptown - Galleria area from the top of the new SkyHouse River Oaks apartment building. (Michael Ciaglo / Houston Chronicle)

Local renters not only can upgrade to luxury digs - often with a few months thrown in free - but also snag signing bonuses such as Apple watches, flat-screen televisions and even cruises.

The concessions are a byproduct of the region's overbuilt apartment market. Economists have warned of this looming glut, particularly among high-end units, since falling oil prices began taking their toll on the area's job and population growth.

A midyear report seems to validate those concerns. The overall occupancy rate for residential rentals in April was 90.1 percent, the economic analysis by the Greater Houston Partnership found. The report predicts the local rate will fall to the mid-80s as developers put another 21,000 units on the market this year and 4,000 in 2017. It says renters hold the cards when occupancy rates fall below 90 percent.

This new construction tends to be high-end, or Class A, a category that makes up 23 percent of the market. The current occupancy rate for apartments in this category is 79 percent.

"The stark truth is that Houston doesn't need any more Class A apartment communities, not until the market absorbs 45,000 vacant Class A units on the ground and in the pipeline," the partnership report says. "Apartment owners and developers are more likely to see crude oil hit $70 a barrel before Houston returns to a landlord's market."

From 2010 to the end of 2014, the region created roughly 95,000 jobs per year, and there was a need for more apartment projects. Developers rallied to meet the need and expected to garner high rents, as some areas were experiencing double-digit growth.

At the rental market's August 2014 peak, the occupancy rate for Class A apartments was 84 percent. Now there is an obvious divide. Among Class A apartments that have been in operation for 13 months or more, the occupancy rate is 91 percent, but those open 13 months or less have a 23.2 percent rate.

Class B and C units

Meanwhile, rents have continued to increase over the past two years for slightly lower-end Class B and C properties. The Greater Houston Partnership analysis found that of the 24,000 units current in "lease up," only 500 are Class B. Economists have said this trend may affect long-term affordability, despite the availability of incentives for renters.

MORE INFORMATION

How Houston rents fared

Rental rates across the Houston region went in different directions over the past year, leaving some of the most desirable neighborhoods with a glut of high-end apartments and falling prices.

Highland Village/Upper Kirby: 5.4 percent decrease
Montrose/Museum District: 4.7 percent decrease
Galleria/Uptown: 4 percent decrease
Heights/Washington Avenue: 4 percent decrease
Sharpstown/Westwood: 5 percent increase
Brookhollow/Northwest Crossing: 5 percent increase
Greenspoint/Northborough: 8.2 percent increase
Source: Apartment Data Services, year over year data from April 2015 to April 2016

Class A rents averaged $1,459 per month in April. With two months free rent, a fairly standard incentive these days, that works out to $14,590 per year to live in a Class A apartment. Class B rents averaged $948 per month in April.

Some of the hottest markets - the Heights, Montrose and Galleria areas, for example - have seen the sharpest rent declines over the past six months. Meanwhile, some neighborhoods with more low-end or slightly older apartments - Sharpstown, Alief and Westwood - are seeing rental rates continue to tick up at rates of about 5 percent year over year.

In Greenspoint, rates are still rising at 8.2 percent, nearly three times the rate considered healthy.

Bruce McClenny, president of Houston-based Apartment Data Services, said the area is seeing huge discounting in the upper end. But he also sees rents going up in less popular areas where older units are being refurbished.

Despite these disparities, McClenny said, renters in Houston are gaining an advantage over landlords they haven't had since the recession of 2008 and 2009.

By April, the torrid pace of building had finally slowed. Only 1,400 units were permitted in the first quarter. Building permits in Houston were down 26 percent in April from the previous year, according to the latest data from Houston's Department of Public Works. Permits for multifamily buildings dropped 63 percent.

Buying versus renting

Still, a recent national report on buying versus renting warns that "noticeable property price declines" are potentially in store for Houston as it copes with energy industry declines.

"A perfect storm seems to be developing in Houston," real estate economist Ken Johnson said in a statement. "I expect a lot of folks in Houston to be on the safe side and opt for renting over ownership."

Houston's score on the Beracha, Hardin & Johnson Buy vs. Rent Index, produced by Florida Atlantic University and Florida International University faculty, "plummeted significantly" toward buy territory. A report on the findings says such a scenario has foreshadowed price declines in the past.

The national index measures the relationship between building equity through buying real estate versus renting a comparable property and investing in stocks or bonds.

Houston becoming a 'renter's market' with apartment glut

By Erin Mulvaney, Houston Chronicle

June 6, 2016 Updated: June 6, 2016 9:15pm

Photo: ONLINE_YES

IMAGE 1 OF 43

Morgan Group has started building on its latest Pearl-branded apartment complex at Washington Avenue and T.C. Jester. The five-story building will have 322 units ranging from 652 square feet to 1,443 square ... more

Houston is likely becoming a renter's market as new luxury apartments high continue to come on line while job and population growth are slower than when the ground was broken on tens of thousands of units.

A midyear report seems to validate concerns forecast by economists earlier this year that Houston's apartment market was overbuilt. The total occupancy in April was 90.1 percent, according to an analysis from the Greater Houston Partnership. The analysis says that conventional wisdom holds that renters hold the cards in a market with occupancy rate below 90 percent. The rate is expected to fall into the mid-80s.

Developers are expected to deliver 21,000 apartment units this year and 4,000 next year, skewed toward the high end. Concessions of up to three months free rent are already being offered. Other concessions include gift cards, Apple watches, flat-screen televisions, seven-day cruises and move-in allowances.

From 2010 to the end of 2014, the region created roughly 95,000 jobs per year and there was a need for more apartment projects to help house the rapid growth.

Developers rallied to meet the need and expected to garner high rents, as the rate was increasing in some areas in double digits.

Class A apartments, representing the upper end of the market, have a 79.5 percent occupancy rate. The number of properties that have been in operation for 13 months or more have a 91 percent occupancy rate, but those open 13 months of less have a 23.2 percent rate. At the market's peak in August 2014, the occupancy rate for Class A apartments was 84 percent.

For slightly lower-end products in Houston, rents have continued to grow over the past two years. However, the market is skewed toward the high-end, as new product is typically Class A. The Greater Houston Partnership analysis found that of the 24,000 units current in "lease up," only 500 are Class B. Even with incentives and rate reductions, economists have said this trend may affect long-term affordability.

Class A rents averaged $1,459 per month in April. With two months free rent, a fairly standard incentive these days, that works out to $14,590 per year to live in a Class A apartment. Class B rents averaged $948 per month in April.

Some of the hottest markets -- the Heights, Montrose and the Galleria -- have seen the sharpest rent declines over the past six months. Now, some of the overlooked neighborhoods with more low end or slightly older apartments, such as Sharpstown, Alief and Westwood, are seeing rental rates continue to tick up. In Greenspoint, rates are still rising at nearly 9 percent, three times the healthy growth rate.

Building is slowing down, which may be a relief to the overbuilt market. Only 1,400 units were permitted in the first quarter. Building permits in Houston were down 26 percent in April from the previous year, according to the latest data from the city of Houston Department of Public Works. Permits for multi-family buildings alone dropped 63 percent.

"The stark truth is that Houston doesn't need any more Class A apartment communities, not until the market absorbs 45,000 vacant Class A units on the ground and in the pipeline," the GHP report states. "Apartment owners and developers are more likely to see crude oil hit $70 a barrel before Houston returns to a landlord's market."

Here are a list of submarkets and how their rental rates dropped or rose from April 2015 to April of this year, based on data from Houston-based Apartment Data Services:

- Highland Village/Upper Kirby: 5.4 percent decrease
- Motnrose/Museum District: 4.7 percent decrease
- Galleria/Uptown: 4 percent decrease
- Heights/Washington Avenue: 4 percent decrease
- Sharpstown/Westwood: 5 percent increase
- Brookhollow/Northwest Crossing: 5 percent increase
- Greenspoint/Northborough: 8.2 percent increase

Erin Mulvaney

Real Estate Reporter, Houston Chronicle

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Appendix B

Stated Preference Survey

This appendix contains the documentation of the stated preference survey as provided by the subconsultant, RSG, Inc. This report was provided to CDM Smith in June 2015.

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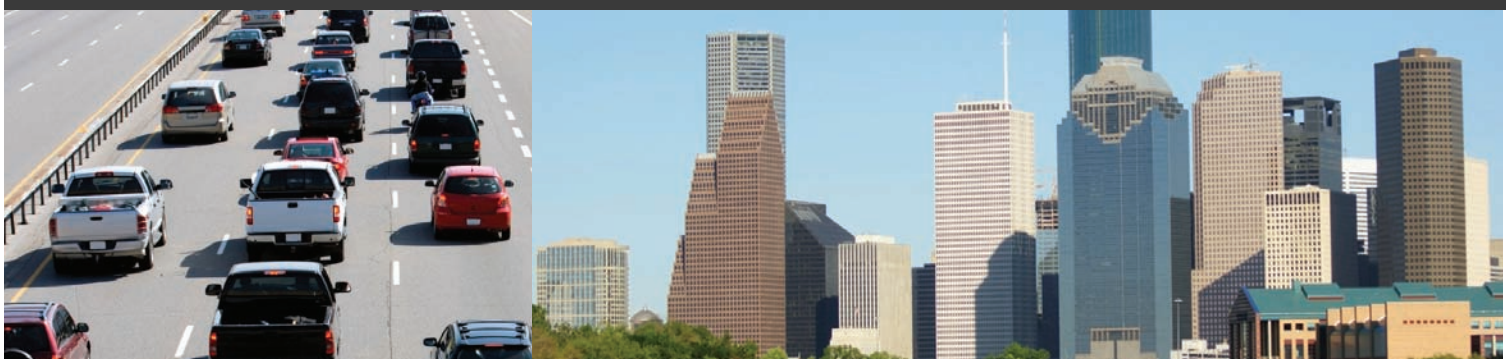
TECHNICAL REPORT

GRAND PARKWAY (SEGMENTS H & I) STATED PREFERENCE SURVEY

6.26.2015



PREPARED FOR:
TEXAS DEPARTMENT OF TRANSPORTATION

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IN COOPERATION WITH:
CDM SMITH

CONTENTS

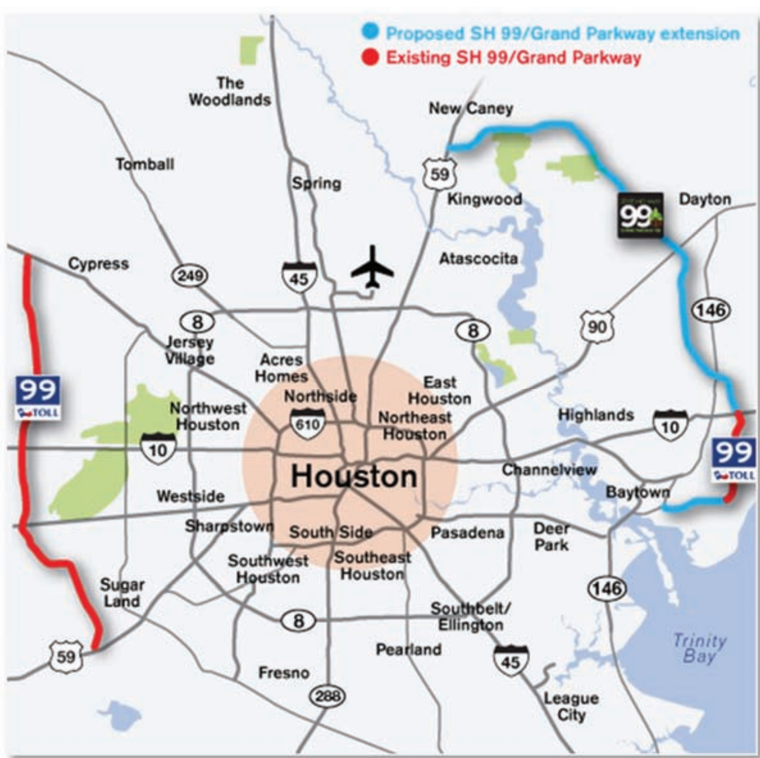
1.0 EXECUTIVE SUMMARY

State Highway 99, also referred to as the Grand Parkway, is a proposed circumferential highway traversing seven counties and encircling the Greater Houston region over a distance of approximately 180 miles. For planning purposes, the proposed highway is organized into segments. At the time of this survey effort, Segments D and E and Segment I-2A are complete and open to traffic.

CDM Smith is currently evaluating the traffic and revenue potential of Segments H and I (including Segment I-2A) of the proposed facility. These sections cover approximately 50 miles stretching from US 59 North in New Caney to SH 146 in Baytown (**Figure 1-1**). As part of this work, Resource Systems Group, Inc. (RSG) conducted two stated preference (SP) surveys—one of passenger vehicle travelers and one of commercial vehicle travelers—in the greater Houston area. RSG collaborated with CDM Smith to design and conduct the surveys for the results to be used in CDM Smith's ongoing Grand Parkway Segments D through I Level 3 Traffic and Revenue Study.

RSG conducted a similar study for Segments D through G—approximately 70 miles from US 59 near Sugar Land to US 59 near Humble—of the Grand Parkway in 2011. The 2011 study was only administered to passenger vehicle travelers and, at the time of this report, Segments D and E are operational. As part of the 2015 study, RSG was asked to evaluate the 2011 results, in particular the value of time results, and provide recommendations, if any, for updating the values of time estimated in 2011 in order to bring them in-line with current year dollars. The 2011 value of time results as well as the memo prepared for the Segments D through G value of time update is provided in **Appendix D**.

FIGURE 1-1: GRAND PARKWAY



The primary purpose of the 2015 Grand Parkway Segments H & I Stated Preference Travel Study was to estimate values of the toll sensitivity, or value of time (VOT), of passenger and commercial vehicle travelers who are candidates for using segments H or I of the Grand Parkway. This includes travelers who currently use Segment I-2A, as well as travelers who make trips within or through the proposed corridor of Segments H and I. Estimates of travelers' time and cost sensitivities are used to support estimates of highway traffic and toll revenue.

RSG developed and implemented two SP questionnaires that gathered information from passenger and commercial vehicle travelers who recently made a trip within or through the corridor of Segments H and I. The questionnaires collected data on respondents' current travel behaviors (also referred as "revealed preferences"), presented respondents with information about the proposed extension of the Grand Parkway, and used SP experiments to collect data that were used to estimate values of time in the corridor.

The survey approach employed a computer-assisted self-interview (CASI) technique developed by RSG. The stated preference survey instrument was customized for each respondent by presenting questions and modifying language based on respondents' previous answers. These dynamic survey features provide an accurate and efficient means of data collection and allow the presentation of realistic future conditions that correspond with the respondents' reported experiences. RSG's proprietary software was customized, for online administration to targeted audiences in the study region.

Respondents were recruited through the following methods:

- Passenger vehicle survey:
    - Postcard invitation distributed to travelers at four intersections in the study area
    - E-mail invitations sent to businesses or organizations in the study area
    - E-mail invitations sent to members of an online market research panel
- Commercial vehicle survey:
    - In-person intercepts at locations along major routes within or near the study area
    - Postcard invitation distributed to travelers at four intersections in the study area

A total of 1,011 valid passenger vehicle and 296 valid commercial vehicle surveys were collected in October and November 2014. Stated preference data from both surveys were analyzed using accepted statistical techniques to estimate the coefficients of a set of multinomial logit (MNL) models. A mixed multinomial logit (MMNL) model was also estimated for the passenger vehicle survey. The coefficients of the MMNL model were used to estimate distributions of values of time for potential Grand Parkway Segments H and I corridor travelers.

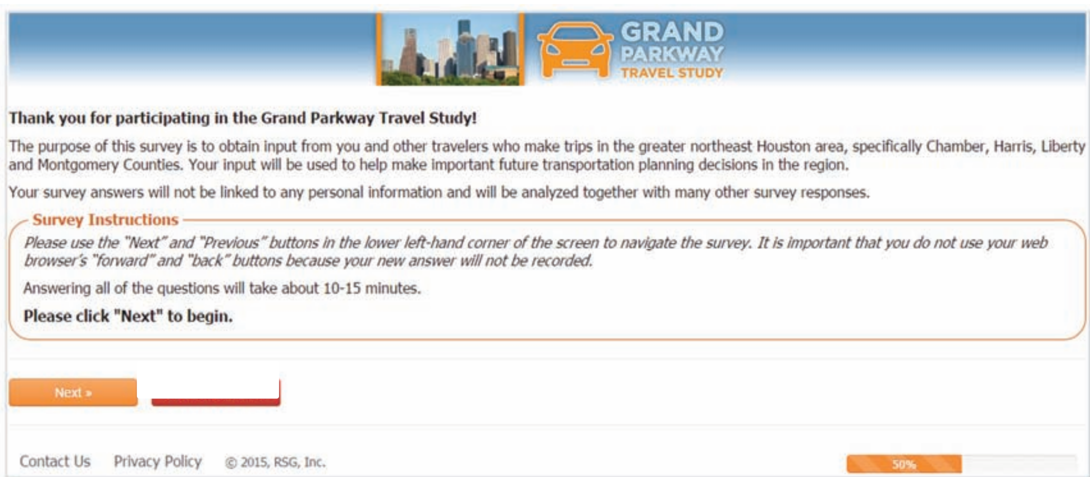
This report documents the development and administration of the survey questionnaires, presents survey results, and summarizes the discrete choice model estimation methodology and findings. The full text of the survey questionnaire, survey screen captures, response tabulations, and respondents' comments about the project appear as appendices to this report.

2.0 SURVEY QUESTIONNAIRES

RSG developed two separate stated preference questionnaires to meet the objectives of this study—one for passenger vehicle drivers and one for commercial vehicle drivers. The questionnaires were designed to collect the information necessary to estimate values of time for different traveler market segments. Both questionnaires followed the same general approach and outline, although individual questions were customized depending on the type of respondent.

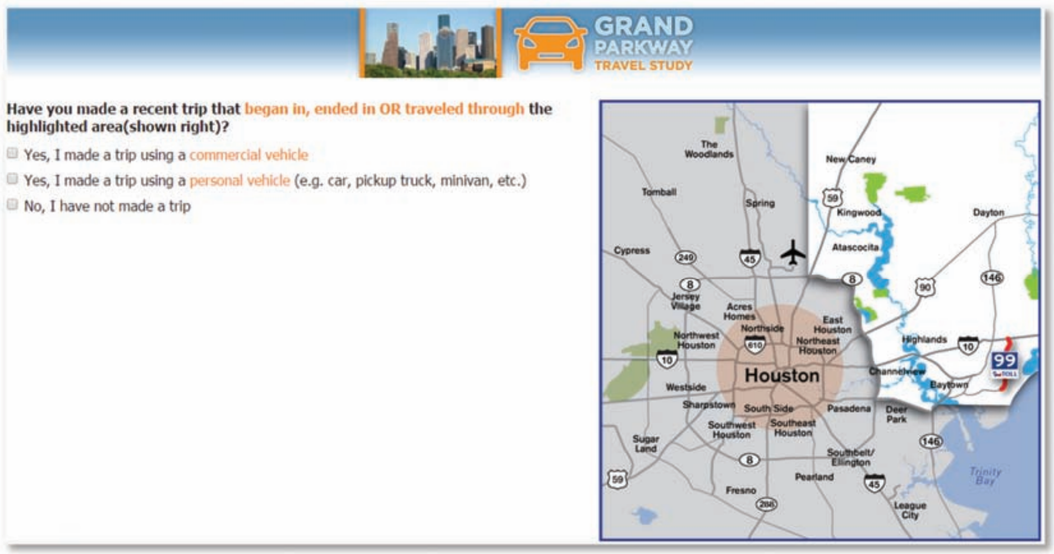
At the beginning of each survey questionnaire, respondents were presented with an introduction page describing the purpose of the survey, the time required to complete the questionnaire, and instructions for how to navigate through the online instrument. Respondents were able to contact a member of the survey team with any technical questions about the survey via e-mail through the ‘Contact Us’ option included on this and all subsequent screens (**Figure 2-1**).

FIGURE 2-1: SAMPLE SURVEY SCREEN: INTRODUCTION AND INSTRUCTIONS



Respondents entering the survey through a postcard invitation were asked to identify whether they had made a trip that began in, ended in, or traveled through study corridor and if that trip was in a passenger and/or a commercial vehicle. If a respondent had not made a recent trip through the study area in a qualifying vehicle, they were disqualified from completing the survey (**Figure 2-2**).

FIGURE 2-2: SAMPLE SURVEY SCREEN: VEHICLE TYPE



2.1 | PASSENGER VEHICLE SURVEY QUESTIONNAIRE

The passenger vehicle survey questionnaire was designed to collect information about a recent trip that a respondent made in the greater Houston area and to find out how they might alter their travel behavior given the proposed new segments of the Grand Parkway. The passenger vehicle survey questions were grouped into five main sections:

1. Qualification questions
2. Trip detail questions
3. Stated preference questions
4. Debrief and opinion questions
5. Demographic questions

The complete set of survey questions as they appeared to respondents on-screen is included in **Appendix A**.

QUALIFICATION QUESTIONS

Following the introduction screen, respondents were asked if they had made a qualifying trip. To participate in the survey, respondents must have made a recent trip that began in, ended in, or traveled through the study area (**Figure 2-3**) and met the following conditions:

- Was made in a personal vehicle
- Was made on a weekday
- Took at least 15 minutes in total door-to-door travel time

FIGURE 2-3: MAP OF STUDY AREA FOR TRIP QUALIFICATION

Respondents who indicated that they had not made a trip that met all of the criteria were disqualified from completing the survey.

TRIP DETAIL QUESTIONS

Qualifying respondents were asked to focus on their most recent trip that met all of the criteria as they continued through the survey. This most recent trip, referred to as the respondent's reference trip, formed the basis for the rest of the questions in this section of the survey. The survey specifically asked respondents to think about their most recent trip, and not a typical trip that they might make, to ensure that the sample included a diverse range of trip types and travel characteristics. This most recent trip also provided a frame of reference for respondents when completing the stated preference scenarios in the next section of the survey.

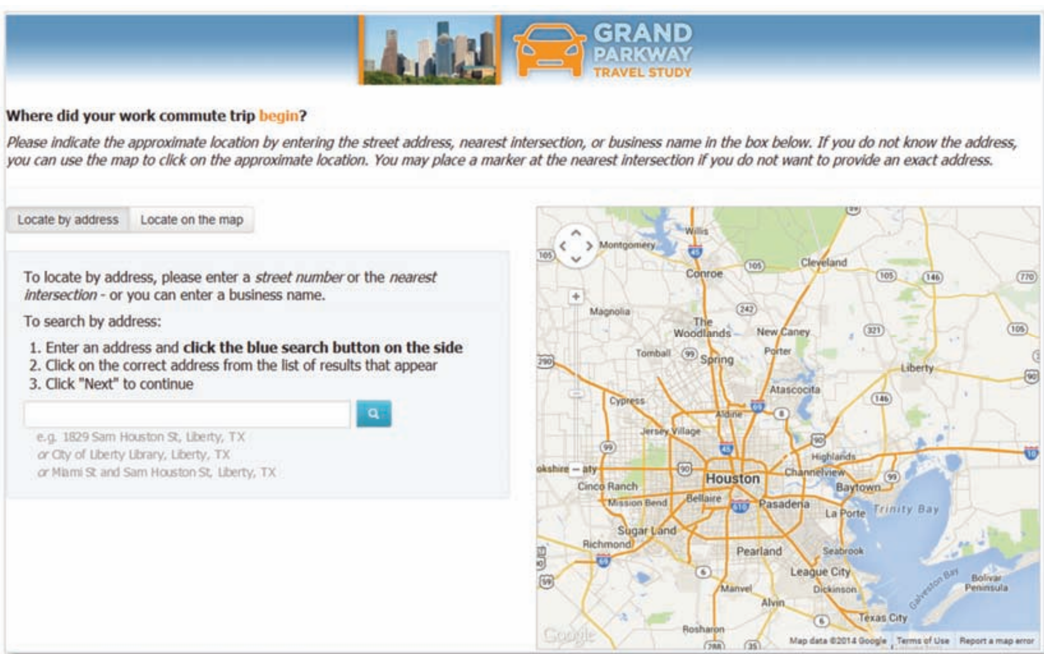
Respondents were instructed to think about the one-way portion of their trip, rather than the entire round trip, and were asked a series of questions regarding the specific details of their reference trip, including:

- Day of week traveled
- Trip purpose
- Type of beginning and ending locations (e.g. home, work, or other)
- Origin and destination location
- Road(s) used
- Segments of Grand Parkway/SH 99 used, if any
- Toll(s) paid
- Trip departure time

- Door-to-door travel time
- Travel time delay due to traffic congestion
- Vehicle occupancy
- Trip frequency
- Ownership of electronic toll collection (ETC) transponders

The trip origin and destination information collected as part of these questions was obtained using a custom Google Maps-based interface developed by RSG. Respondents identified the specific location of their origin and destination by entering a business name, a street intersection, or a full address, or by using an interactive map (**Figure 2-4**). The origin and destination locations were geocoded using a Google Maps application-programming interface to provide a latitude and longitude for both the trip origin and destination. The coordinates were used to verify that the trip began and ended in two different locations (i.e. was not a round-trip) and that the trip could have reasonably traveled through the study region. The geocoding application was also used to estimate the total trip distance and travel time that could be compared to respondents' reported travel times. If the location of the trip origin and destination suggested an invalid trip, respondents were reminded to describe a one-way portion of the trip and asked if they needed to change the beginning or ending location. Respondents who did not change their origin or destination were sent to the screening questions again to enter details of another valid trip. If respondents could not think of another valid trip, they were given the opportunity to leave comments about the survey before being terminated.

FIGURE 2-4: SAMPLE SURVEY SCREEN: ORIGIN ADDRESS AND MAP INTERFACE



The origin and destination coordinates were also used to estimate how many miles of segments H and/or I a respondent could have used for their trip. This highway distance estimate was then used as one of the inputs of the stated preference attribute level design.

STATED PREFERENCE QUESTIONS

After completing the trip details section of the questionnaire, respondents completed a series of SP questions. Before the SP questions were administered, respondents were provided with details about Segments H and I of the Grand Parkway and payment information that would be utilized on the new road (**Figure 2-5** and **Figure 2-6**). Respondents also received brief instructions regarding the stated preference questions.

FIGURE 2-5: SAMPLE SURVEY SCREEN: PROJECT INFORMATION

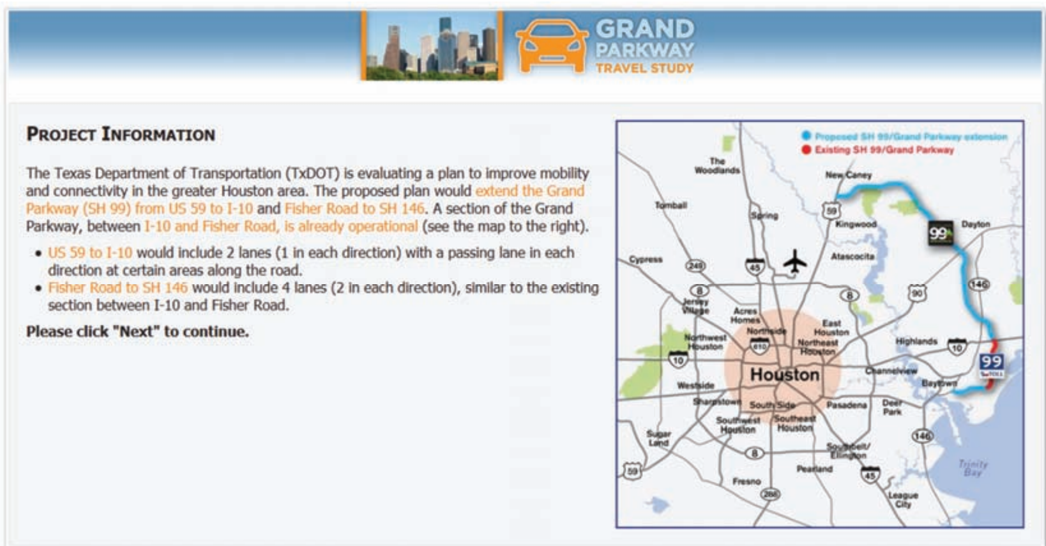


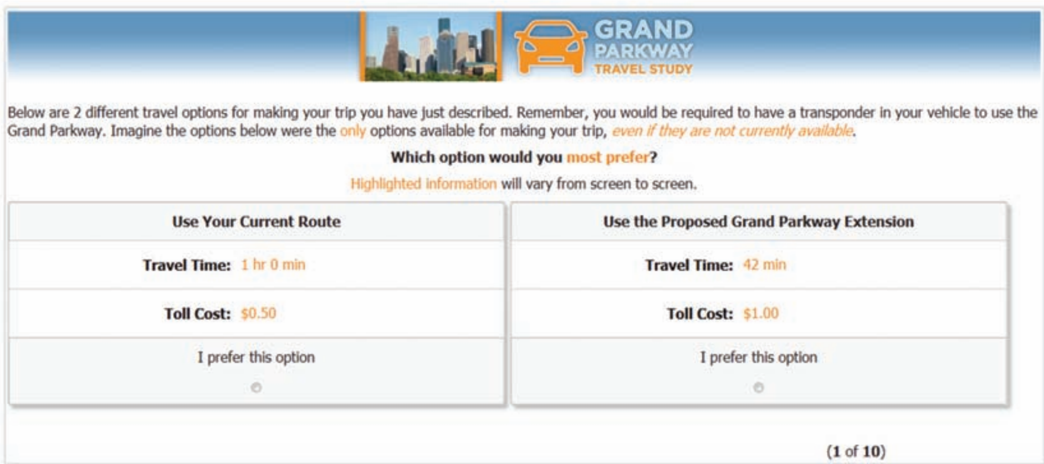
FIGURE 2-6: SAMPLE SURVEY SCREEN: PAYMENT INFORMATION

The goal of stated preference questions is to collect quantitative data that can be used to estimate respondents' travel preferences and behavioral responses under hypothetical future conditions. The details of each respondent's reference trip were used to build a set of ten stated preference scenarios that included two travel alternatives for making their trip in the future. Travelers were presented with the following two alternatives:

1. Make your trip using your current route
2. Make your trip using the proposed Grand Parkway extension (part or all of segments H and/or I)

Each alternative was described by two attributes: travel time and toll cost. The values of the attributes varied across the ten questions and respondents were asked to select the alternative they preferred the *most* under the conditions that were presented. **Figure 2-7** shows an example stated preference scenario with varying attribute values for each alternative. In order to avoid potential bias associated with the layout of the alternatives, the order of these alternatives was randomized for *each respondent*. Additional examples of the stated preference exercises are presented in **Appendix A**.

FIGURE 2-7: PASENGER VEHICLE SAMPLE SURVEY SCREEN: STATED PREFERENCE EXPERIMENT[1]



The attribute values presented in each scenario varied around a set of base values. Trip characteristics of each respondent's reference trip were used as the base values for travel time and toll cost to ensure that the scenarios were realistic. These base values were then varied, according to an experimental design, to give a unique set of attribute values for each stated preference experiment. By varying the travel time and toll cost shown in each experiment, respondents were faced with different time savings for different costs, allowing them to demonstrate their travel preferences across a range of values of time. In **Table 2-1**, the formulas that were used in the experimental design to calculate the attribute values are presented.

The specific levels used in each stated preference experiment were determined by using an orthogonal experimental design. Orthogonal designs are commonly used for this type of research to ensure that the attribute values vary independently and to minimize correlation between attribute values. The experimental design used to generate the stated preference experiments in the survey included 100 total experiments divided into ten groups of ten. A respondent was randomly assigned to one of the ten blocks and then shown each of the ten experiments from that block in a random order.

[1] Experiment shown based on a trip with a travel time of 50 minutes, tolls paid on other routes of $0.50, and a calculated Grand Parkway distance of 15 miles.

TABLE 2-1: PASSENGER VEHICLE SURVEY: STATED PREFERENCE ATTRIBUTE LEVELS

Attribute	Level #	Alternative 1: Current Route		Alternative 2: Proposed Grand Parkway Extension	
		Description	Level	Description	Level
Travel Time	1	Reported Travel Time + (Factor[1] * Level)	0.00	Reported Travel Time + (Factor * Level)[2]	5.00
	2		2.00		4.00
	3		3.00		3.00
	4		4.00		2.00
	5		5.00		1.00
Toll Cost	1	Reported toll(s), if any		(Factor * Level) + Toll(s) Paid	0.25
	2				0.50
	3				0.75
	4				1.00
	5				1.25
	6				1.50
	7				1.75
	8				2.00
	9				2.25
	10				2.50

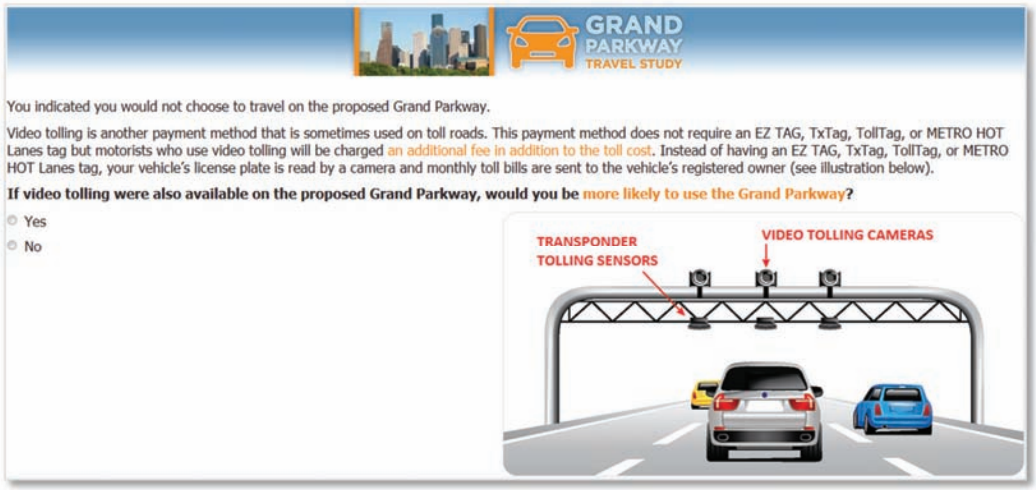
1. A respondent's factor was based on estimated mileage of segments H and/or I that a respondent could use given a total highway distance of less than 50 miles for Segments H and I combined. Respondents were assigned to one of five factor levels: 1) Less than 10 miles, 2) 10-19 miles, 3) 20-29 miles, 4) 30-39 miles, 5) 40 miles or more.
2. A minimum travel time for Alternative 2 was set using the following: (Estimated Grand Parkway Miles/90 mph * 60 minutes).

DEBRIEF AND OPINION QUESTIONS

After completing the ten stated preference scenarios, respondents answered a series of questions to assess underlying rationales for their choices and to identify any potential strategic bias in their responses.

Respondents who never selected a tolled route (Grand Parkway) alternative were asked to select the primary reason for these choices. Additionally, respondents who do not own an ETC transponder and who never selected a tolled route alternative were asked to indicate whether the presence of video tolling would increase their likelihood of using the proposed Grand Parkway (**Figure 2-8**).

FIGURE 2-8: PASSENGER VEHICLE SAMPLE SURVEY SCREEN: VIDEO TOLLING



Finally, respondents were asked for their overall opinion of the proposed Grand Parkway extension project. Those with a non-neutral opinion were asked a follow-up question to identify why they were either in favor of or opposed to the project. Respondents were then asked the degree to which they agree or disagree with a series of attitudinal statements regarding tolls and travel behavior.

DEMOGRAPHIC QUESTIONS

The final section of the survey included demographic questions related to the following topics:

- Home ZIP code
- Gender
- Age
- Employment status
- Household size
- Vehicle ownership
- 2014 household income, before taxes

Responses to these questions were used to classify respondents, identify possible behavioral differences among demographic characteristics, and to confirm that the sample contained a diverse sample of drivers that travel in the study region. Finally, respondents were given the opportunity to leave comments about the survey or the project. These open-end comments are provided in **Appendix C**.

2.2 | COMMERCIAL VEHICLE SURVEY QUESTIONNAIRE

The commercial vehicle survey questionnaire was designed to collect information about a recent trip that a respondent made in a commercial vehicle in the greater Houston area and to find out how they might alter their behavior given the proposed new segments of the Grand Parkway. Similar to the passenger vehicle survey, the commercial vehicle survey questions were grouped into five main sections:

1. Qualification questions
2. Trip detail questions
3. Stated preference questions
4. Debrief and opinion questions
5. Traveler information questions

The complete set of survey questions as they appeared to respondents on-screen is included in **Appendix A**.

QUALIFICATION QUESTIONS

Following the introduction screen, respondents were asked if they had made a qualifying trip. To participate in the survey, respondents must have made a trip of at least 15 minutes that began in, ended in, or traveled through the study area (**Figure 2-3**). Respondents who indicated that they had not made a trip that met all of the criteria were disqualified from completing the survey.

Next, respondents were asked to indicate their role as a driver: either an owner-operator, contract owner-operator, fleet driver, or other. All respondents were asked to identify the person responsible for making vehicle routing decisions at their company. Those who indicated that someone else makes the routing decisions were asked whether they could describe the routing decisions made by others. Respondents who could not describe the routing decisions of vehicles were also disqualified from completing the survey.

TRIP DETAIL QUESTIONS

Qualifying respondents were asked to focus on their most recent trip that met all of the criteria as they continued through the survey. The commercial vehicle survey asked respondents to think about their most recent trip—not a typical trip that they might make—to ensure that the sample included a diverse range of trip types and travel characteristics. This most recent trip also provided a frame of reference for respondents when completing the stated preference scenarios in the next section of the survey.

Respondents were instructed to think about the one-way portion of their trip—from one commercial stop to the next—and were asked a series of questions regarding the specific details of their reference trip, including:

- Date trip was made
- Trip length (number of days)
- Trip distance
- Travel time
- Travel time delay due to traffic congestion
- Number of vehicle axles
- Trip frequency
- Road(s) used
- Segments of Grand Parkway/SH 99 used, if any
- Tolls paid

- Ownership of ETC transponders

Identical to the passenger vehicle survey, trip origin and destination information was collected using a custom Google Maps-based interface (**Figure 2-4**). The coordinates were used to verify that the trip began and ended in two different locations (i.e. was not a round-trip) and that the trip could have reasonably traveled through the study region. The geocoding application was also used to estimate the total trip distance and travel time that could be compared to respondents' reported travel times. If the location of the trip origin and destination suggested an invalid trip, respondents were reminded to describe a one-way portion of the trip and asked if they needed to change the beginning or ending location. Respondents who did not change their origin or destination were sent to the screening questions again to enter details of another valid trip. If respondents could not think of another valid trip, they were given the opportunity to leave comments about the survey before being terminated.

Additionally, the origin and destination coordinates were used to estimate how many miles of segments H and/or I a respondent could have used for their trip. This highway distance estimate was then used as one of the inputs of the stated preference attribute level design (**Table 2-2**).

STATED PREFERENCE QUESTIONS

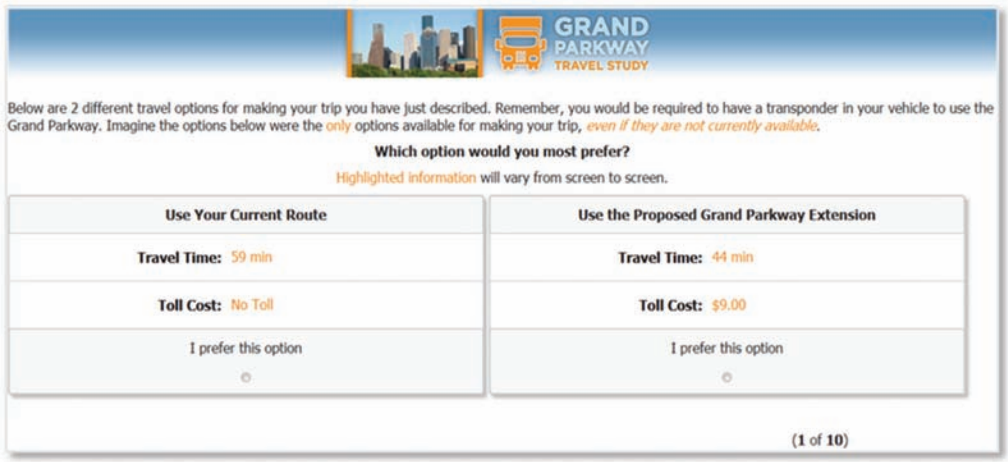
As in the passenger vehicle survey, respondents completed a series of SP questions. Respondents were provided with details about the Grand Parkway Segments H and I extension and payment information that would be utilized on the new road prior to answering the SP questions (**Figure 2-5** and **Figure 2-6**). Respondents also received brief instructions regarding the stated preference questions.

The goal of stated preference questions is to collect quantitative data that can be used to estimate respondents' travel preferences and behavioral responses under hypothetical future conditions. The details of each respondent's reference trip were used to build a set of ten stated preference scenarios that included two travel alternatives for making their trip in the future. Travelers were presented with the following two alternatives:

1. Make your trip using your current route
2. Make your trip using the proposed Grand Parkway extension (part or all of the segments H and/or I)

Each alternative was described by two attributes: travel time and toll cost. The values of the attributes varied across the ten questions and respondents were asked to select the alternative they preferred the *most* under the conditions that were presented. In **Figure 2-9**, an example stated preference scenario with varying attribute values is shown. In order to avoid potential bias associated with the layout of the alternatives, the order of these alternatives was randomized for *each respondent*. Additional examples of the stated preference exercises are presented in **Appendix A**.

FIGURE 2-9: COMMERCIAL VEHICLE SAMPLE SURVEY SCREEN: STATED PREFERENCE EXPERIMENT



Again, the attribute values presented in each scenario varied around a set of base values. Trip characteristics of each respondent's reference trip were used as the base values for travel time and toll cost to ensure that the scenarios were realistic. These base values were then varied, according to an experimental design, to give a unique set of attribute values for each stated preference experiment. By varying the travel time and toll cost shown in each experiment, respondents were faced with different time savings for different costs, allowing them to demonstrate their travel preferences across a range of values of time. **Table 2-2** details the formulas that were used in the experimental design to calculate the attribute values.

The specific levels used in each stated preference experiment were determined by using an orthogonal experimental design. Orthogonal designs are commonly used for this type of research to ensure that the attribute values vary independently and to minimize correlation between attribute values. The experimental design used to generate the stated preference experiments in the survey included 100 total experiments divided into ten groups of ten. A respondent was randomly assigned to one of the ten blocks and then shown each of the ten experiments from that block in a random order.

TABLE 2-2: COMMERCIAL VEHICLE SURVEY: STATED PREFERENCE ATTRIBUTE LEVELS

Attribute	Level #	Alternative 1: Current Route – Description	Alternative 1: Level	Alternative 2: Proposed Grand Parkway Extension – Description	Alternative 2: Level				
Travel Time	1	Reported Travel Time + (Factor[1] * Level)	0.00	Reported Travel Time + (Factor * Level)[2]	5.00				
	2		2.00		4.00				
	3		3.00		3.00				
	4		4.00		2.00				
	5		5.00		1.00				
Number of Axles					2	3	4	5	6+
Toll Cost	1	Reported toll(s), if any		(Factor * Level for Appropriate Number of Axles) + Toll(s) Paid	0.25	0.50	0.75	1.00	1.25
	2				0.50	1.00	1.50	2.00	2.50
	3				0.75	1.50	2.25	3.00	3.75
	4				1.00	2.00	3.00	4.00	5.00
	5				1.25	2.50	3.75	5.00	6.25
	6				1.50	3.00	4.50	6.00	7.50
	7				1.75	3.50	5.25	7.00	8.75
	8				2.00	4.00	6.00	8.00	10.00
	9				2.25	4.50	6.75	9.00	11.25
	10				2.50	5.00	7.50	10.00	12.50

1. A respondent's factor was based on estimated mileage of segments H and/or I that a respondent could use given a total highway distance of less than 50 miles for S
egments H and I combined. Respondents were assigned to one of five factor levels:
1) Less than 10 miles, 2) 10-19 miles, 3) 20-29 miles, 4) 30-39 miles, 5) 40 miles or more.
2. A minimum travel time for Alternative 2 was set using the following:
(Estimated Grand Parkway Miles/90 mph * 60 minutes).

DEBRIEF AND OPINION QUESTIONS

After completing the ten stated preference scenarios, respondents answered a series of questions to assess underlying rationales for their choices and to identify any potential strategic bias in their responses.

Respondents who never selected a tolled route (Grand Parkway) alternative were asked to select the primary reason for these choices. Additionally, respondents who do not own an ETC transponder and who never selected a tolled route alternative were asked to indicate whether the presence of video tolling would increase their likelihood of using the proposed Grand Parkway (**Figure 2-8**).

Finally, respondents were asked for their overall opinion of the proposed Grand Parkway extension project. Those with a non-neutral opinion were asked a follow-up question to identify why they were either in favor of or opposed to the project. Respondents were then asked the degree to which they agree or disagree with a series of attitudinal statements regarding tolls and travel behavior.

COMPANY INFORMATION QUESTIONS

To ensure that the survey collected responses from a range of travelers, all respondents answered a set of background questions related to their type of operations. All respondents reported:

- Company location
- Company size (number of vehicles)
- Average trip length
- Type of delivery schedule (fixed or flexible)
- Timeframe structure (penalty or incentive)
- Party responsible for paying tolls
- If and how the company charges customers for tolls
- Information sources used for routing decisions

The survey concluded with an opportunity to leave comments about the survey and/or travel within the region. These open-end comments are provided in **Appendix C**.

3.0 SURVEY ADMINISTRATION

RSG worked closely with the project team to design an administration plan to produce a generally representative sample of passenger and commercial vehicle travelers within the proposed Grand Parkway corridor. The sampling plan was designed to include a sufficient range of travelers and trip types to support the statistical estimation of coefficients of a discrete choice model. By collecting data from a range of traveler and trip types, it is possible to identify the ways in which different characteristics affect route choice behavior. These differences can then be reflected in the structure and coefficients of the resulting choice model. It should be noted that the survey sample that supports choice model estimation does not need to be perfectly population proportional as long as:

- Any behavioral differences are properly represented in the model, and
- The model is applied for forecasting using appropriate population proportions and/or sample weights.

The survey instrument was administered in a variety of ways, including:

1. In-person intercepts using laptop computers at various locations along the study corridor (commercial vehicle survey only)
2. Postcard handout invitation to travelers making trips within the study corridor (commercial vehicle and passenger vehicle surveys)
3. E-mail invitations sent to businesses located within the study area (passenger vehicle survey only)
4. E-mail invitations sent to members of an online research panel (passenger vehicle survey only)

RSG began administration on October 20, 2014 and concluded on November 23, 2014. A total of 1,011 passenger vehicle surveys and 302 commercial vehicle surveys were completed during this time. The administration methods and number of complete surveys are presented in **Table 3-1**.

TABLE 3-1: NUMBER OF RESPONSES BY ADMINISTRATION METHOD

Data Source	Completed Surveys	
	Passenger Vehicles	Commercial Vehicles
In-person intercept	277	N/A
Postcard handout	25	365
Online research panel	N/A	344
E-mail invitation to area businesses / organizations	N/A	302
Total	**302**	**1,011**

3.1 | IN-PERSON INTERCEPT

RSG assembled a team that traveled to the Houston area to intercept commercial vehicle drivers and invite them to take the commercial vehicle stated preference survey. The survey was administered at truck stops near the proposed corridor with substantive commercial vehicle traffic and a high incidence of people likely to meet the screening criteria for the survey. Sites were chosen that would allow a cross-section of the population to be intercepted in terms of both trip types and vehicle classification (number of axles). The in-person intercept locations were distributed on the perimeter of the study area, with a concentration of sites located near Baytown and La Porte (**Figure 3-1** and **Table 3-2**).

FIGURE 3-1: MAP OF IN-PERSON INTERCEPT LOCATIONS

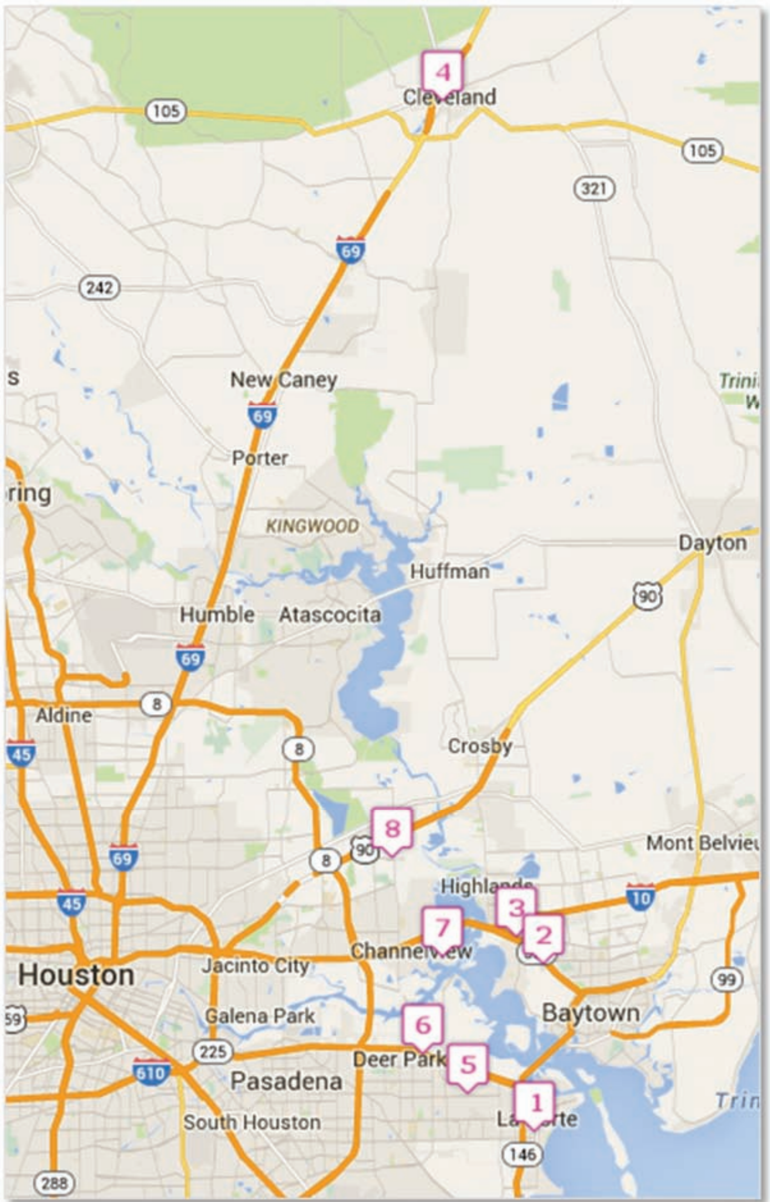


TABLE 3-2: INTERCEPT LOCATIONS

Name and Location	Complete Surveys	Map ID
Lion King, La Porte, TX	79	1
TA, Baytown, TX	71	2
Love's Travel Stop, Baytown, TX	42	3
Love's Travel Stop, Cleveland, TX	29	4
La Porte Travel Plaza, La Porte, TX	26	5
Love's Travel Stop, Deer Park, TX	11	6
Zee's Truck Stop, Channelview, TX	10	7
Sheldon Travel Center, Houston, TX	9	8

RSG began in-person administration on October 27, 2014 and concluded on October 31, 2014. Survey administration consisted of 15 laptop computers distributed across three sites per day. Each site was staffed by three interviewers who were responsible for approaching and screening potential respondents, escorting respondents to interview stations, and assisting them in completing the survey. A framed poster mounted on an easel was positioned near the interview stations to help attract respondents (**Figure 3-2**).

FIGURE 3-2: IN-PERSON INTERCEPT SITE POSTER

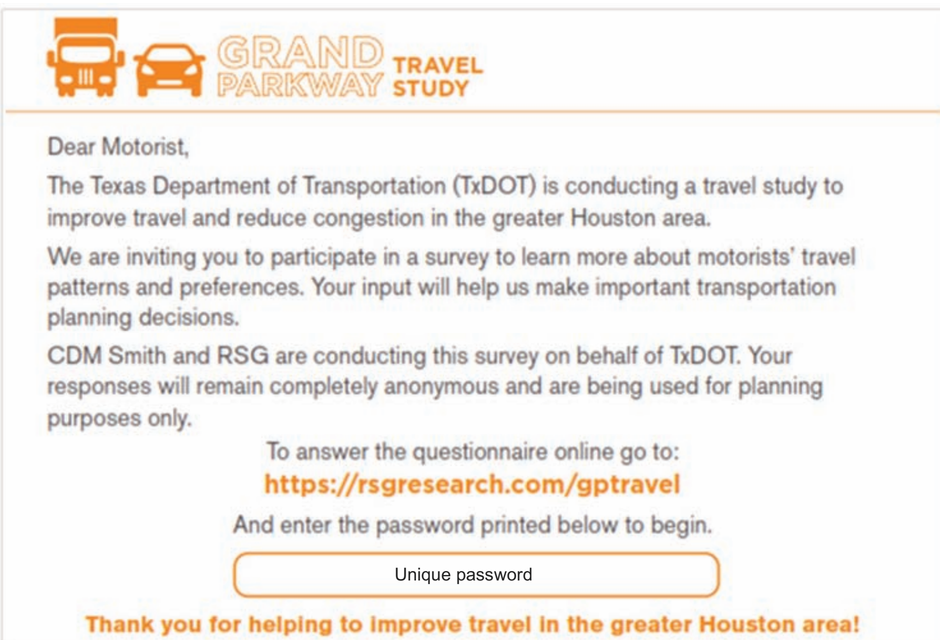
Two-hundred and seventy-seven (277) commercial vehicle drivers completed the stated preference survey through this intercept recruitment method.

3.2 | POSTCARD HANDOUT

RSG provided CDM Smith with a postcard design that included a brief description of the study and instructions on how to participate in the survey including the survey URL and a unique password (**Figure 3-3** and **Figure 3-4**). CDM Smith's subconsultant CJ Hensch and Associates distributed the postcards on October 28, 2014 to both passenger and commercial vehicle drivers. The distribution took place over a period of 12 hours at four intersections along the corridor (**Figure 3-5** and **Table 3-3**).

FIGURE 3-3: POSTCARD HANDOUT: FRONT

FIGURE 3-4: POSTCARD HANDOUT: BACK


GRAND PARKWAY TRAVEL STUDY

Dear Motorist,

The Texas Department of Transportation (TxDOT) is conducting a travel study to improve travel and reduce congestion in the greater Houston area.

We are inviting you to participate in a survey to learn more about motorists' travel patterns and preferences. Your input will help us make important transportation planning decisions.

CDM Smith and RSG are conducting this survey on behalf of TxDOT. Your responses will remain completely anonymous and are being used for planning purposes only.

To answer the questionnaire online go to:

https://rsgresearch.com/gptravel

And enter the password printed below to begin.

Unique password

Thank you for helping to improve travel in the greater Houston area!

FIGURE 3-5: MAP OF POSTCARD HANDOUT LOCATIONS

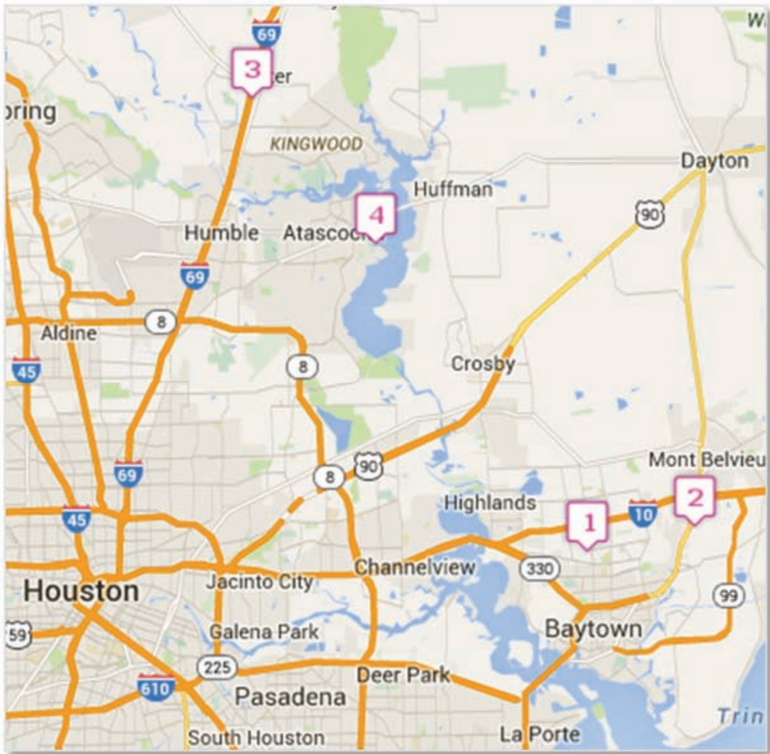


TABLE 3-3: POSTCARD HANDOUT LOCATIONS

Location	Map ID
Northbound lanes of Garth Road South of I-10	1
Northbound lanes of SH 146 South of I-10	2
Eastbound lanes of FM 1314 West of I-69	3
Westbound lanes of FM 1960 Humble Huffman Road at Lake Houston	4

This administration method yielded 25 commercial and 365 passenger vehicle complete surveys.

3.3 | ONLINE RESEARCH PANEL

RSG contracted with Research Now, a firm that maintains an online market research panel, to provide between 300 and 400 complete passenger vehicle responses. Panel members were targeted by ZIP code of residence and qualifying members were sent an e-mail invitation to the stated preference survey that contained a link with a unique identifier. Respondents completed the survey on RSG's server before being redirected back to the panel provider's website. The online panel yielded 344 complete survey responses.

3.4 | AREA BUSINESSES AND ORGANIZATIONS

RSG contacted a number of local businesses and community organizations with the purpose of distributing the survey link to their employees or members. In addition to these businesses and organizations, an e-mail invitation was sent to a list of stakeholders who had provided an e-mail address at a meeting concerning Grand Parkway Segments H and I. A link to the survey was also published on the front page of *The Baytown Sun* on November 18, 2014 (**Figure 3-6**). A list of the number of complete responses by business or organization is provided below in **Table 3-4**. This administration method yielded 302 complete passenger vehicle survey responses.

FIGURE 3-6: COPY OF ARTICLE PRINTED IN *THE BAYTOWN SUN*

TUESDAY, NOVEMBER 18, 2014

The Baytown Sun

Agencies probe fatal plant leak

Redus family awaiting venue ruling where lawsuit will land

Sharing life lessons

San Jacinto Waste Pits

River coalition meets tonight

Actor hopes words continue to resonate

Anahuac refuge receives $4.3 mil in oil spill grants

State seeks input for Grand Parkway

As the Houston region continues to grow both in population and in traffic, the Texas Department of Transportation is working on a third loop around the area – one that will come through Baytown and Mont Belvieu.

To help plan the eastern part of the loop, TxDOT is conducting an online survey to better understand traffic patterns and traveler preferences for people who drive in the area in personal vehicles.

The online survey ends Thursday.

To participate, go to http://tinyurl.com/grandparkwaysurvey.

The survey should take only about 10 minutes to complete. Answers are anonymous and will be analyzed along with other survey responses.

Please complete the survey only once.

TABLE 3-4: NUMBER OF RESPONSES BY PARTICIPATING BUSINESS/ORGANIZATION

Business or Organization	Completed Surveys
E-mail to Stakeholders	88
Lone Star College - Atascocita Center and Kingwood Campus	85
County Clerk, Chambers County	48
Survey link printed in *The Baytown Sun*	37
County Clerk, Liberty County	10
Kings Harbor, Kingwood, TX	10
Sterling Municipal Library	6
Baytown Chamber of Commerce	5
City Manager's Office, The City of Baytown	3
City of Liberty Texas	3
La Porte-Bayshore Chamber of Commerce	3
City of Dayton Texas	1
City of Roman Forest	1
Deerbrook Mall, Humble, TX	1
Lake Houston Area Chamber of Commerce	1
Total	**302**

4.0 SURVEY RESULTS

Summary tabulations and statistics are presented below for select questions for the passenger and commercial vehicle surveys. A complete set of survey tabulations for each question in both surveys can be found in **Appendix B**. Before finalizing data analysis and beginning model estimation work, the data was screened for outliers. This process is outlined below for each survey effort.

4.1 | IDENTIFICATION OF OUTLIERS

The data were screened to ensure that all observations included in the data analysis and model estimation represented realistic trips and reasonable trade-offs in the stated preference exercises. Several variables were used for screening purposes, including an examination of total survey duration, stated preference duration, and inconsistent or irrational choice behavior.

After reviewing these variables and the effects that extreme values had on the model results, it was determined that respondents who met the following conditions should be excluded from the final analysis. Please note that the categories listed are *not* mutually exclusive.

PASSENGER VEHICLE SURVEY OUTLIERS

One-thousand and eleven (1,011) respondents completed the passenger vehicle survey during the data collection phase of the project. The number of records was reduced after completing the data checks and outlier analysis described below. Based on this analysis, 972 respondents (9,720 observations) were included in the final passenger vehicle dataset and used to estimate the models presented in this report in **Section 5.0**.

- Respondents demonstrating inconsistent or irrational choice behavior in the stated preference exercises. For example, respondents who established a certain dollar amount for willingness to pay for time savings and then rejected paying less money for equal or more time savings (14 responses)
- Respondents who completed the entire survey in less than six minutes (12 responses)
- Respondents whose reported travel time was more than four hours (9 responses)
- Respondents whose origin and destination coordinates implied their trip could not make reasonable use of Grand Parkway Segments H or I for their reference trip (4 responses)
- Respondents whose implied speed for their trip was greater than 200 mph or less than 1 mph (4 responses)
- Respondents who reported an unreasonable total toll paid (one response).

COMMERCIAL VEHICLE SURVEY OUTLIERS

Three-hundred and two (302) respondents completed the commercial vehicle survey during the data collection phase of the project. The number of records was reduced after completing the data checks and outlier analysis described below. Based on this analysis, 246 respondents (2,460 observations) were used in the analysis of the commercial vehicle survey data and the estimation of the models presented in this report in **Section 5.0**.

- Respondents operating a vehicle with two-axles (18 responses)
- Respondents whose origin and destination coordinates implied their trip could not make reasonable use of Grand Parkway Segments H or I for their reference trip (17 responses)
- Respondents whose implied speed for their trip was greater than 200 mph or less than 1 mph (10 responses)
- Respondents demonstrating inconsistent or irrational choice behavior in the stated preference exercises. For example, respondents who established a certain dollar amount for willingness to pay for time savings and then rejected paying less money for equal or more time savings (7 responses)
- Respondents who completed the stated preference section of the survey in less than 20 seconds, or less than two seconds per question (one response).

4.2 | PASSENGER VEHICLE SURVEY RESULTS

The descriptive analysis of the data presented in this section of the report is based on the 972 respondents who were included in the model estimation and is provided in four sections: trip detail, stated preference, debrief and opinion, and demographic questions.

For the purposes of statistical modeling, respondents were grouped into two segments, peak and off-peak trips (all weekday trips) as defined below:

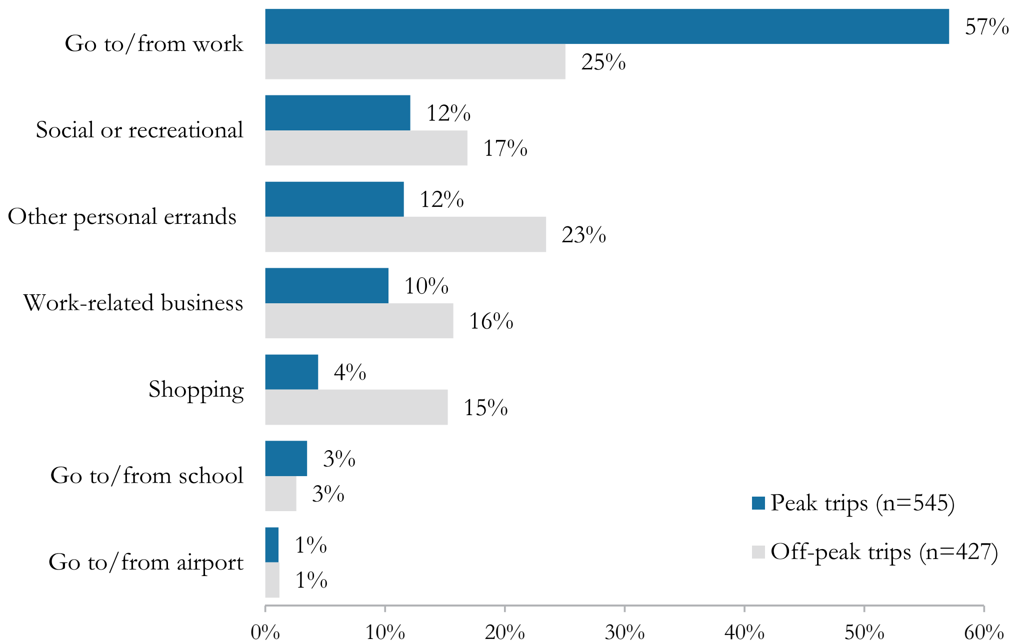
1. Peak period trips (6:00 AM to 8:59 AM or 3:00 PM to 6:59 PM) – 545 respondents (56%)
2. Off-peak period trips (9:00 AM to 2:59 PM or 7:00 PM to 5:59 AM) – 427 respondents (44%)

Many of the passenger vehicle tabulations presented in the remainder of this report and in the appendices are segmented by these categories.

TRIP DETAIL QUESTIONS

At the beginning of the trip characteristic section, respondents were asked about their most recent trip in the study area of Segments H and I of the Grand Parkway (**Figure 2-3**). Forty-three percent of respondents in the aggregate reported a commute trip to/from work, 17% reported a personal errand, 14% reported a social or recreation trip, and 13% reported a business-related trip. There were slight differences in trip purpose by trip departure time, specifically commute or business-related trips. Over one-half (57%) of peak trips were commute trips compared to 25% of off-peak trips. Conversely, 16% of off-peak trips were work-related business trips compared to 10% of peak trips (**Figure 4-1**).

FIGURE 4-1: PASSENGER VEHICLE SURVEY: PRIMARY TRIP PURPOSE BY SEGMENT



A significant majority (84%) of all trips began at home. The most commonly reported trip originated at home and ended at a location other than home or work. This particular trip type categorized 43% of all responses. Over half (54%) of off-peak trips began at home and ended at a location other than home or work, whereas half (50%) of peak trips began at home and ended at work.

The latitude and longitude coordinates for each trip origin-destination pair were used to calculate the trip distance and expected trip travel times using a Google Maps route planning algorithm. Mean and median trip distances, as well as respondent-reported travel times by segment, are displayed in **Table 4-1**. Overall, there are only slight differences between segments, and peak trips tended to be shorter in distance.

TABLE 4-1: PASSENGER VEHICLE SURVEY: TRIP TRAVEL TIME AND DISTANCE BY SEGMENT

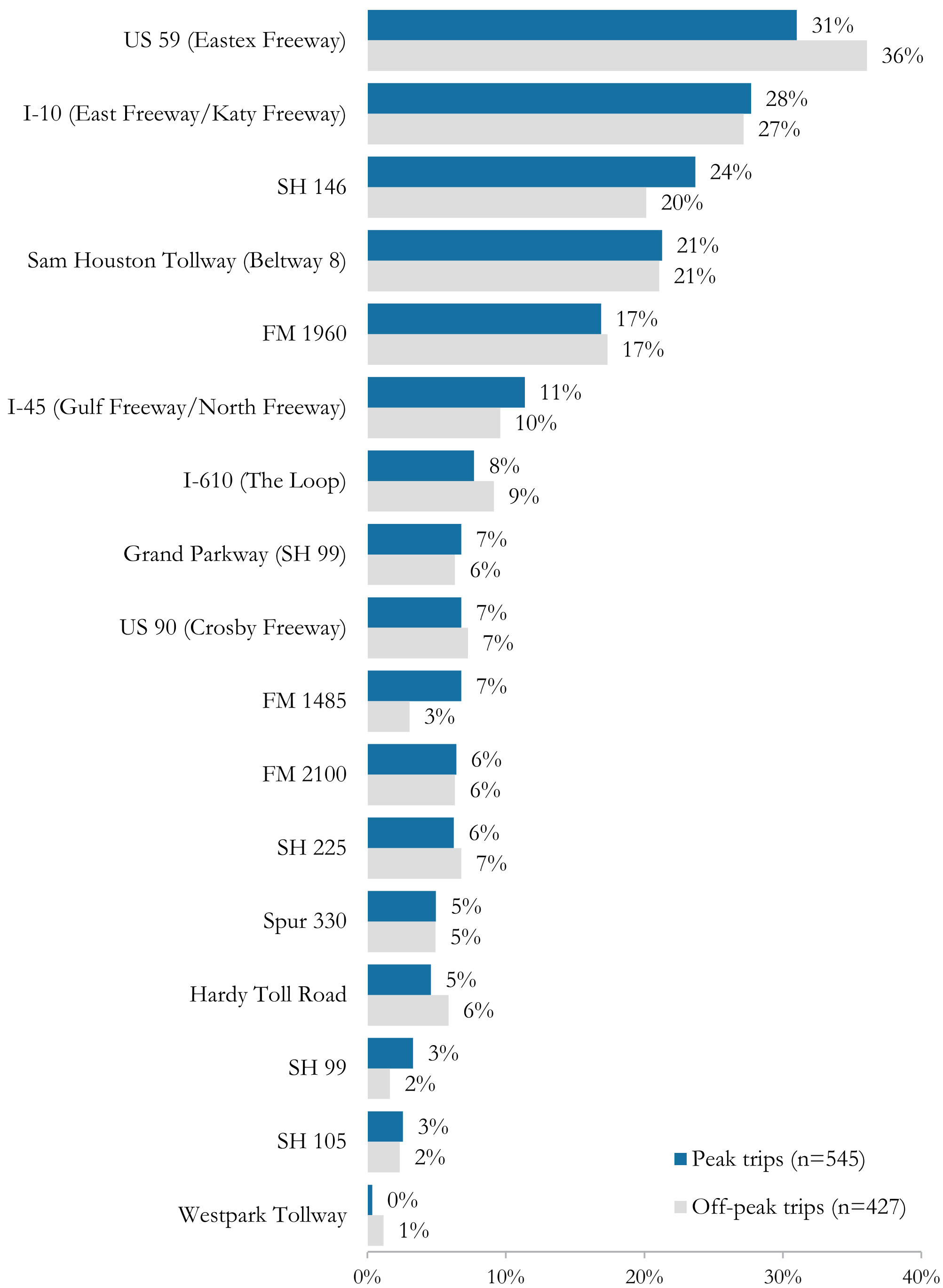
Market Segment	Reported trip travel time (minutes)		Trip distance (miles)	
	Mean	Median	Mean	Median
Peak trips	50.1	45.0	26.4	23.0
Off-peak trips	53.0	45.0	28.6	23.3

Over one-half (52%) of surveyed travelers reported delay due to traffic congestion. Fifty-nine percent of peak period travelers experienced delay, while 44% of off-peak period travelers experienced delay. Peak period travelers reported experiencing slightly more delay; however, the differences between segments are slight.

Respondents were asked to identify which road(s) they used during their trip. US 59 (Eastex Freeway) was selected over 30% of the time for both peak and off-peak travelers and I-10 (East Freeway/Katy Freeway) was selected over 25% of the time by both segments. Over one-fourth of both peak and off-peak travelers

(28% and 27% respectively) reported that they did not use any of the roads listed. The percentage of respondents who reported using each of the major roads in the greater Houston area is shown in **Figure 4-2**.

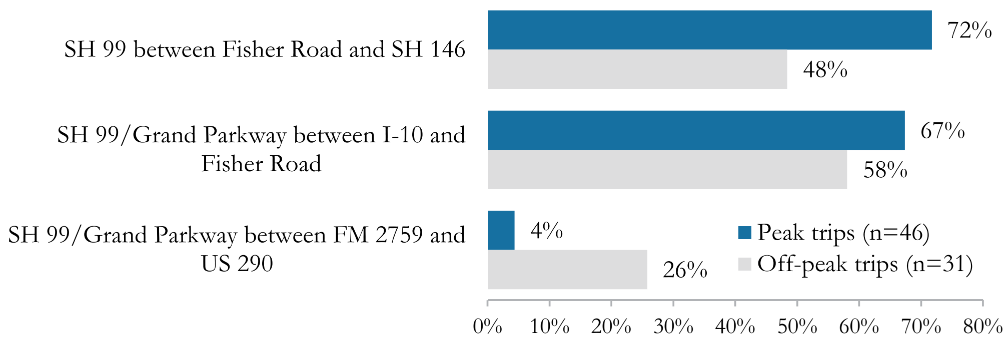
FIGURE 4-2: PASSENGER VEHICLE SURVEY: ROADS USED BY SEGMENT (SELECT ALL THAT APPLY[2])



[2] Select all that apply. Total sums to more than 100%.

If a respondent indicated they used SH 99 or Grand Parkway during their trip, they were asked to identify which section(s) of SH 99/Grand Parkway they used **Figure 4-3**.

FIGURE 4-3: PASSENGER VEHICLE SURVEY: SECTION(S) OF SH 99/GRAND PARKWAY USED BY SEGMENT (SELECT ALL THAT APPLY[3])



Almost one-quarter (24%) of respondents reported paying a toll on their trip. The majority (57% of 230 respondents) of those who did pay a toll paid less than $3.00 during their trip. A further 31% paid between $3.00 and $4.49.

Two-thirds of the aggregate sample reported owning an electronic toll transponder; 67% of peak travelers and 65% of off-peak travelers reported owning an EZ TAG, TxTag, TollTag, METRO HOT Lanes Toll Tag, or another type of transponder.

Peak trips had a mean occupancy of 1.38 with over one-quarter (26%) of respondents traveling in a high occupancy vehicle (HOV) with two or more occupants. Off-peak trips had a mean occupancy of 1.56 and almost one-third (30%) of respondents traveled in an HOV with two or more occupants.

STATED PREFERENCE QUESTIONS

Passenger vehicle survey respondents chose the current route alternative in approximately 74% of stated preference scenarios and the Grand Parkway extension alternative in 26% of scenarios (**Table 4-2**). This is true for both peak and off-peak trips.

TABLE 4-2: PASSENGER VEHICLE SURVEY: STATED PREFERENCE SELECTION BY AVAILABILITY

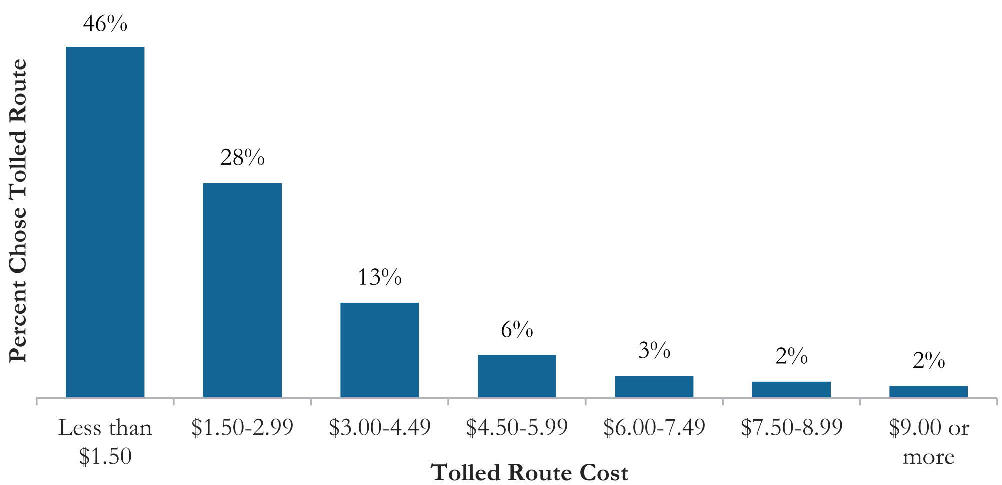
Alternative	Number of Experiments Shown	Number of Experiments Selected	Percent Selected
Alternative 1: Current Route	9,720	7,208	74%
Alternative 2: Grand Parkway extension	9,720	2,512	26%

Generally, respondents were less likely to choose the Grand Parkway extension alternative as the toll cost increased. **Figure 4-4** presents the percentage of time the Grand Parkway extension was chosen in the stated preference experiments at different toll rates. Because each respondent was presented with ten questions, the total number of choice observations is 9,720. The tolled alternative was selected 46% of the time when it was

[3] Select all that apply. Total sums to more than 100%.

less than $1.50. Analysis of the stated preference data will be described in more detail in the Model Estimation section of this report.

FIGURE 4-4: PASSENGER VEHICLE SURVEY: PERCENT OF TIME GRAND PARKWAY ALTERNATIVE SELECTED BY TOLL COST

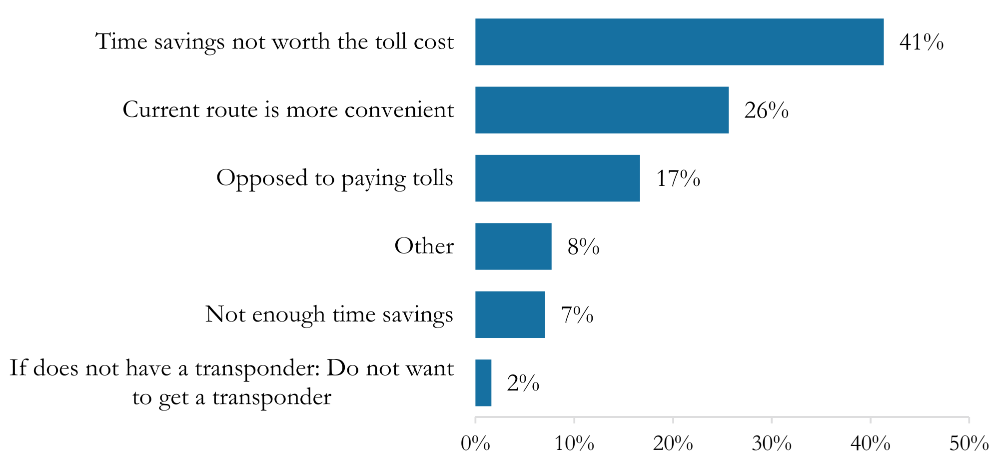


DEBRIEF AND OPINION QUESTIONS

Upon completing the stated preference experiments, respondents were asked to answer a series of debrief questions to better understand the underlying reasons for their choices in the eight stated preference questions.

If a respondent never chose the Grand Parkway extension alternative in the stated preference scenarios, they were asked to indicate their primary reason. The option most frequently cited (41% of 312 respondents who never selected the tolled alternative) was that the time savings presented in the experiments was not high enough to justify the toll cost (**Figure 4-5**).

FIGURE 4-5: PASSENGER VEHICLE SURVEY: PRIMARY REASON FOR NOT SELECTING TOLLED ROUTE ALTERNATIVE



Over half of both peak and off-peak respondents were in favor of the Grand Parkway extension, and less than 20% of these respondents opposed the project. Of those peak travelers who favored the project, the most frequently cited reason for favoring the project was less congestion (44% of 302 respondents). Of the off-peak travelers who favored the project, the most frequently cited reason for favoring the project was faster travel times that would be offered by the new road (40% of 218 respondents). The reasons for favoring and opposing the project are shown in **Figure 4-6** and **Figure 4-7**, respectively.

FIGURE 4-6: PASSENGER VEHICLE SURVEY: PRIMARY REASON FOR FAVORING GRAND PARKWAY EXTENSION BY SEGMENT

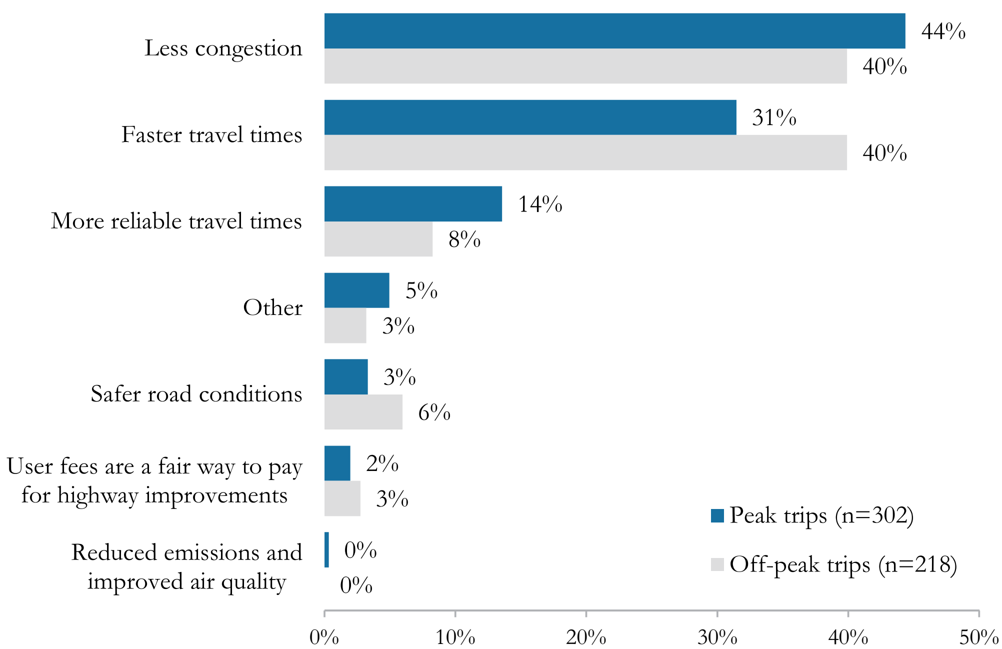
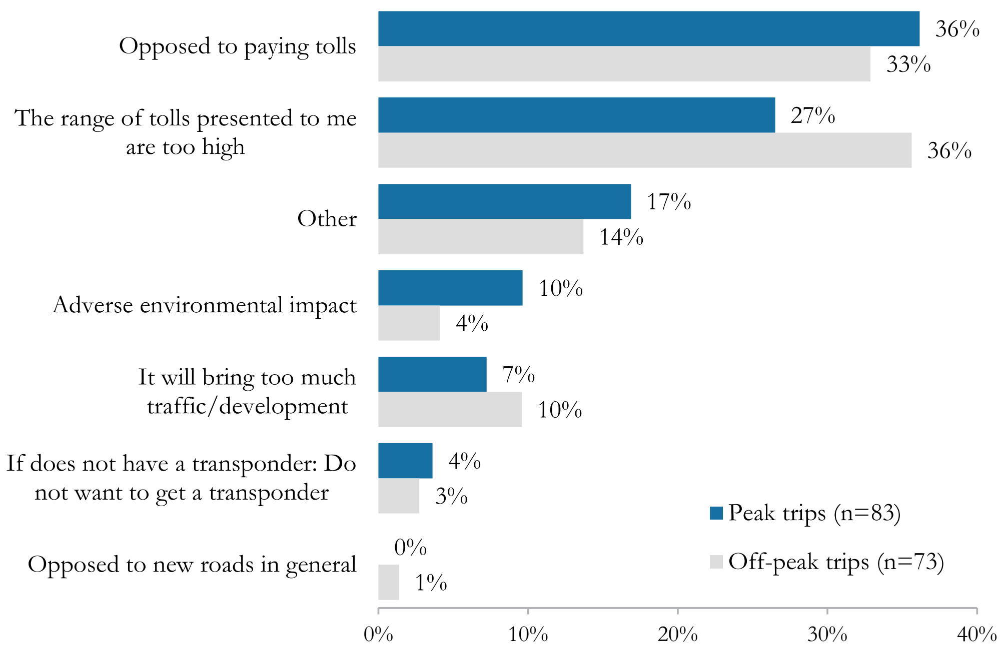


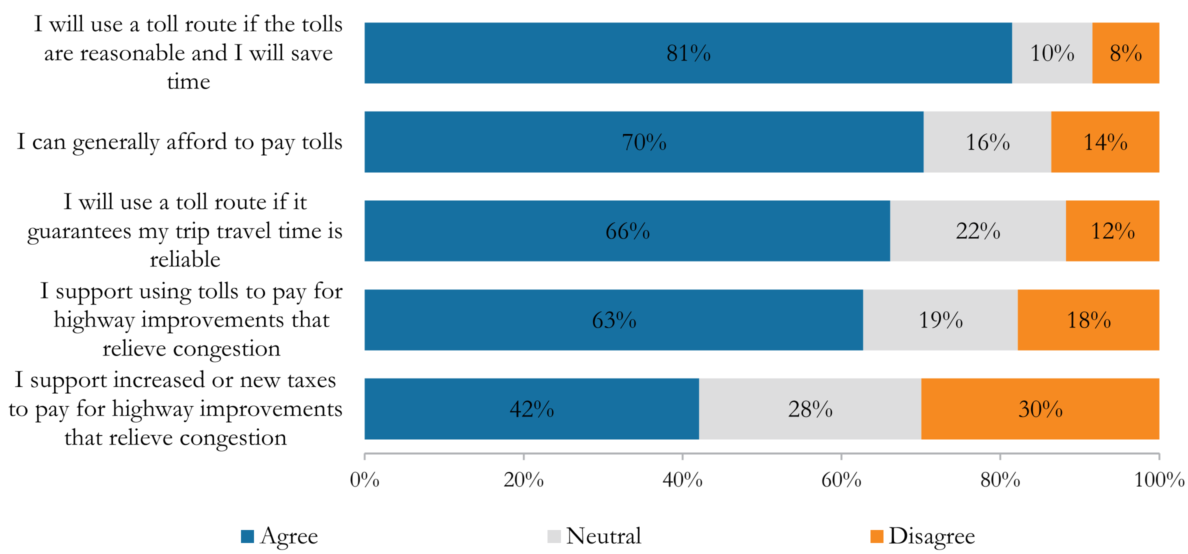
FIGURE 4-7: PASSENGER VEHICLE SURVEY: PRIMARY REASON FOR OPPOSING GRAND PARKWAY EXTENSION BY SEGMENT



Respondents who own an ETC transponder are more likely than non-owners to favor the proposed Grand Parkway extension project (62% of transponder owners strongly in favor or somewhat in favor of the project versus 37% of the owners without transponders). Of those who reported that they do not own a transponder and did not choose a tolled route alternative in the stated preference section (153 respondents), only 14% indicated that they would be more likely to use the Grand Parkway extension if video tolling was offered as a form of payment.

When presented with a series of questions regarding their attitudes concerning tolls, respondents were most likely to agree that they will use a toll route if the tolls are reasonable and that they will save time. Conversely, respondents were most unlikely to support increased or new taxes to pay for highway improvements (**Figure 4-8**).

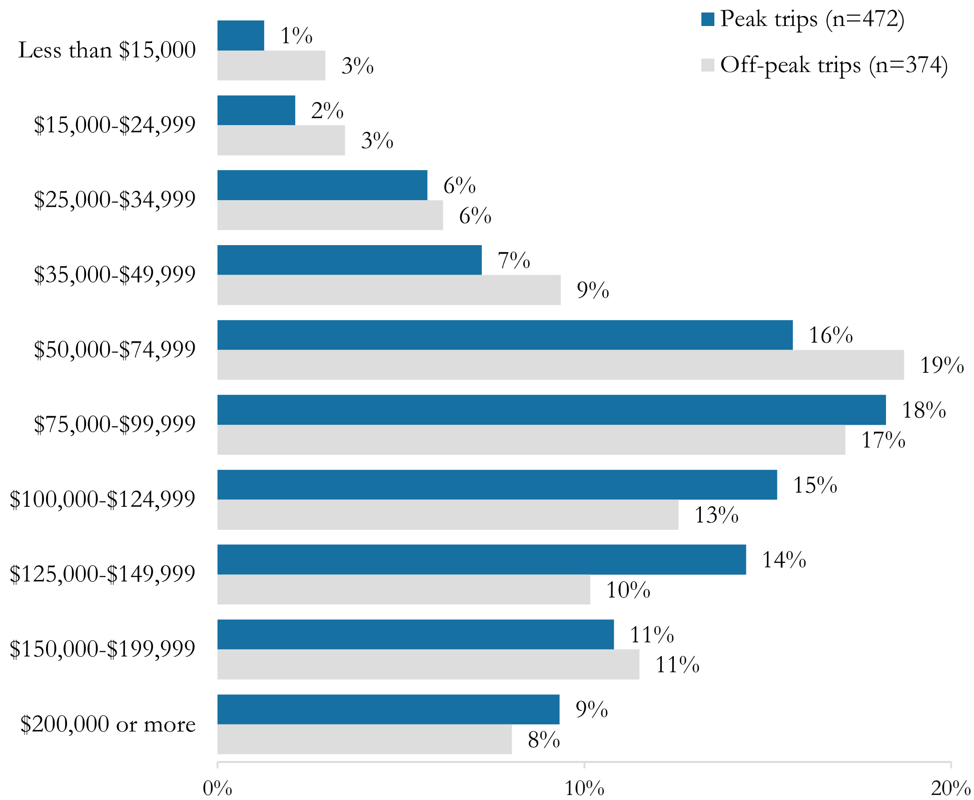
FIGURE 4-8: PASSENGER VEHICLE SURVEY: ATTITUDE STATEMENTS



DEMOGRAPHIC QUESTIONS

Of the 972 passenger vehicle respondents, slightly over half were female (54%), and the median age of the sample fell in the 45-54 year old category. Forty percent of respondents live in a two-person household (the most commonly-selected category) and 48% of all respondents have two household vehicles. A majority of respondents (63%) are employed full-time, while 6% reported self-employment, and only 2% reported that they are not currently employed. When reporting income, respondents had the option of selecting a 'prefer not to answer' option. The median household income of all respondents who chose to report their income (846 respondents) is in the $75,000-$99,999 income category for the aggregate sample as well as the market segments (**Figure 4-9**).

FIGURE 4-9: PASSENGER VEHICLE SURVEY: ANNUAL HOUSEHOLD INCOME BY SEGMENT



4.3 | COMMERCIAL VEHICLE SURVEY RESULTS

The descriptive analysis of the commercial vehicle survey data presented in this section of the report is based on the 246 respondents who were included in the model estimation and is provided in four sections: trip detail, stated preference, debrief and opinion, and demographic questions.

TRIP DETAIL QUESTIONS

Forty-four percent of all commercial vehicle respondents are owner-operators and a further 40% are fleet drivers. A majority (80%) made their own routing decisions, while only 17% made some, but not all routing decisions.

The trip detail section defined the respondent's trip as the one-way trip from one commercial stop to another. Respondents were asked to provide the beginning and end locations for their one-way trip. The most frequently reported trip was a trip that originated and ended in Texas (55%), while the second most frequent trip was from outside of Texas to Texas (28%). Only one respondent reported a trip that originated outside of the U.S. (Canada) and no trip ended outside of the U.S. (**Table 4-3**).

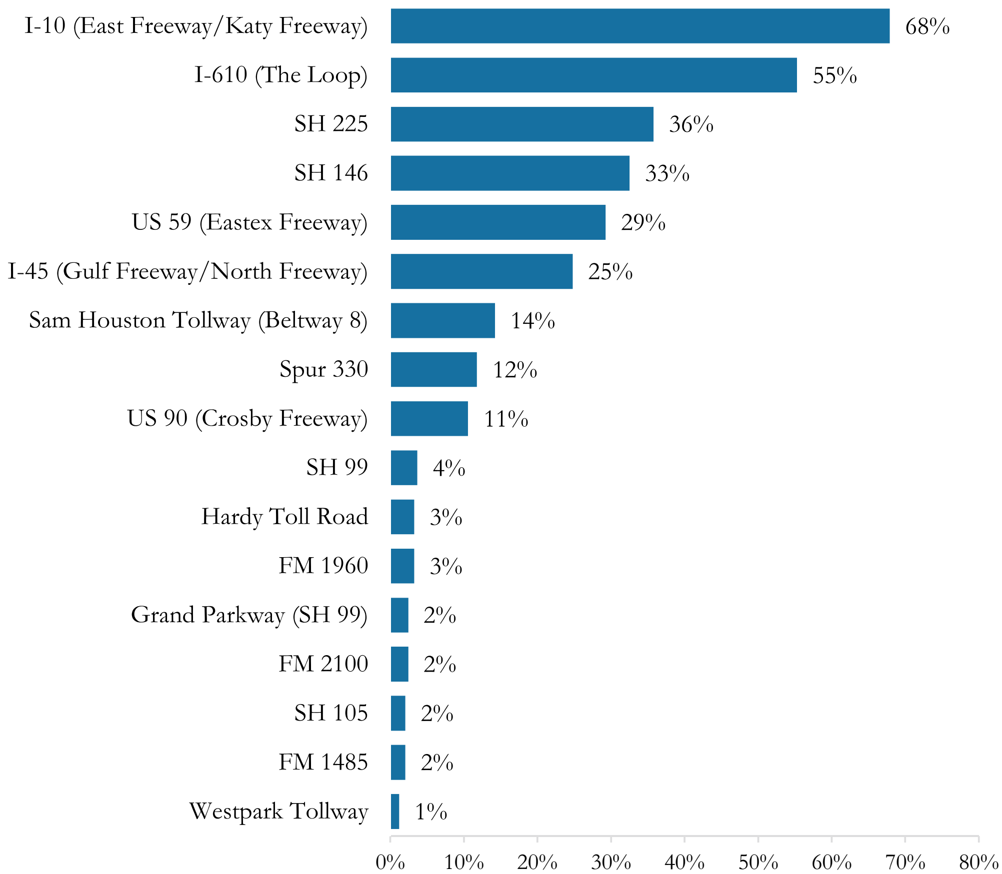
TABLE 4-3: COMMERCIAL VEHICLE SURVEY: ORIGIN AND DESTINATION LOCATIONS

		Origin		
		Texas	Outside of Texas	**Total**
Destination	Texas	55%	28%	**84%**
	Outside of Texas	16%	0%	**16%**
	Total	**71%**	**28%**	**100%**

Thirty-five percent of trips were multiday trips, which were typically two or three days in length (86% of 85 respondents). Forty-six percent of all trips were at least 500 miles in total length and over half (55%) of all trips were at least six hours in total travel time. Additionally, over half (55%) of all trips were made at least once a week.

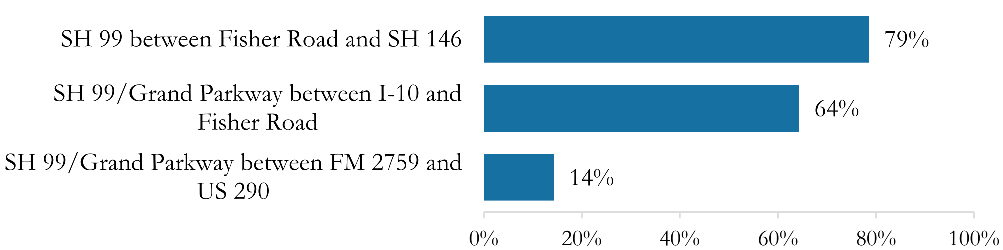
Respondents were asked to identify the road(s) that they used during their trip. I-10 (East Freeway/Katy Freeway) was selected over two-thirds (68%) of the time. Additionally, over one-half (55%) of all respondents reported using I-610 (The Loop) and over one-third of all respondents used SH 225 or SH 146 (36% or 34% respectively). The percentage of respondents who reported using each of the major roads in the greater Houston area is shown in **Figure 4-10**.

FIGURE 4-10: COMMERCIAL VEHICLE SURVEY: ROADS USED (SELECT ALL THAT APPLY[4])



Respondents who indicated they used SH 99 or the Grand Parkway (16 respondents or seven percent) during their trip were asked to identify which section(s) of SH 99/Grand Parkway they used. Eighty-one percent (13 respondents) of all respondents who used SH 99/Grand Parkway indicated that they used SH 99 between Fisher Road and SH 146; a further 69% (eleven respondents) used the existing I-2A segment (**Figure 4-11)**.

FIGURE 4-11: COMMERCIAL VEHICLE SURVEY: SECTION(S) OF SH 99/GRAND PARKWAY USED (SELECT ALL THAT APPLY[5])



[4] Select all that apply. Total sums to more than 100%.
[5] Select all that apply. Total sums to more than 100%.

To conclude this section, respondents were asked if they paid a toll during their trip. Almost one-quarter (22%) reported having paid a toll. Additionally, thirty-five percent of respondents' vehicles were equipped with an ETC transponder (e.g. EZ Tag, TxTag, TollTag, or another type of transponder).

STATED PREFERENCE QUESTIONS

After completing the trip detail portion of the survey, respondents answered ten stated preference tradeoff exercises, each tailored to their reported trip. Overall, respondents were far more likely to choose the toll-free alternative—83% of the total 2,460 choices made (**Table 4-4**). Analysis of the stated preference data will be described in more detail in the **Section 5.0**.

TABLE 4-4: COMMERCIAL VEHICLE SURVEY: STATED PREFERENCE CHOICE BY CHOICE AVAILABILITY

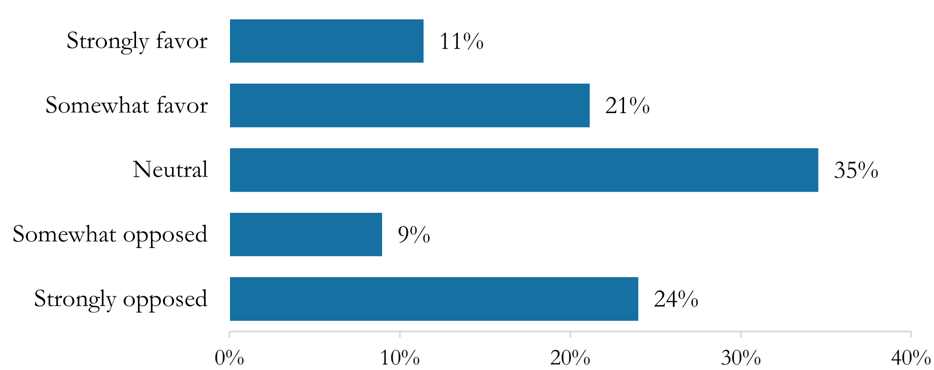
Alternative	Number of Experiments Shown	Number of Experiments Selected	Percent Selected
Alternative 1: Current Route	2,460	2,032	83%
Alternative 2: Grand Parkway extension	2,460	428	17%

DEBRIEF AND OPINION QUESTIONS

After completing the stated preference tradeoff exercises, respondents were asked to answer a set of debrief questions aimed at better understanding the reasoning behind their choices. First, the 121 respondents (49% of the sample) who never chose the Grand Parkway extension alternative were asked to provide an explanation, and 40% indicated that the time savings shown was not worth the toll cost as their primary reason. A further 35% indicated that they are opposed to paying tolls as their primary reason.

Next, respondents provided their opinion of the tolling of Grand Parkway extension. Respondents were almost split evenly between favoring, being neutral toward, or opposing (33%, 35%, and 33% respectively) the project as shown in **Figure 4-12**.

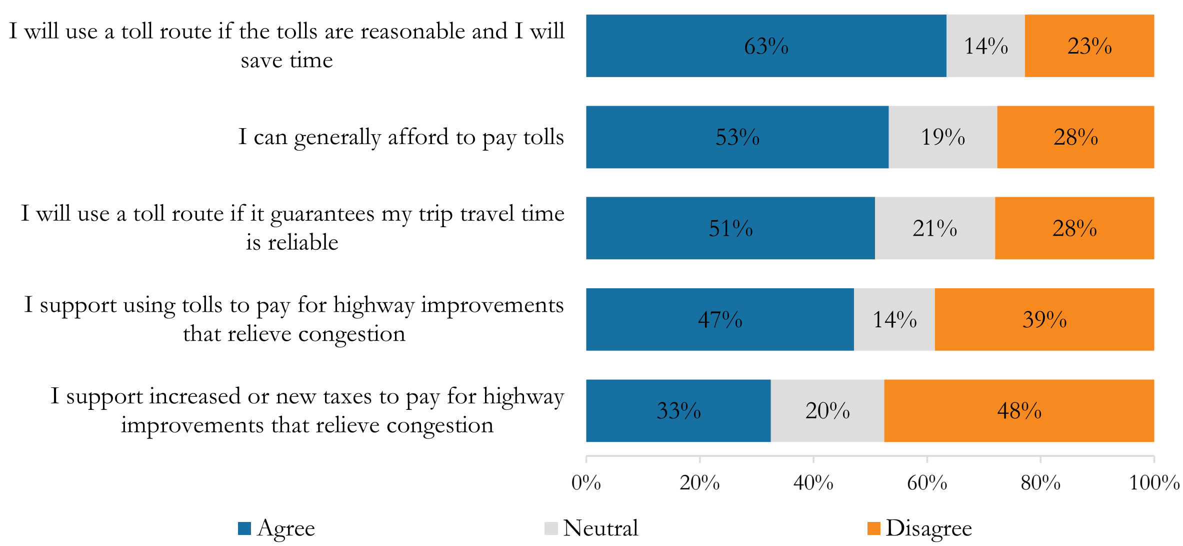
FIGURE 4-12: COMMERCIAL VEHICLE SURVEY: OPINION OF PROPOSED GRAND PARKWAY EXTENSION



The most common reason for favoring the Grand Parkway extension was 'faster travel times' and 'less congestion' (40% and 39% respectively). Almost two-thirds (63%) who opposed the tolling cited general opposition to paying tolls as the primary reason.

Finally, when presented with a series of questions regarding their attitudes concerning tolls, respondents were most likely to indicate that they would use a toll route if the tolls are reasonable and they will save time. Conversely, respondents were most likely to disagree to supporting increased or new taxes to pay for highway improvements (**Figure 4-13**).

FIGURE 4-13: COMMERCIAL VEHICLE SURVEY: ATTITUDE STATEMENTS



COMPANY INFORMATION QUESTIONS

The last section of the commercial vehicle survey collected company information. Fifty-three percent of travelers indicated that their company's base of operations is located in Texas and an additional 46% have bases outside of Texas, but within the U.S. Respondents were asked to provide an estimate of average company trip length. Typical company trip length was at least 500 miles for 58% of the sample.

Respondents reported how much flexibility they have in their delivery schedule. Three-quarters reported having a flexible delivery schedule with over one-third (38%) of those respondents reporting having six or more hours of flexibility. Finally, respondents reported how toll costs, if incurred, are paid. Forty-five percent reported that they pay tolls out of pocket, while 36% reported their company pays tolls directly or they are reimbursed by their company for tolls. The remaining 19% percent of respondents reported never using toll roads.

5.0 MODEL ESTIMATION

The primary objective of the SP survey was to estimate the values of time (VOT) for passenger and commercial vehicle travelers who make trips in the proposed corridor of the Grand Parkway Segments H and I. These VOT estimates will support estimates of traffic and revenue for the proposed project. The ten choice observations for each respondent were compiled into a dataset with a total of 9,720 passenger vehicle observations and 2,460 commercial vehicle observations to support the estimations of VOT.

5.1 | PASSENGER VEHICLE SURVEY MODEL ESTIMATION

METHODOLOGY

Statistical analysis and discrete choice model estimation were carried out using the stated preference survey data. The statistical estimation and specification testing were completed using a conventional maximum likelihood procedure that estimated coefficients for a set of multinomial logit (MNL) and Mixed Multinomial Logit (MMNL) models. The model coefficients provide information about the respondents' sensitivities to the attributes that were tested in the tradeoff scenarios and can be used to calculate VOT for travelers in the study area.

It is expected that both systematic (deterministic) and random preference differences will exist in a choice data set. This analysis combined the use of multinomial logit models with mixed multinomial logit models. The MNL models were used to identify systematic differences in preference heterogeneity—for example the difference in value of time by trip purpose or time-of-day.

In addition to systematic heterogeneity, there are also random differences in preference heterogeneity within a population. In other words, there are actual random variations of preference among the same set of individuals that cannot be accounted for in any systematic way. One of the key benefits of the MMNL model is that it allows for random variations among respondents by assuming their sensitivities to travel time and/or toll cost fall along a known distribution. The MMNL model provides a mean estimate for the value of time and the standard deviation of that estimate. This information can be used to simulate VOT distributions for the sample. This information is used to establish the proportion of traffic that will choose a toll route at any given combination of travel time savings and toll cost amounts. The model results are discussed in more detail below.

MULTINOMIAL LOGIT (MNL) MODEL

MNL Model: Specification

In each passenger vehicle stated preference scenario, the following two alternatives were presented for making a future trip in the area:

1. Current route
2. Grand Parkway extension

More information about the stated preference experimental design can be found in **Section 2.1** above. The multinomial logit model estimates a choice probability for each alternative presented in the stated preference tradeoff exercises. The alternatives are represented in the model by observed utility equations of the form:

$$U_1 = \beta_1 X_1 + \beta_2 X_2 \ldots + \beta_n X_n$$

Where each X represents a variable specified by the researcher and each β is a coefficient estimated by the model that represents the sensitivity of the respondents in the sample to the corresponding variable.

Several utility equation structures were tested using different variables from the collected data. In addition to the travel times and toll costs presented in the SP experiments, tested variables included trip characteristics, attitudinal indicators, and demographic variables. These variables were introduced, one at a time, to test potential interactions with the toll cost and travel time coefficients and to determine whether respondents' trip or personal characteristics significantly influenced their choices in the stated preference scenarios. Interaction variables include:

- Time of day
- Trip purpose
- Opinion
- Income
- Trip distance
- Delay
- Data source
- ETC ownership

After reviewing the significance of each variable, the final model specification was chosen based on model fit, the intuitiveness and reasonableness of the model coefficients, and the expected application of the model results. The final model specification includes variables for travel time and toll cost by market segment, peak or off-peak.

1. Peak period trips (6:00 AM to 8:59 AM or 3:00 PM to 6:59 PM) – 5,450 observations
2. Off-peak period trips (9:00 AM to 2:59 PM or 7:00 PM to 5:59 AM) – 4,270 observations

The toll cost coefficient was interacted with household income to identify the relationship between household income and sensitivity to toll prices. An alternative-specific constant is included on the Grand Parkway extension alternative to capture the utility (or disutility) for the alternative that cannot be attributed to any other variables in the model. Additionally, to capture the effects of a respondent's opinion of the Grand Parkway extension, dummy (binary) variables were included on the Grand Parkway extension alternative for those who are somewhat or strongly in favor of the extension and for those who are somewhat or strongly opposed to the extension.

MNL Model: Coefficient Estimates

The results of the final model specifications are presented below and include coefficients for the aggregate sample and peak and off-peak travelers. **Table 5-1** and **Table 5-2** contain coefficient values, robust standard errors, robust t-statistics, and general model statistics.

The coefficient values are the values estimated by the choice model that represent the relative importance of each of the variables. It should be noted that these values are unit-specific and the units must be accounted for when comparing coefficients. The sign of the coefficient indicates a positive or negative relationship between utility and the associated variable. For example, a negative travel time coefficient implies that utility for a given travel alternative will decrease as the travel time associated with that alternative increases.

The standard error is a measure of error around the mean coefficient estimate. The t-statistic is the coefficient estimate divided by the standard error, which can be used to evaluate statistical significance. A t-statistic greater/less than ±1.96 indicates that the coefficient is statistically significantly different from 0 (unless otherwise reported) at the 95% level.

The model fit statistics presented below include the number of observations, the number of estimated parameters, the initial log-likelihood, the log-likelihood at convergence, rho-squared, and adjusted rho-squared. The log-likelihood is a model fit measure that indicates how well the model predicts the choices observed in the data. The null log-likelihood is the measure of the model fit with coefficient values of zero. The final log-likelihood is the measure of model fit with the final coefficient values at model convergence. A value closer to zero indicates better model fit. The log-likelihood cannot be evaluated independently, as it is a function of the number of observations, the number of alternatives, and the number of parameters in the choice model. The rho-square model fit measure accounts for this to some degree by evaluating the difference between the null log-likelihood and the final log-likelihood at convergence. The adjusted rho-square value takes into account the number of parameters estimated in the model.

TABLE 5-1: PASSENGER VEHICLE MULTINOMIAL LOGIT MODEL: AGGREGATE COEFFICIENTS

Coefficient	Units	Value	Robust Std. Error	Robust t-stat
Travel Time	Minutes	-0.125	0.006	-20.10
Toll Cost*	Dollars	-4.17	0.254	-11.41
Constants				
Grand Parkway extension	(0,1)	-1.90	0.131	-14.53
Favor Grand Parkway extension	(0,1)	1.52	0.123	12.33
Oppose Grand Parkway extension	(0,1)	-0.762	0.181	-4.21

**The toll cost variable enters the model in the form: Toll Cost * (LN(Income Midpoint/100)).*

Model Statistics	
Number of estimated parameters	5
Number of observations	9720
Number of individuals	972
Null log-likelihood	-6737.39
Final log-likelihood	-4171.51
Rho-square	0.381
Adjusted rho-square	0.380

TABLE 5-2: PASSENGER VEHICLE MULTINOMIAL MODEL: SEGMENTED (PEAK / OFF-PEAK) COEFFICIENTS

Coefficient	Units	Value	Robust Std. Error	Robust t-stat
Travel Time				
Peak (6-8:59 AM or 3-6:59 PM)	Minutes	-0.131	0.009	-14.75
Off-peak (all other times)	Minutes	-0.119	0.008	-14.52
Toll Cost*				
Peak (6-8:59 AM or 3-6:59 PM)	Dollars	-4.50	0.391	-11.51
Off-peak (all other times)	Dollars	-3.82	0.318	-12.01
Constants				
Grand Parkway extension	(0,1)	-1.90	0.131	-14.53
Favor Grand Parkway extension	(0,1)	1.52	0.123	12.33
Oppose Grand Parkway extension	(0,1)	-0.763	0.182	-4.2

**The toll cost variable enters the model in the form: Toll Cost * (LN(Income Midpoint/100)).*

Model Statistics	
Number of estimated parameters	7
Number of observations	9720
Number of individuals	972
Null log-likelihood	-6737.39
Final log-likelihood	-4166.46
Rho-square	0.382
Adjusted rho-square	0.381

MNL Model: Willingness to Pay for Travel Time Savings (Value of Time)

One way to evaluate the sensitivities that are estimated in the MNL models is to calculate the marginal rates of substitution for different attributes of interest. In economic theory, the marginal rate of substitution is the amount of one good (e.g., money) that a person would exchange for a second good (e.g., travel time), while maintaining the same level of utility, or satisfaction. In this analysis, the marginal rate of substitution of the travel time and toll cost coefficients provides the implied toll value that travelers would be willing to pay for a given amount of travel time savings offered by using the Grand Parkway extension compared to a respondent's current route.

The willingness to pay for travel time savings, or value of time, can be calculated by simply dividing the travel time coefficient by the toll cost coefficient after accounting for the income transformation that was applied in the model specification. The resulting value of time is in units of dollars per minute; multiplying by 60 will convert this into the more commonly cited units of dollars per hour:

$$VOT = 60 \times \frac{\beta Time}{\left[\frac{\beta Cost}{LN(income/100)}\right]}$$

Where βTime is the value of the travel time coefficient (with units of 1/min), βCost is the value of the toll cost coefficient (with units of 1/$), and the log transformation controls for non-linear income effects.

The values of time evaluated at each income category midpoint by segment are shown below in **Table 5-3**.

TABLE 5-3: PASSENGER VEHICLE MULTINOMIAL LOGIT MODEL: VALUES OF TIME BY SEGMENT AND INCOME

Household Income	Segment		
	Aggregate	Peak	Off-peak
$15,000	$9.01	$8.75	$9.37
$20,000	$9.53	$9.25	$9.90
$30,000	$10.26	$9.96	$10.66
$42,500	$10.89	$10.57	$11.31
$62,500	$11.58	$11.24	$12.03
***$87,500**	$12.18	$11.83	$12.66
$112,500	$12.64	$12.27	$13.13
$137,500	$13.00	$12.62	$13.51
$175,000	$13.43	$13.04	$13.96
$225,000	$13.88	$13.48	$14.43
$250,000	$14.07	$13.67	$14.62

**Median household income midpoint for all segments.*

The trend seen in the difference between peak and off-peak value of time, in particular where off-peak is higher than peak, has been observed in several other SP studies. These studies have observed that travelers may value leisure time more than work time, especially given the growing flexibility experienced in many workplace environments, including the ability to work remotely and flexible business hours. Furthermore, several studies have also shown that respondents have more willingness to pay tolls for infrequent trips and may be taking into account the cumulative nature of frequent trips and the overall impact on household budgets. Several recent studies in Texas, Maryland, and Connecticut have observed similar trends.

MIXED MULTINOMIAL LOGIT (MMNL) MODEL

MMNL Model: Specification

The MNL models captured systematic preference heterogeneity in the data and produced a single, average value of time estimate for each segment. To capture random preference variations among individuals, mixed multinomial logit models were employed, using the final MNL specification as a starting point. As with the MNL model, the final MMNL model specification includes variables for travel time and toll cost by segment (peak and off-peak trips). The toll cost coefficient was interacted with household income to determine the relationship between sensitivity to toll prices and household income. An alternative-specific constant is included on the Grand Parkway extension alternative to capture the utility (or disutility) for the alternative that cannot be attributed to any other variables in the model. Similar to the MNL model specification, dummy (binary) variables were included on the Grand Parkway extension alternative for those who are somewhat or strongly in favor of the Grand Parkway and for those who are somewhat or strongly opposed to the Grand Parkway.

One of the key benefits of the MMNL model is that it captures actual random variations among respondents by assuming their preferences fall along a known distribution. One or more of the coefficients, such as time and/or toll cost, can be specified as random parameters. The MMNL model produces two coefficient estimates for each random parameter—a mean (μ) and a standard deviation (σ)—that describe the shape of the distribution for that random parameter. The distribution of the random parameter represents the preference heterogeneity for that attribute across the survey population.

Different underlying distributions for the time and cost parameters and the toll constants were tested for each segment. Assuming a lognormal distribution for travel time sensitivity produced the best model fit and the most intuitive and reasonable results for each segment. The lognormal distribution is one-sided and truncated at zero, eliminating the possibility of positive utility for travel time, which would be behaviorally inconsistent. The MMNL aggregate model was estimated using Maximum Simulated Likelihood estimation with 1,000 pseudo-random draws.

MMNL Model: Coefficient Estimates

The results of the final model specifications are presented below and include coefficients for the aggregate sample. The coefficient values, robust standard errors, robust t-statistics, and general model statistics are presented in **Table 5-4**. While the distribution for travel time was assumed to be lognormal, the parameters reported here are for the underlying normal distribution. A normal distribution can be transformed into a lognormal distribution by the exponentiation of the draws from the normal distribution.

TABLE 5-4: PASSENGER VEHICLE MIXED MULTINOMIAL LOGIT MODEL: AGGREGATE COEFFICIENTS

Coefficient	Units	Value	Robust Std. Error	Robust t-stat
Travel Time				
Travel time	Minutes	-1.38	0.055	-25.18
Travel time standard deviation	Minutes	-0.944	0.083	-11.37
Toll Cost*	Dollars	-12.8	0.723	-17.7
Constants				
Grand Parkway extension	(0,1)	-2.23	0.216	-10.29
Favor Grand Parkway extension	(0,1)	1.83	0.229	7.99
Oppose Grand Parkway extension	(0,1)	-0.742	0.341	-2.17

**The toll cost variable enters the model in the form: Toll Cost * (LN(Income Midpoint/100)). In this model, the distribution of travel time sensitivity was assumed to be lognormal. The parameters reported here are for the underlying normal distribution.*

Model Statistics	
Number of pseudo random draws	1,000
Number of estimated parameters	6
Number of observations	9720
Number of individuals	972
Null log-likelihood	-6737.39
Final log-likelihood	-2969.41
Rho-square	0.559
Adjusted rho-square	0.558

MMNL Model: Willingness to Pay for Travel Time Savings (Value of Time)

Distributions of values of time were developed using the MMNL coefficients. The VOT distribution was simulated for a synthetic population using 10,000 independent draws from the lognormal distribution estimated for travel time sensitivity. The resulting draws were used to calculate 10,000 values of time.

The mean and median value of time for the aggregate sample is $12.36/hr. and $8.03/hr., respectively. The distribution of value of time presents the percentage of respondents with a given value of time. For example, **Figure 5-1** shows that 5.81% of travelers have a value of time of $8.00/hr. The toll choice curves display the percentage of respondents with a value of time greater than or equal to a given value. For example, **Figure 5-2** shows that 100% of respondents have a value of time greater than or equal to $0/hr., while 50% of respondents have a value of time greater than or equal to $8.03/hr.

FIGURE 5-1: DISTRIBUTION OF VALUE OF TIME BY INCOME AT SAMPLE MEDIAN INCOME ($87,500)

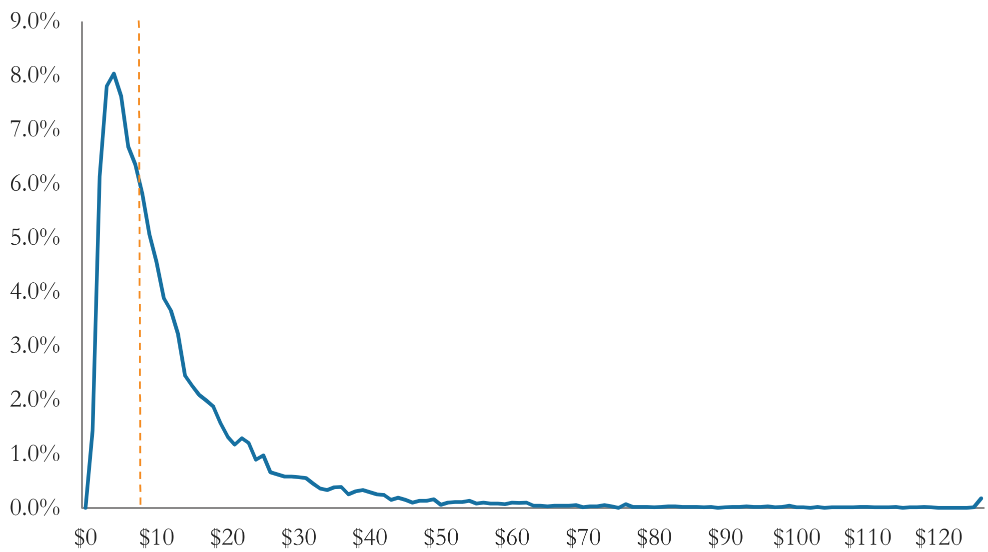
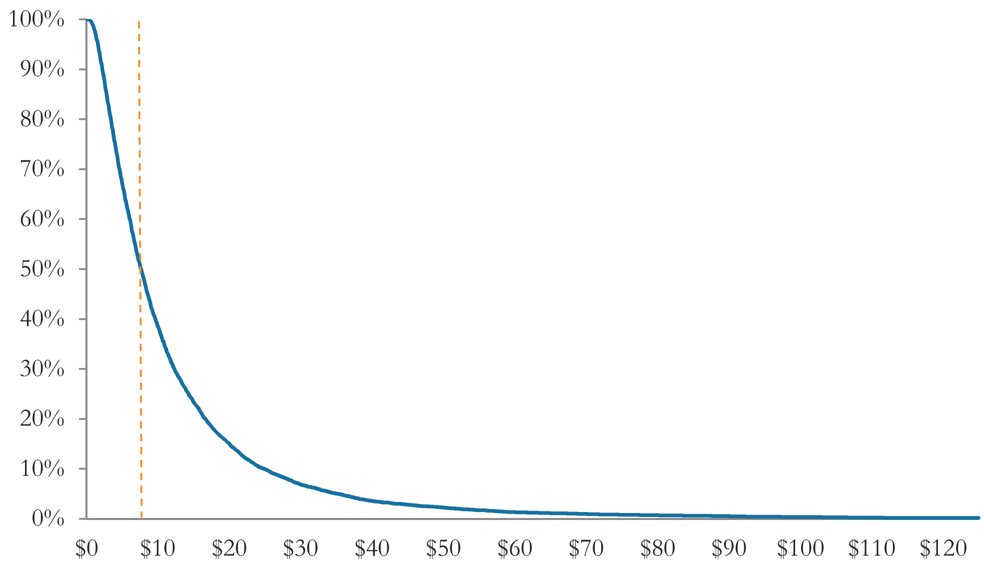


FIGURE 5-2: TOLL CHOICE CURVE BY INCOME AT SAMPLE MEDIAN INCOME ($87,500)



5.2 | COMMERCIAL VEHICLE SURVEY MODEL ESTIMATION

METHODOLOGY

Similar to the passenger vehicle survey, statistical analysis and discrete choice model estimation were carried out using the commercial vehicle stated preference survey data. The statistical estimation and specification testing were completed using a conventional maximum likelihood procedure that estimated coefficients for a set of multinomial logit (MNL) models. The model coefficients provide information about the respondents' sensitivities to the attributes that were tested in the tradeoff scenarios and can be used to calculate VOT for travelers in the study area. Mixed multinomial logit models were not estimated for the commercial vehicle survey due to the smaller sample that was collected.

MULTINOMIAL LOGIT (MNL) MODEL

MNL Model: Specification

In each commercial vehicle stated preference scenario, the following two alternatives were presented for making a future trip in the area:

1. Current route
2. Grand Parkway extension

More information about the stated preference experimental design can be found in **Section 2.2** above. The multinomial logit model estimates a choice probability for each alternative presented in the stated preference tradeoff exercises. The alternatives are represented in the model by observed utility equations of the form:

$$U_1 = \beta_1 X_1 + \beta_2 X_2 \ldots + \beta_n X_n$$

Where each X represents a variable specified by the researcher and each β is a coefficient estimated by the model that represents the sensitivity of the respondents in the sample to the corresponding variable.

Several utility equation structures were tested using several variables from the collected data. In addition to the travel times and toll costs presented in the SP experiments, tested variables included trip characteristics, attitudinal indicators, and demographic variables. These variables were introduced, one at a time, to test potential interactions with the toll cost and travel time coefficients and to determine whether respondents' trip or vehicle characteristics significantly influenced their choices in the stated preference scenarios. Tested variables include:

- Number of vehicle axles
- Travel time length
- Time of day
- Opinion
- Trip distance
- Delay
- Data source
- ETC ownership

After reviewing the significance of each variable, the final model specification was chosen based on model fit, the intuitiveness and reasonableness of the model coefficients, and the expected application of the model results. The final model specification includes variables for travel time and toll cost.

An alternative-specific constant is included on the Grand Parkway extension alternative to capture the utility (or disutility) for the alternative that cannot be attributed to any other variables in the model. Additionally, to capture the effects of a respondent's opinion of the Grand Parkway extension, dummy (binary) variables were included on the Grand Parkway alternative for those who strongly favor the extension and for those who strongly oppose the extension.

MNL Model: Coefficient Estimates

The results of the final model specifications are presented below and include coefficients for the aggregate sample. **Table 5-5** contains coefficient values, robust standard errors, robust t-statistics, and general model statistics.

The coefficient values are the values estimated by the choice model that represent the relative importance of each of the variables. It should be noted that these values are unit-specific and the units must be accounted for when comparing coefficients. The sign of the coefficient indicates a positive or negative relationship between utility and the associated variable. For example, a negative travel time coefficient implies that utility for a given travel alternative will decrease as the travel time associated with that alternative increases.

The standard error is a measure of error around the mean coefficient estimate. The t-statistic is the coefficient estimate divided by the standard error, which can be used to evaluate statistical significance. A t-statistic greater/less than ±1.96 indicates that the coefficient is statistically significantly different from 0 (unless otherwise reported) at the 95% level.

The model fit statistics presented below include the number of observations, the number of estimated parameters, the initial log-likelihood, the log-likelihood at convergence, rho-squared, and adjusted rho-squared. The log-likelihood is a model fit measure that indicates how well the model predicts the choices observed in the data. The null log-likelihood is the measure of the model fit with coefficient values of zero. The final log-likelihood is the measure of model fit with the final coefficient values at model convergence. A value closer to zero indicates better model fit. The log-likelihood cannot be evaluated independently, as it is a function of the number of observations, the number of alternatives, and the number of parameters in the choice model. The rho-square model fit measure accounts for this to some degree by evaluating the difference between the null log-likelihood and the final log-likelihood at convergence. The adjusted rho-square value takes into account the number of parameters estimated in the model.

TABLE 5-5: COMMERCIAL VEHICLE MULTINOMIAL LOGIT MODEL: AGGREGATE COEFFICIENTS

Coefficient	Units	Value	Robust Std. Error	Robust t-stat
Travel Time	Minutes	-0.0574	0.009	-6.4
Toll Cost*	Dollars	-0.0921	0.011	-8.55
Constants				
Grand Parkway extension	(0,1)	-1.37	0.231	-5.93
Strongly favor Grand Parkway extension	(0,1)	1.41	0.36	3.91
Strongly oppose Grand Parkway extension	(0,1)	-1.26	0.342	-3.68

Model Statistics	
Number of estimated parameters	5
Number of observations	2460
Number of individuals	246
Null log-likelihood	-1705.14
Final log-likelihood	-937.89
Rho-square	0.450
Adjusted rho-square	0.447

MNL Model: Willingness to Pay for Travel Time Savings (Value of Time)

One way to evaluate the sensitivities that are estimated in the MNL models is to calculate the marginal rates of substitution for different attributes of interest. In economic theory, the marginal rate of substitution is the amount of one good (e.g., money) that a person would exchange for a second good (e.g., travel time), while maintaining the same level of utility, or satisfaction. In this analysis, the marginal rate of substitution of the travel time and toll cost coefficients provides the implied toll value that travelers would be willing to pay for a given amount of travel time savings offered by using the Grand Parkway extension compared to the respondent's current route.

The willingness to pay for travel time savings, or value of time, can be calculated by simply dividing the travel time coefficient by the toll cost coefficient The resulting value of time is in units of dollars per minute; multiplying by 60 will convert this into the more commonly cited units of dollars per hour:

$$VOT = 60 \times \frac{\beta Time}{[\beta Cost]}$$

Where βTime is the value of the travel time coefficient (with units of 1/min) and βCost is the value of the toll cost coefficient (with units of 1/$). The value of time for all commercial vehicle drivers is $37.39.

6.0 CONCLUSION

RSG successfully developed and implemented two stated preference survey questionnaires that gathered information from 972 passenger vehicle and 246 commercial vehicle travelers who make trips in the Grand Parkway (Segments H and I) study area in northeast Houston. The questionnaires collected data on current travel behavior, presented respondents with information about the proposed Grand Parkway extension, and engaged the travelers in a series of stated preference scenarios.

Multinomial logit (MNL) choice models were developed using the survey data to produce estimates of value of time (VOT) of passenger and commercial vehicle travelers. Models were developed for the aggregate sample as well as two market segments for passenger vehicle travelers: peak and off-peak. A single VOT was estimated for commercial vehicle travelers. The magnitude and signs of the sensitivity estimates are reasonable and intuitively correct, and the values of time that were estimated are within the ranges found in other major metropolitan areas across the country[6]. For passenger vehicle travelers, average values of time varied by time of day (peak vs. off-peak), and generally fell within a range of $8 per hour to $15 per hour. For commercial vehicles, the value of time for all trucks was estimated to be $37.39 per hour.

In addition to the MNL models, mixed multinomial logit models were developed for the passenger vehicle travelers to estimate distributions of values of time. The mixed logit models identified significant heterogeneity in the sample with regards to value of time, with some respondents having very low values of time, others having very high values of time, and the bulk of respondents being somewhere in between. When evaluated at the sample median income, the mean value of time from the mixed logit models was approximately $12 per hour and the median was approximately $8 per hour. These values are consistent with the values of time estimated in the MNL models.

The survey and choice model results indicate that the toll amount and travel time savings provided by the Grand Parkway extension (Segments H and I) could have a significant impact on travel behavior. The incorporation of these results into the updated regional travel demand model will allow CDM Smith to evaluate a wide range of tolling scenarios and travel conditions.

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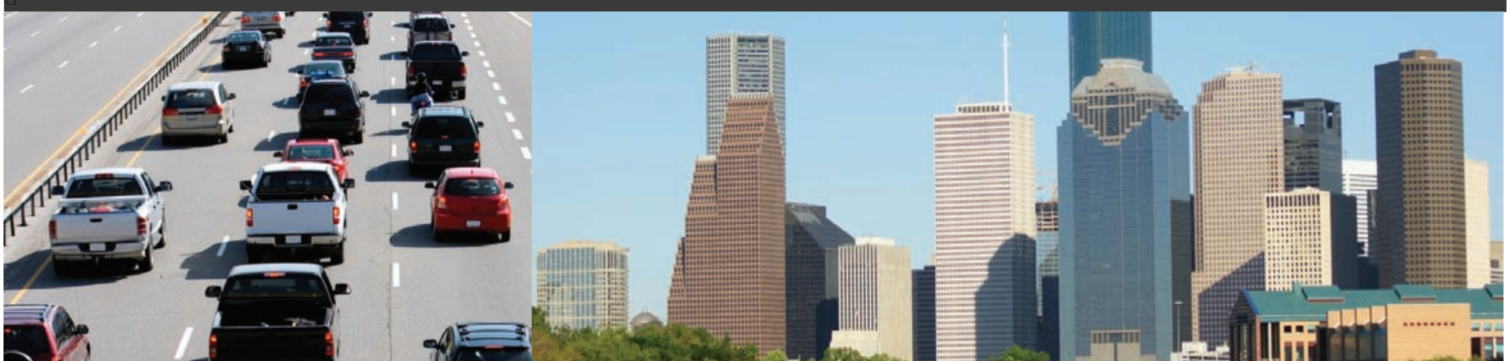
[6] In "The Value of Travel Time Savings: Departmental Guidance for Conducting Economic Evaluations. Revision 2." (Belenky, 2011), values of time are estimated purely as a function of wage rates. While this is a reasonable assumption, there is a large amount of uncertainty related to such an assumption. Past research has found that travelers' values of time can vary from 20% to 100% or more of household hourly wage rates depending on the region, trip characteristics, and respondent characteristics. NCHRP Report 431, "Valuation of Travel-Time Savings and Predictability in Congestion Conditions for Highway User-Cost Estimation" (TRB, 1999), summarizes research by Small and Waters which suggests that the value of time for work trips is about 50 percent of the wage rate on average and that it varies with income or wage rate but not necessarily proportionally. However, Small ("Urban Transportation Economics," 1992) observed significant variation around this 50 percent average, explaining that values of time vary among different industrialized cities from perhaps 20 to 100 percent of the gross wage rate, and among population subgroups by even more. The Grand Parkway (Segments H & I) stated preference surveys seek to estimate these values *directly from travelers who recently made a trip in the study area*, and, as a result, differences in value of time may exist between the USDOT recommendations and the above stated preference survey results.

APPENDIX A: SURVEY SCREEN CAPTURES

GRAND PARKWAY (SEGMENTS H & I) STATED PREFERENCE SURVEY

6.26.2015



PREPARED FOR:
TEXAS DEPARTMENT OF TRANSPORTATION

SUBMITTED BY:
RSG

IN COOPERATION WITH:
CDM SMITH

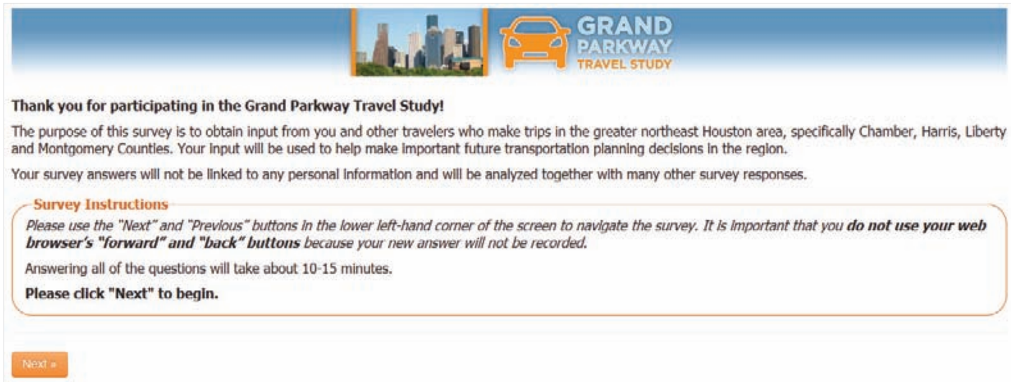
55 Railroad Row
White River Junction, VT 05001
802.295.4999
www.rsginc.com

CONTENTS

1.0 PASSENGER VEHICLE SURVEY SCREEN CAPTURES

1.1 | INTRODUCTION AND QUALIFICATION QUESTIONS

FIGURE 1-1: SURVEY INTRODUCTION AND INSTRUCTIONS


GRAND PARKWAY TRAVEL STUDY

Thank you for participating in the Grand Parkway Travel Study!

The purpose of this survey is to obtain input from you and other travelers who make trips in the greater northeast Houston area, specifically Chamber, Harris, Liberty and Montgomery Counties. Your input will be used to help make important future transportation planning decisions in the region.

Your survey answers will not be linked to any personal information and will be analyzed together with many other survey responses.

Survey Instructions

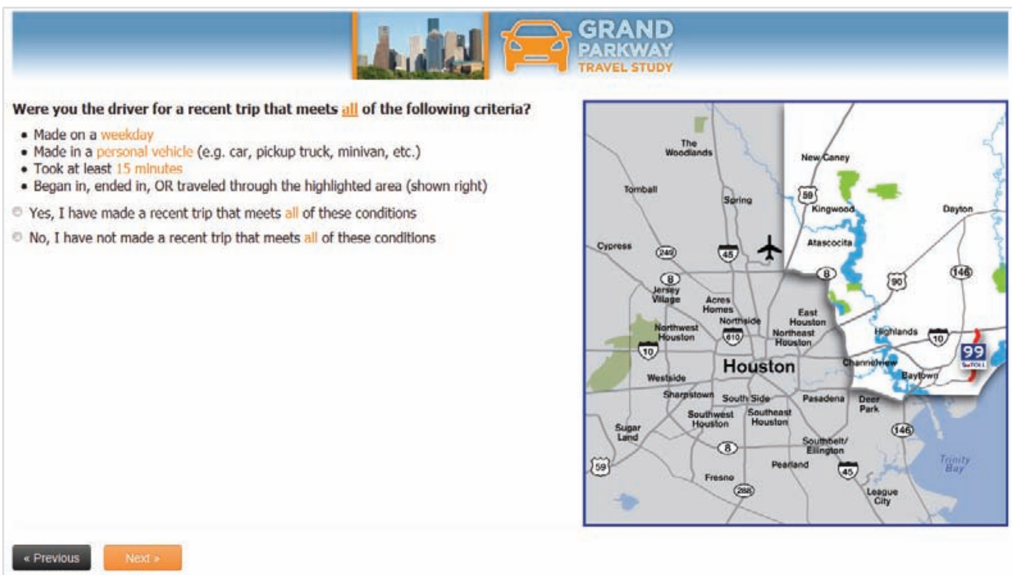
*Please use the "Next" and "Previous" buttons in the lower left-hand corner of the screen to navigate the survey. It is important that you **do not use your web browser's "forward" and "back" buttons** because your new answer will not be recorded.*

Answering all of the questions will take about 10-15 minutes.

Please click "Next" to begin.

Next »

FIGURE 1-2: TRIP QUALIFICATION


GRAND PARKWAY TRAVEL STUDY

Were you the driver for a recent trip that meets all of the following criteria?

- Made on a weekday
- Made in a personal vehicle (e.g. car, pickup truck, minivan, etc.)
- Took at least 15 minutes
- Began in, ended in, OR traveled through the highlighted area (shown right)

Yes, I have made a recent trip that meets all of these conditions

No, I have not made a recent trip that meets all of these conditions

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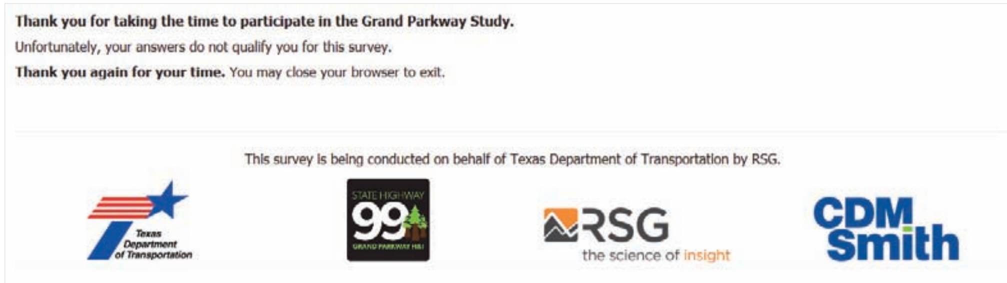
FIGURE 1-3: TERMINATION

If respondent does not make a qualifying trip.



1.2 | TRIP CHARACTERISTIC QUESTIONS

FIGURE 1-4: DEFINITION OF QUALIFYING ONE-WAY TRIP

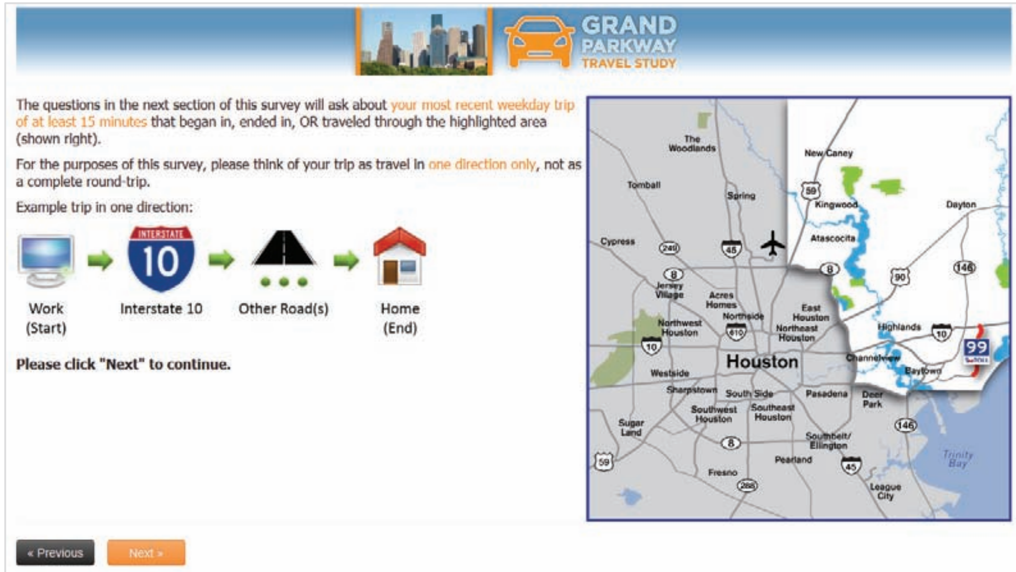


FIGURE 1-5: DAY OF WEEK

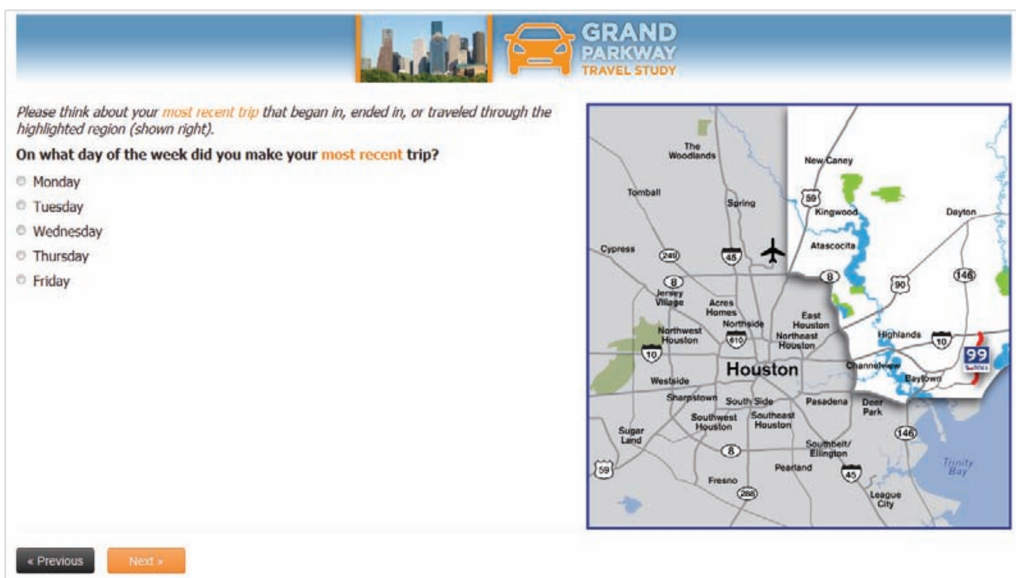


FIGURE 1-6: PURPOSE

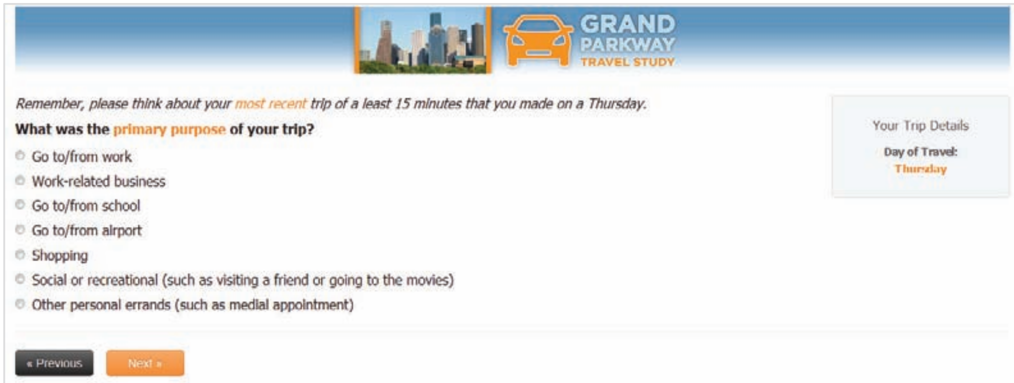


FIGURE 1-7: BEGIN AND END LOCATIONS

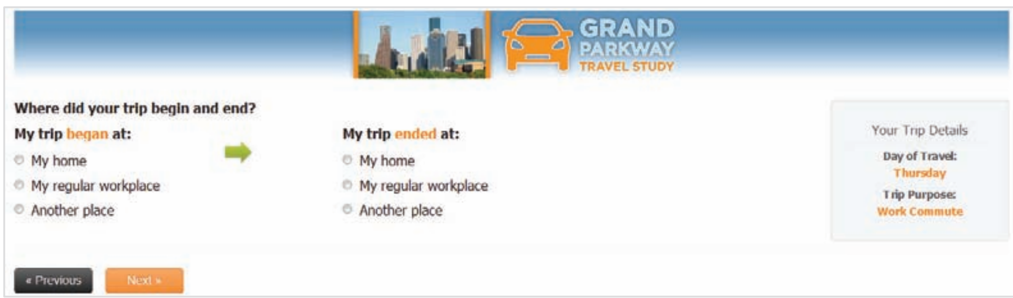


FIGURE 1-8: TRIP CONFIRMATION

If respondent's beginning and ending locations are both home or both work.

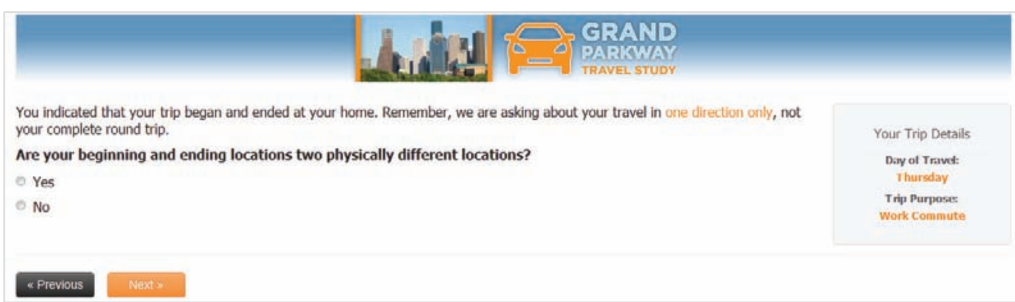


FIGURE 1-9: ORIGIN

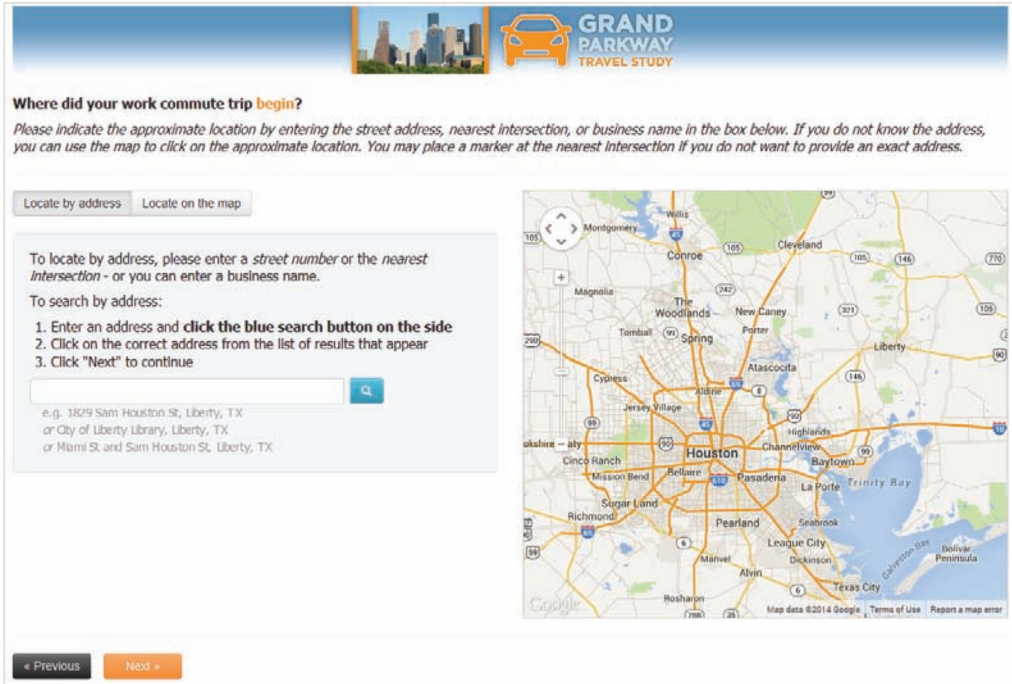


FIGURE 1-10: DESTINATION

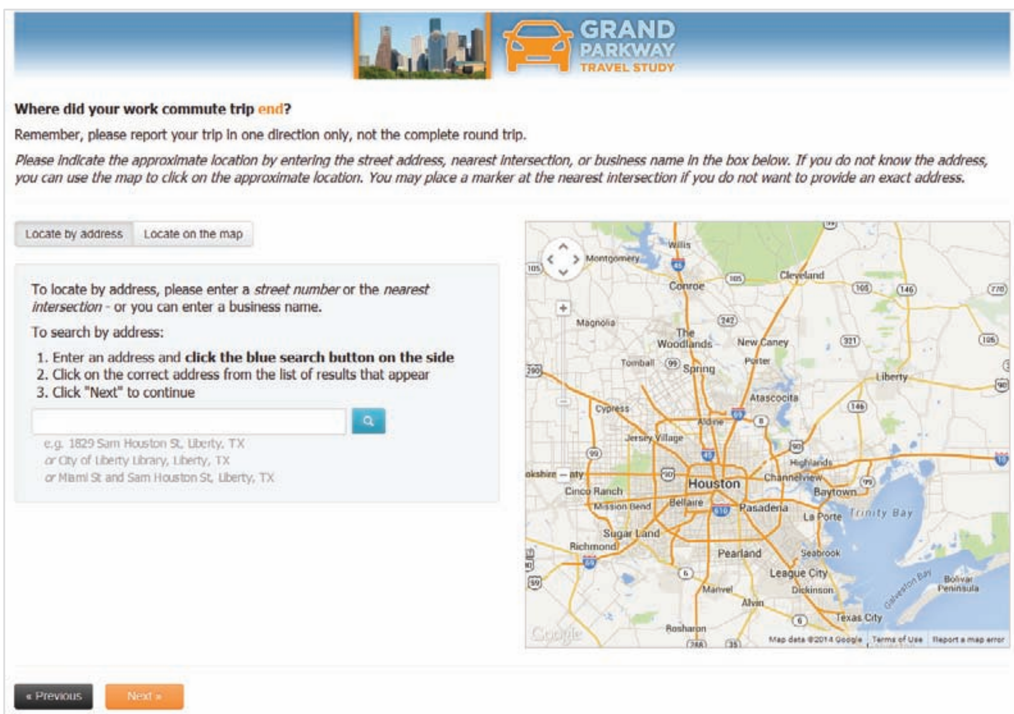


FIGURE 1-11: INVALID TRIP

If respondent's origin and destination indicate an invalid trip.

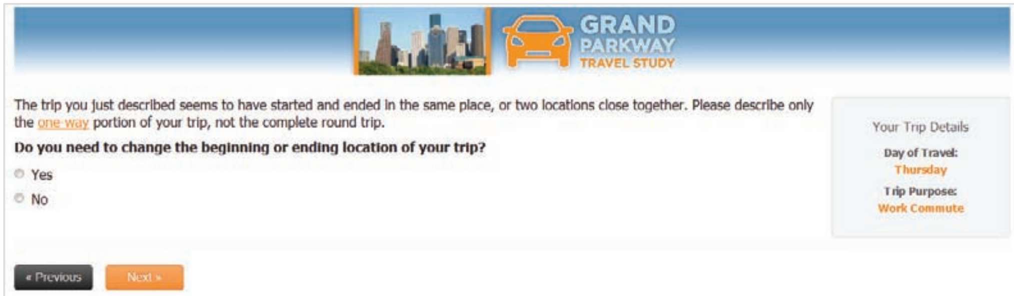


FIGURE 1-12: ORIGIN AND DESTINATION CONFIRMATION

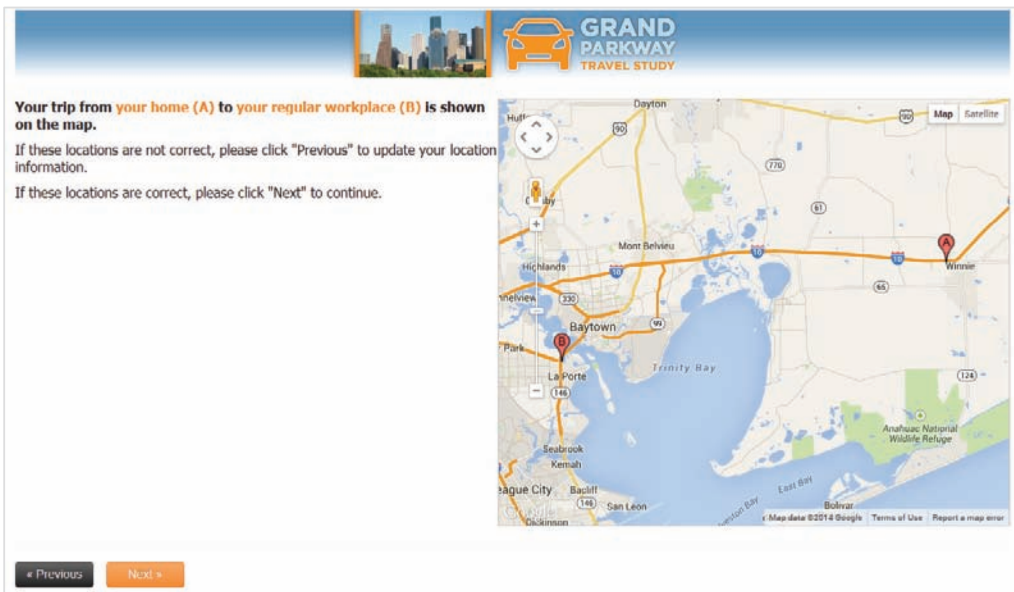


FIGURE 1-13: ROAD(S) TRAVELED

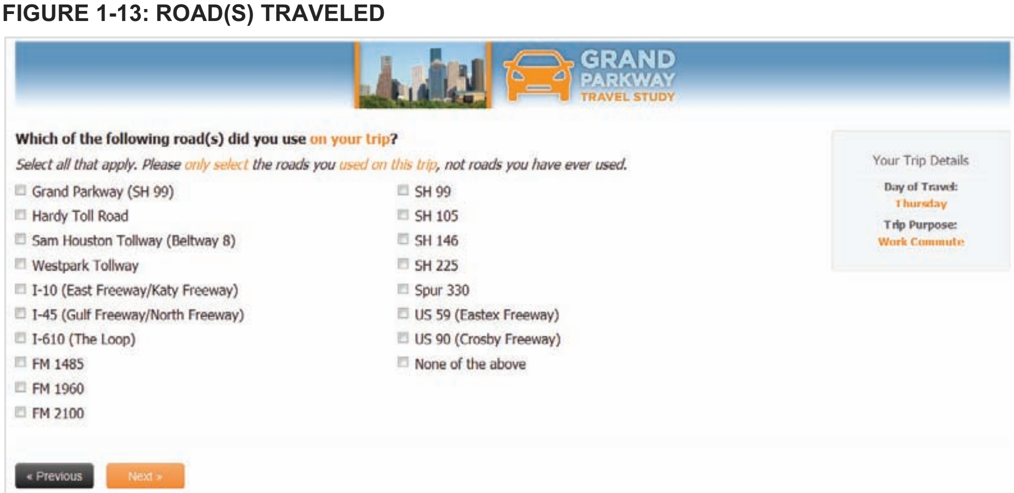


FIGURE 1-14: GRAND PARKWAY/SH 99 SEGMENTS USED

If used SH 99 or Grand Parkway.

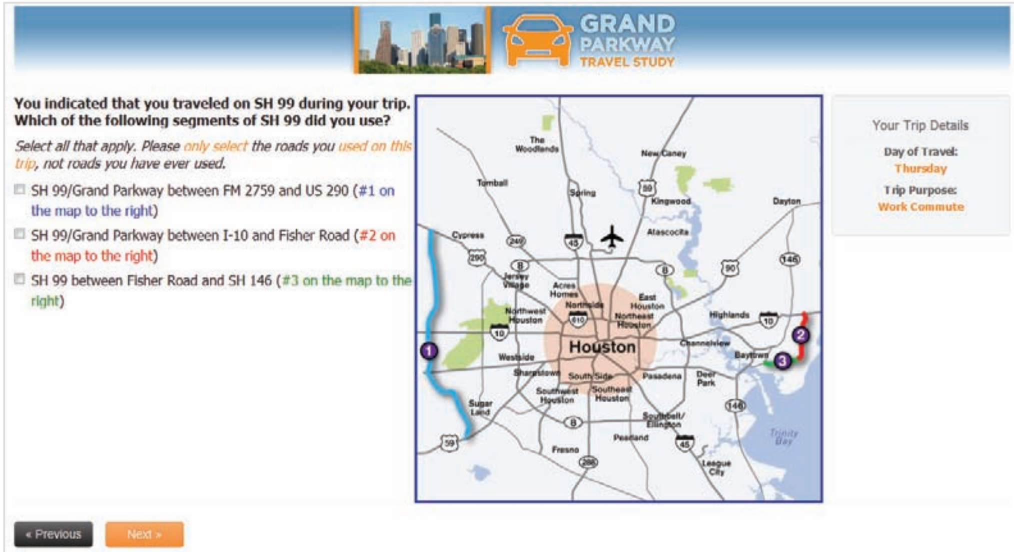


FIGURE 1-15: TOLL(S) PAID

FIGURE 1-16: TOLL AMOUNT PAID

If respondent paid toll(s).

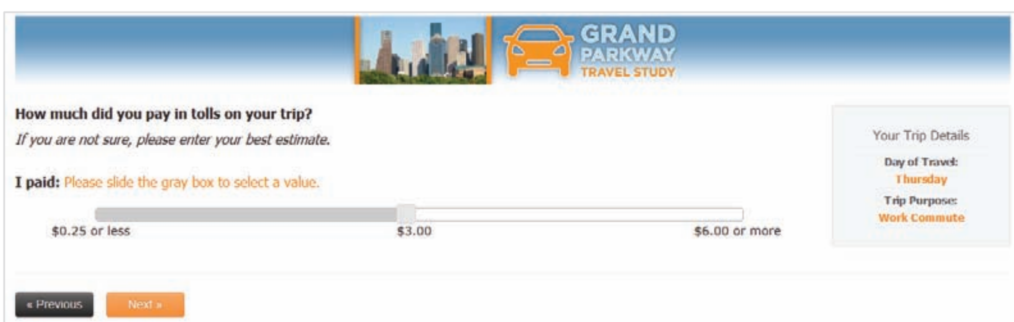


FIGURE 1-17: DEPARTURE TIME

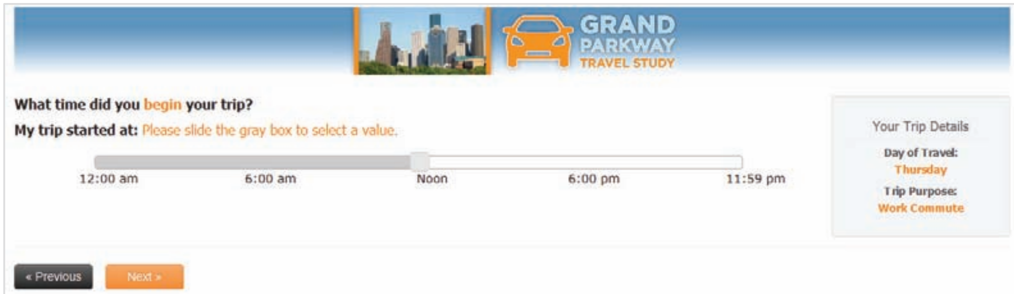


FIGURE 1-18: TRAVEL TIME

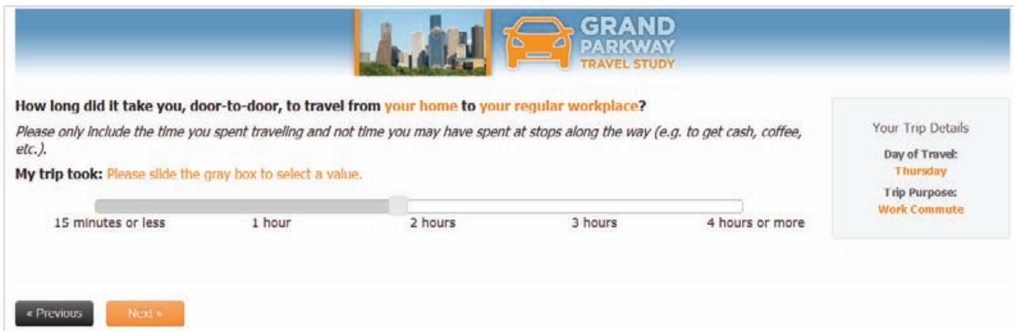


FIGURE 1-19: TRAVEL TIME CONFIRMATION

If travel time appears too short or too long.

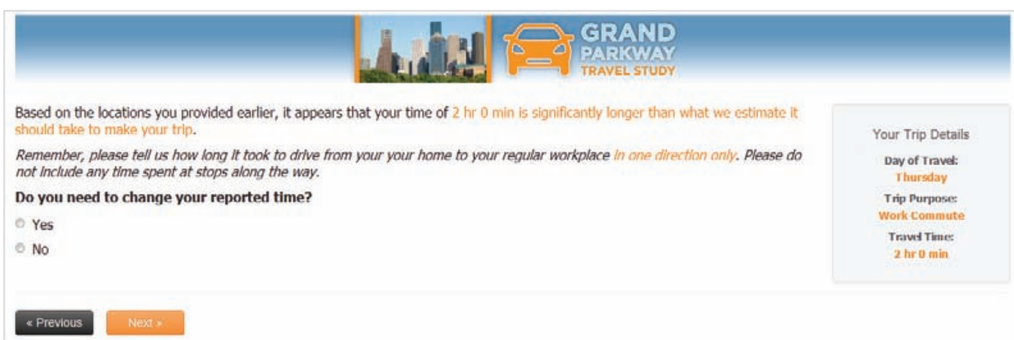


FIGURE 1-20: DELAY

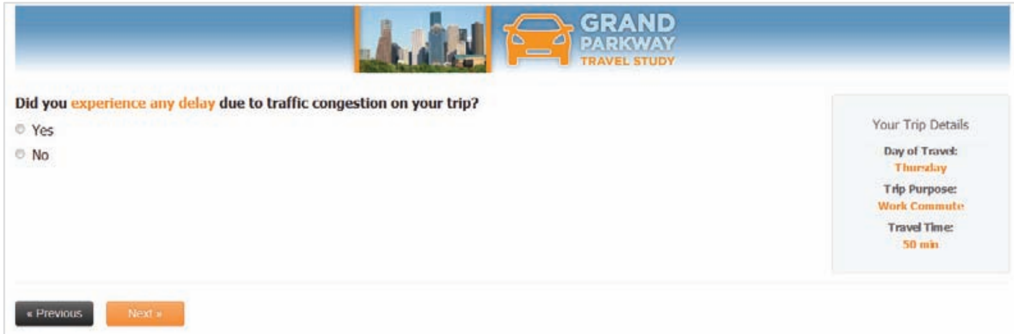


FIGURE 1-21: TRAVEL TIME WITHOUT DELAY

If respondent experienced delay due to traffic congestion.

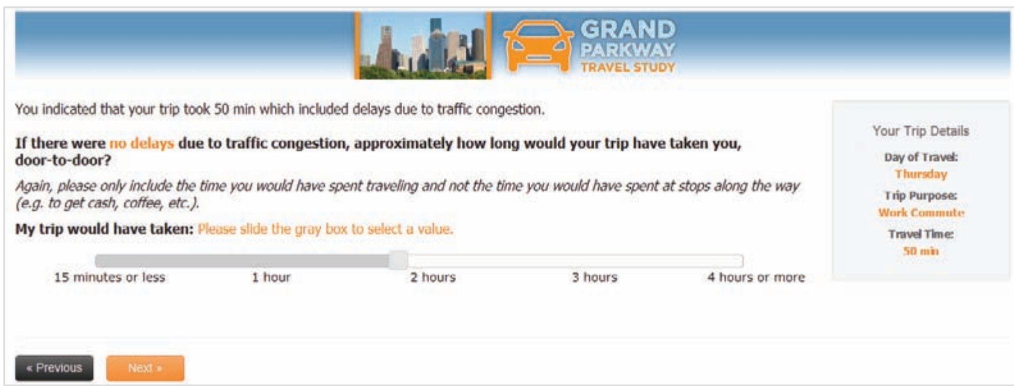


FIGURE 1-22: VEHICLE OCCUPANCY

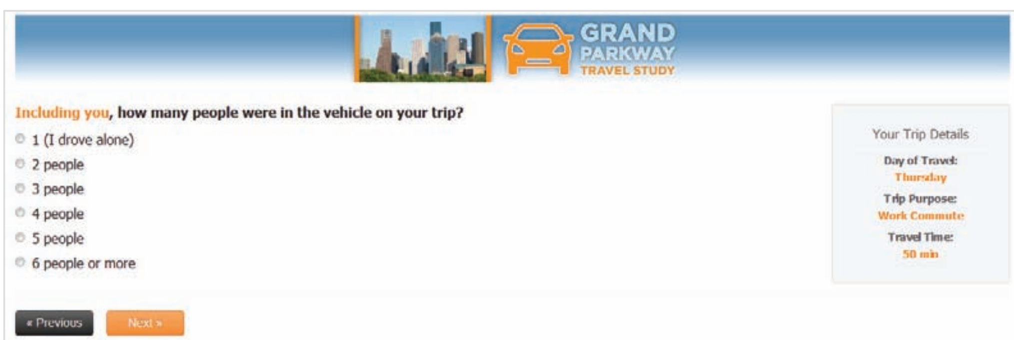
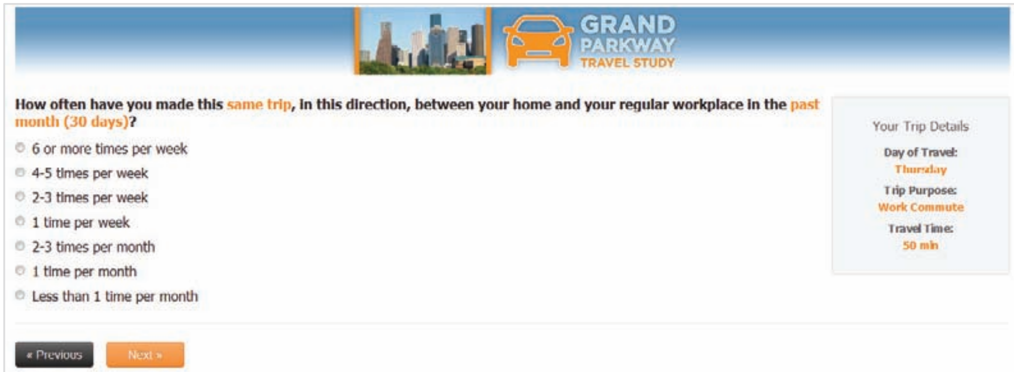


FIGURE 1-23: FREQUENCY


GRAND PARKWAY TRAVEL STUDY

How often have you made this same trip, in this direction, between your home and your regular workplace in the past month (30 days)?

- 6 or more times per week
- 4-5 times per week
- 2-3 times per week
- 1 time per week
- 2-3 times per month
- 1 time per month
- Less than 1 time per month

Your Trip Details
Day of Travel: Thursday
Trip Purpose: Work Commute
Travel Time: 50 min

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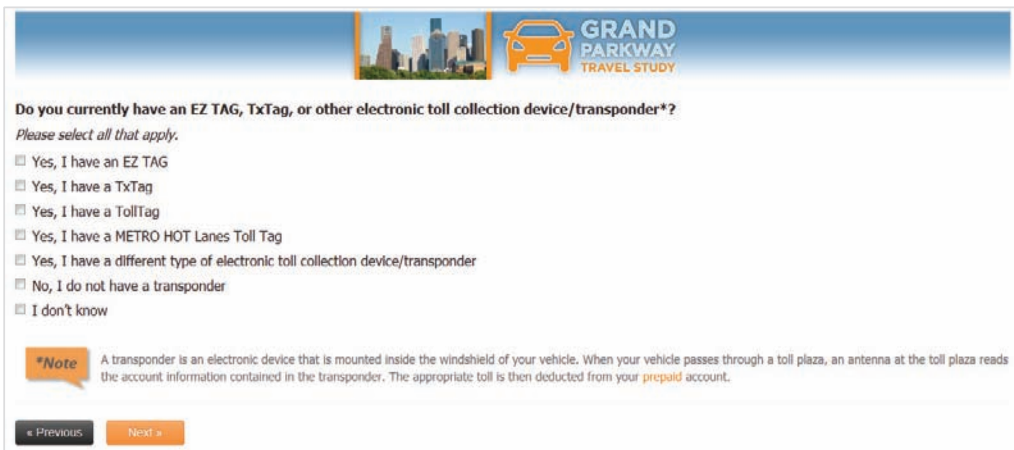
FIGURE 1-24: ETC OWNERSHIP


GRAND PARKWAY TRAVEL STUDY

Do you currently have an EZ TAG, TxTag, or other electronic toll collection device/transponder*?

Please select all that apply.

- Yes, I have an EZ TAG
- Yes, I have a TxTag
- Yes, I have a TollTag
- Yes, I have a METRO HOT Lanes Toll Tag
- Yes, I have a different type of electronic toll collection device/transponder
- No, I do not have a transponder
- I don't know

*Note: A transponder is an electronic device that is mounted inside the windshield of your vehicle. When your vehicle passes through a toll plaza, an antenna at the toll plaza reads the account information contained in the transponder. The appropriate toll is then deducted from your prepaid account.

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1.3 | STATED PREFERENCE QUESTIONS

FIGURE 1-25: GRAND PARKWAY PROJECT INTRODUCTION

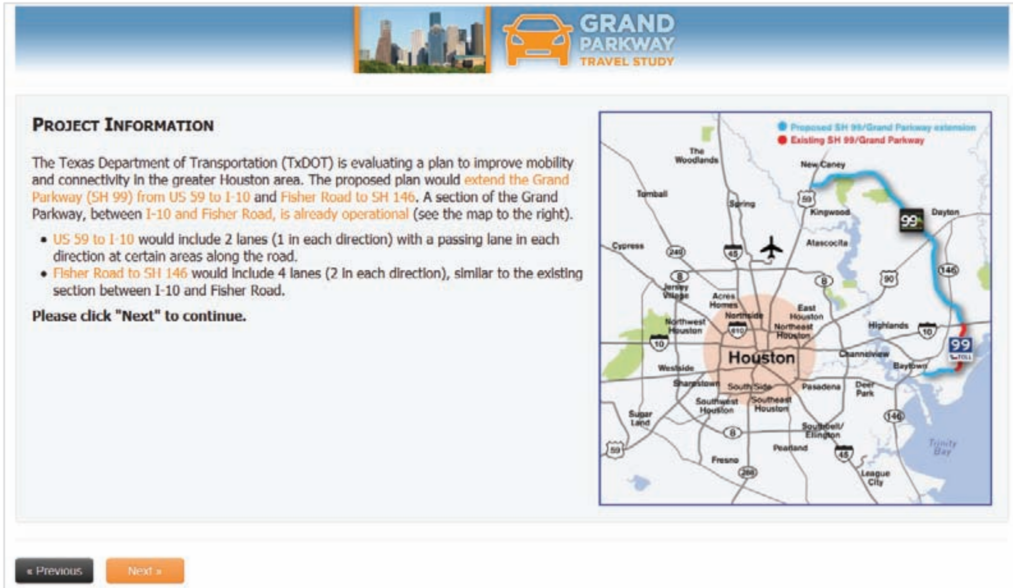


FIGURE 1-26: PAYMENT INFORMATION

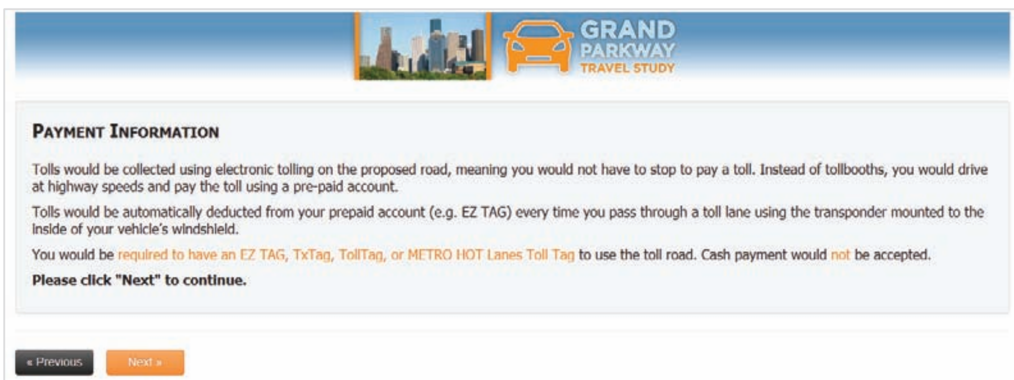


FIGURE 1-27: STATED PREFERENCE (SP) INSTRUCTIONS

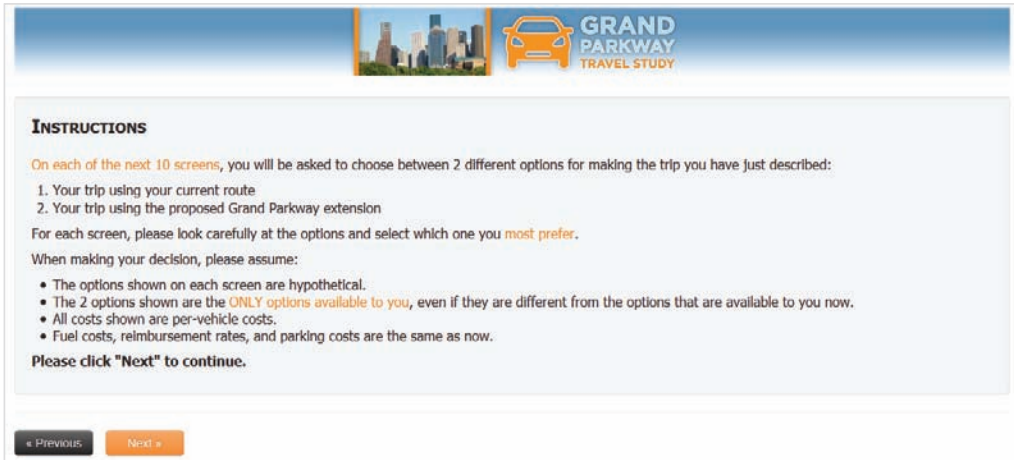


FIGURE 1-28: GRAND PARKWAY SP EXPERIMENT EXAMPLE 1

Respondent paid a toll ($0.50) during reference trip.

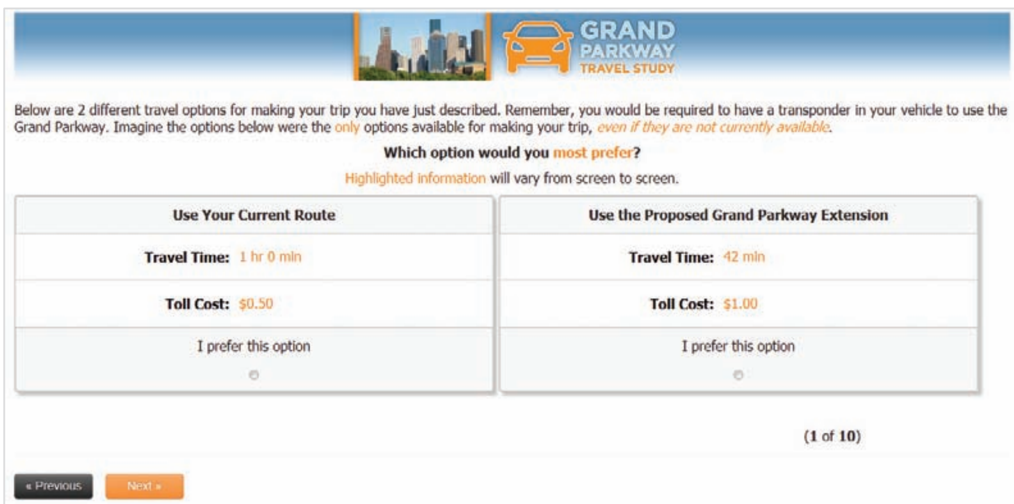
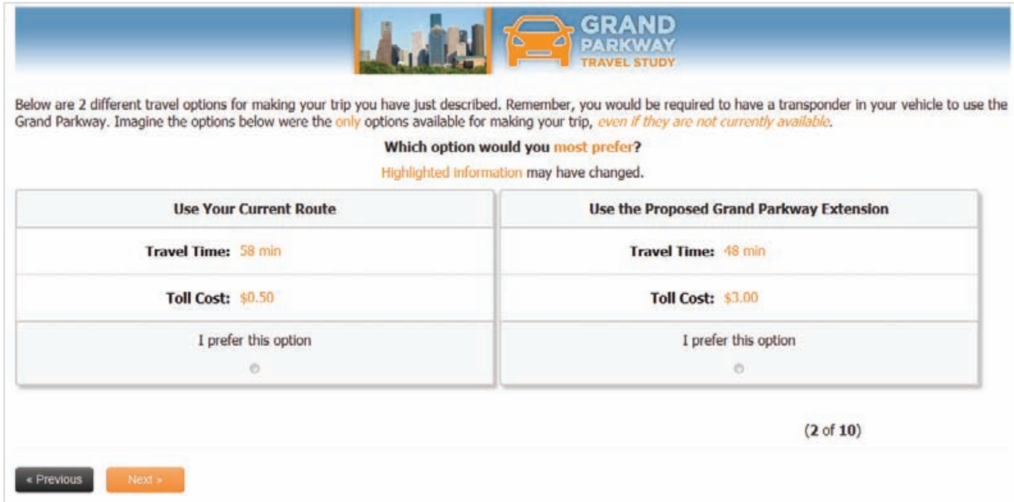


FIGURE 1-29: GRAND PARKWAY SP EXPERIMENT EXAMPLE 2



GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information may have changed.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 58 min	**Travel Time:** 48 min
Toll Cost: \$0.50	**Toll Cost:** \$3.00
I prefer this option	I prefer this option

(**2** of **10**)

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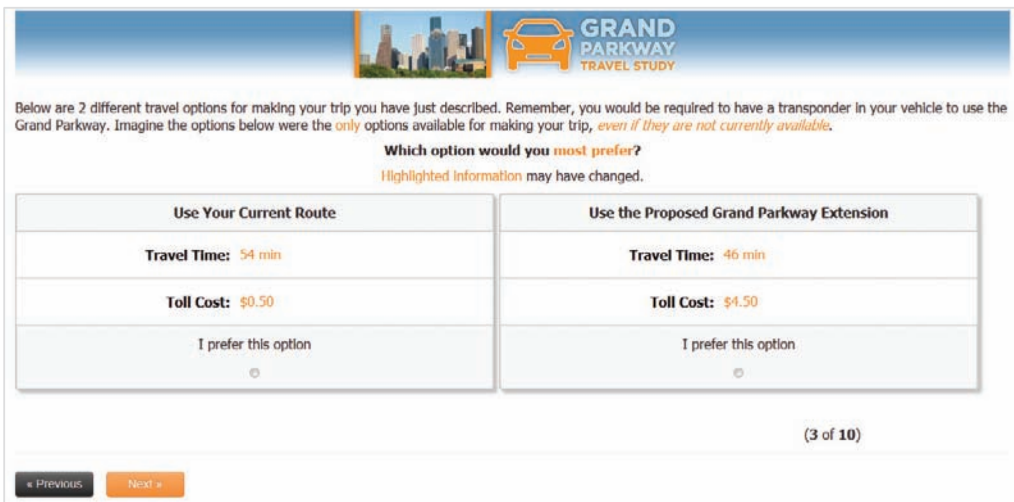
FIGURE 1-30: GRAND PARKWAY SP EXPERIMENT EXAMPLE 3



GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information may have changed.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 54 min	**Travel Time:** 46 min
Toll Cost: \$0.50	**Toll Cost:** \$4.50
I prefer this option	I prefer this option

(**3** of **10**)

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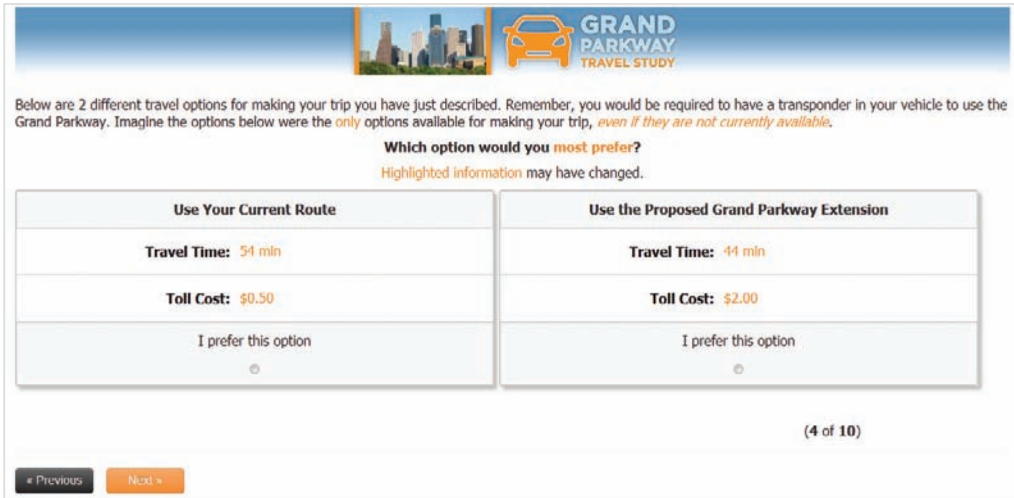
FIGURE 1-31: GRAND PARKWAY SP EXPERIMENT EXAMPLE 4



GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information may have changed.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 54 min	**Travel Time:** 44 min
Toll Cost: $0.50	**Toll Cost:** $2.00
I prefer this option	I prefer this option

(**4** of **10**)

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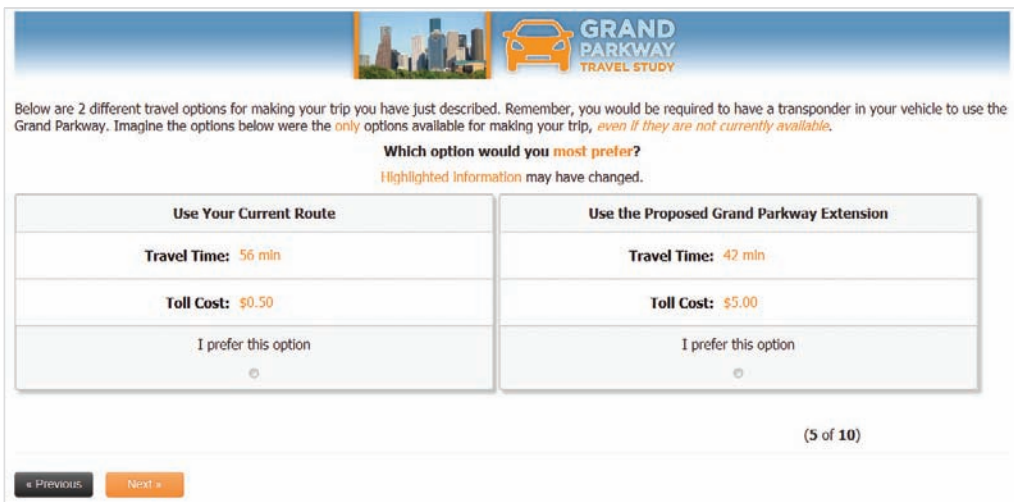
FIGURE 1-32: GRAND PARKWAY SP EXPERIMENT EXAMPLE 5



GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information may have changed.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 56 min	**Travel Time:** 42 min
Toll Cost: $0.50	**Toll Cost:** $5.00
I prefer this option	I prefer this option

(**5** of **10**)

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FIGURE 1-33: GRAND PARKWAY SP EXPERIMENT EXAMPLE 6

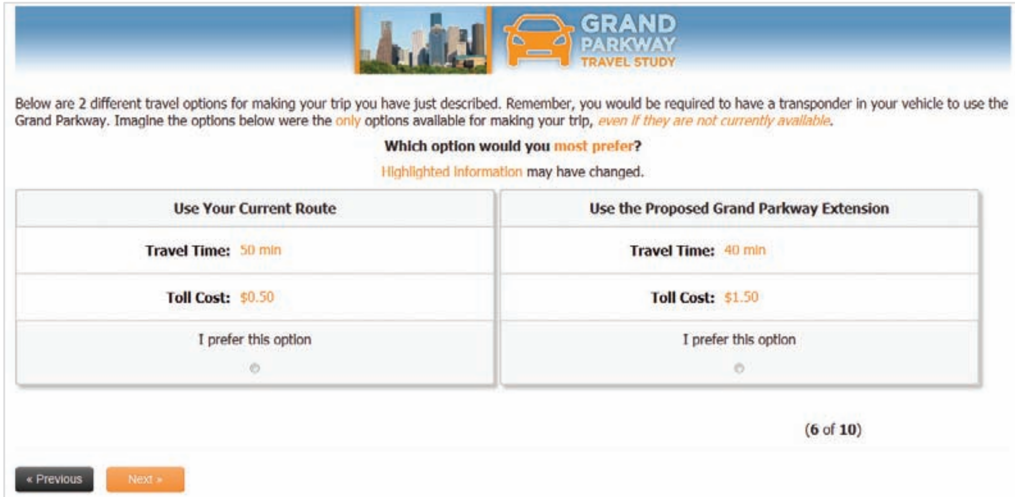


FIGURE 1-34: GRAND PARKWAY SP EXPERIMENT EXAMPLE 7

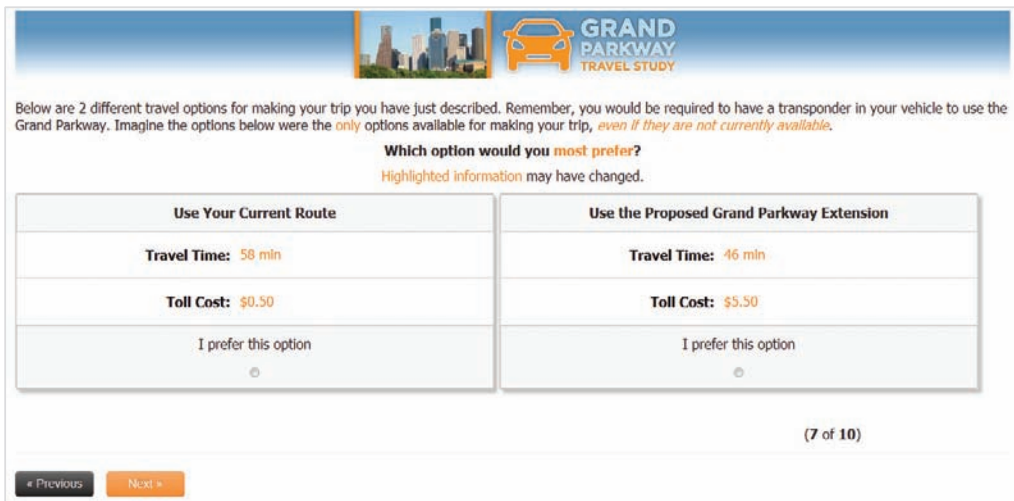
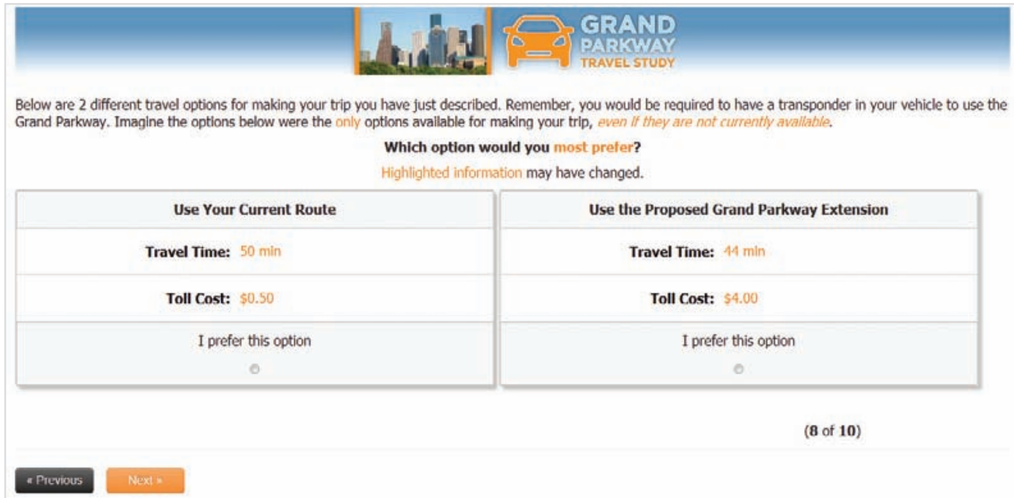


FIGURE 1-35: GRAND PARKWAY SP EXPERIMENT EXAMPLE 8



GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information may have changed.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 50 min	**Travel Time:** 44 min
Toll Cost: $0.50	**Toll Cost:** $4.00
I prefer this option	I prefer this option

(8 of 10)

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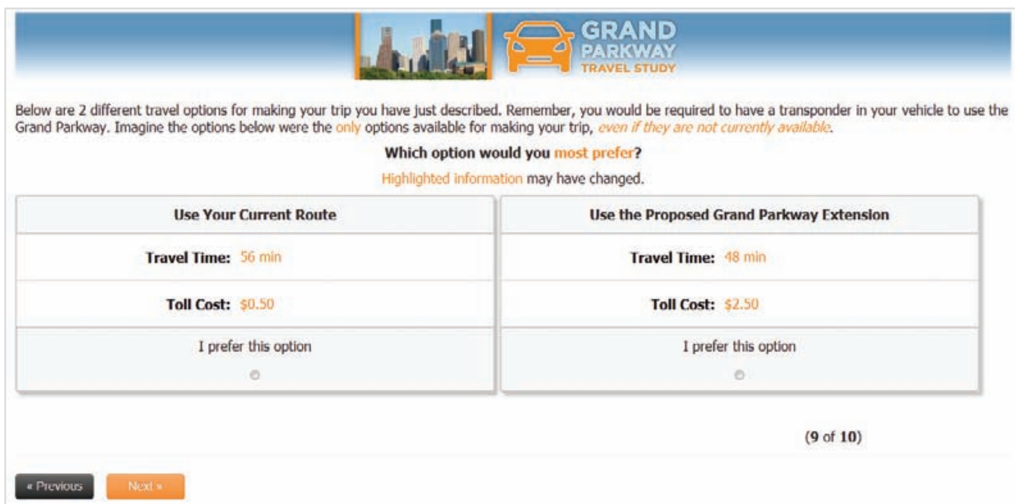
FIGURE 1-36: GRAND PARKWAY SP EXPERIMENT EXAMPLE 9



GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information may have changed.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 56 min	**Travel Time:** 48 min
Toll Cost: $0.50	**Toll Cost:** $2.50
I prefer this option	I prefer this option

(9 of 10)

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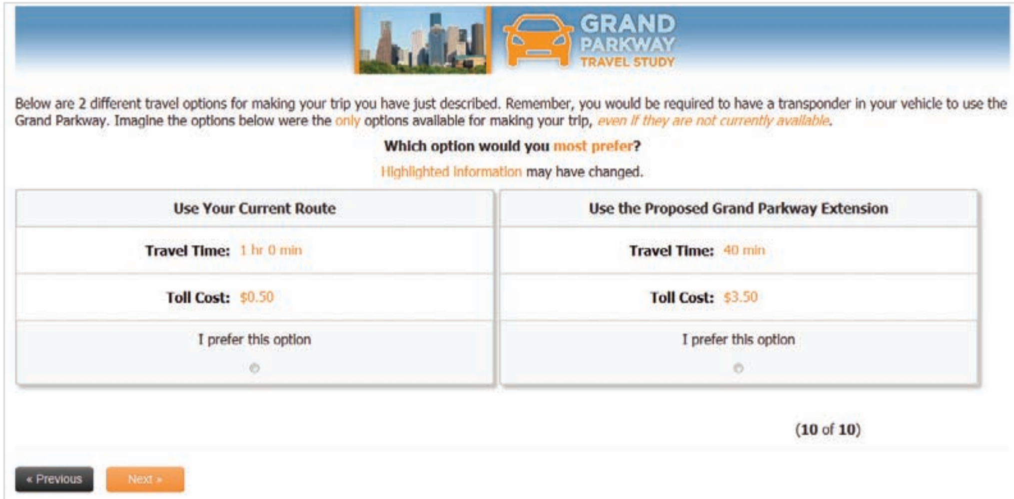
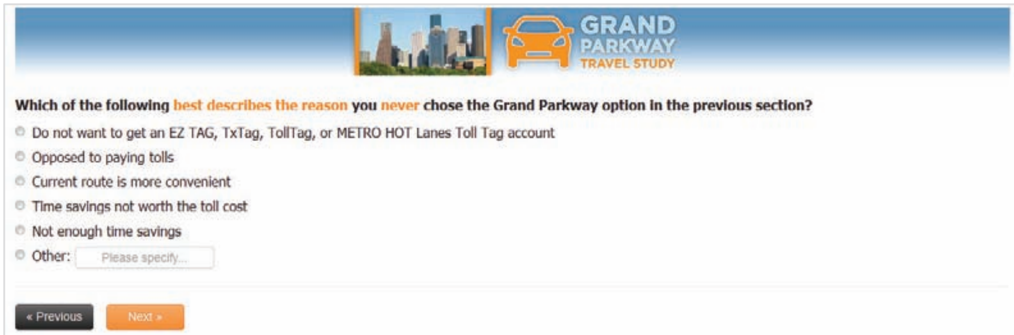
FIGURE 1-37: GRAND PARKWAY SP EXPERIMENT EXAMPLE 10



1.4 | DEBRIEF AND OPINION QUESTIONS

FIGURE 1-38: GRAND PARKWAY ATTITUDE STATEMENT

If never selected Grand Parkway option in stated preference section.


GRAND PARKWAY TRAVEL STUDY

Which of the following best describes the reason you never chose the Grand Parkway option in the previous section?

- Do not want to get an EZ TAG, TxTag, TollTag, or METRO HOT Lanes Toll Tag account
- Opposed to paying tolls
- Current route is more convenient
- Time savings not worth the toll cost
- Not enough time savings
- Other: Please specify...

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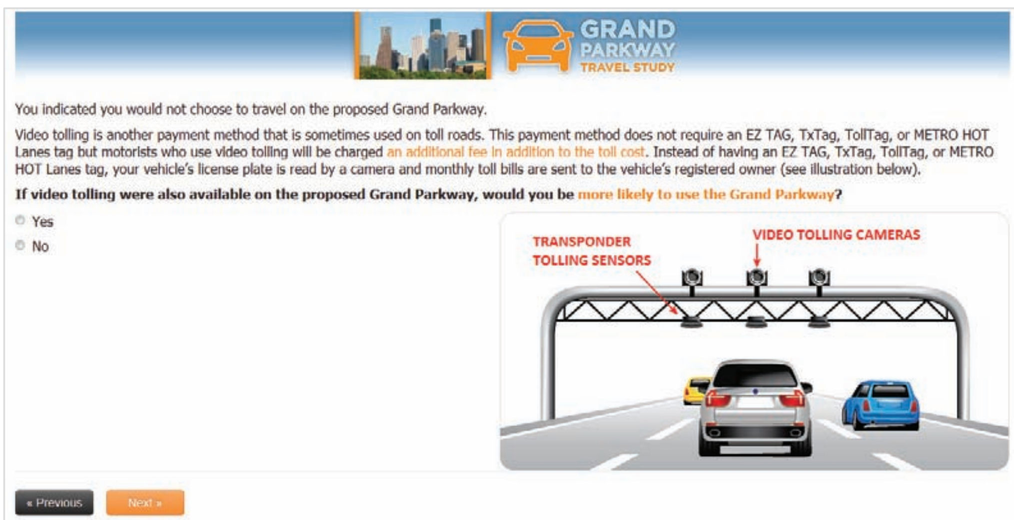
FIGURE 1-39: VIDEO TOLLING

If never selected Grand Parkway option in stated preference section and does not own an ETC.


GRAND PARKWAY TRAVEL STUDY

You indicated you would not choose to travel on the proposed Grand Parkway.

Video tolling is another payment method that is sometimes used on toll roads. This payment method does not require an EZ TAG, TxTag, TollTag, or METRO HOT Lanes tag but motorists who use video tolling will be charged an additional fee in addition to the toll cost. Instead of having an EZ TAG, TxTag, TollTag, or METRO HOT Lanes tag, your vehicle's license plate is read by a camera and monthly toll bills are sent to the vehicle's registered owner (see illustration below).

If video tolling were also available on the proposed Grand Parkway, would you be more likely to use the Grand Parkway?

- Yes
- No

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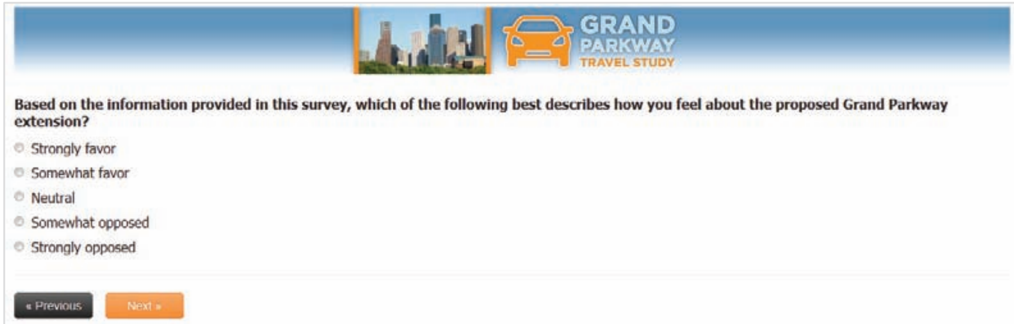
FIGURE 1-40: OPINION OF PROPOSED PROJECT



Based on the information provided in this survey, which of the following best describes how you feel about the proposed Grand Parkway extension?

- Strongly favor
- Somewhat favor
- Neutral
- Somewhat opposed
- Strongly opposed

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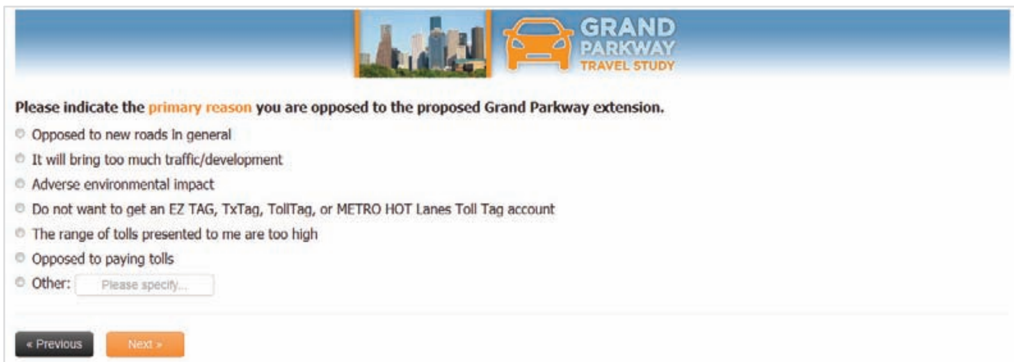
FIGURE 1-41: WHY OPPOSED TO PROJECT

If somewhat or strongly opposes the project.



Please indicate the primary reason you are opposed to the proposed Grand Parkway extension.

- Opposed to new roads in general
- It will bring too much traffic/development
- Adverse environmental impact
- Do not want to get an EZ TAG, TxTag, TollTag, or METRO HOT Lanes Toll Tag account
- The range of tolls presented to me are too high
- Opposed to paying tolls
- Other: Please specify...

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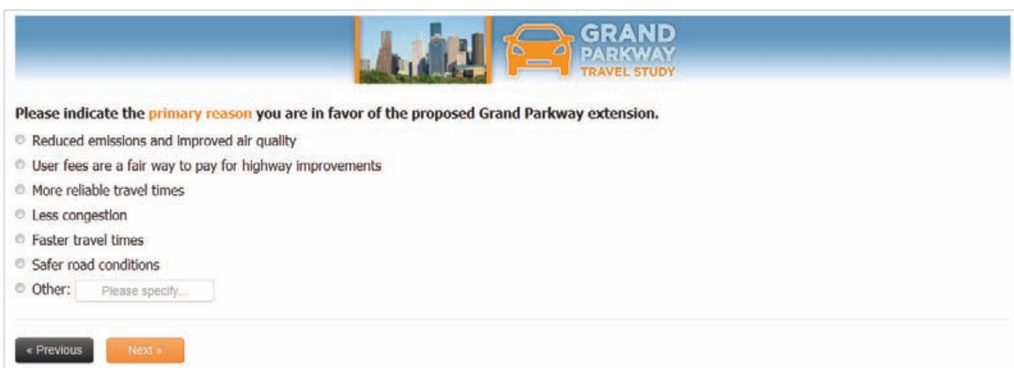
FIGURE 1-42: WHY IN FAVOR OF PROJECT

If somewhat or strongly favors the project.



Please indicate the primary reason you are in favor of the proposed Grand Parkway extension.

- Reduced emissions and improved air quality
- User fees are a fair way to pay for highway improvements
- More reliable travel times
- Less congestion
- Faster travel times
- Safer road conditions
- Other: Please specify...

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FIGURE 1-43:TOLL ATTITUDE STATEMENTS

GRAND PARKWAY TRAVEL STUDY

How strongly do you agree or disagree with each of the following statements?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I support using tolls to pay for highway improvements that relieve congestion	○	○	○	○	○
I will use a toll route if the tolls are reasonable and I will save time	○	○	○	○	○
I support increased or new taxes to pay for highway improvements that relieve congestion	○	○	○	○	○
I can generally afford to pay tolls	○	○	○	○	○
I will use a toll route if it guarantees my trip travel time is reliable	○	○	○	○	○

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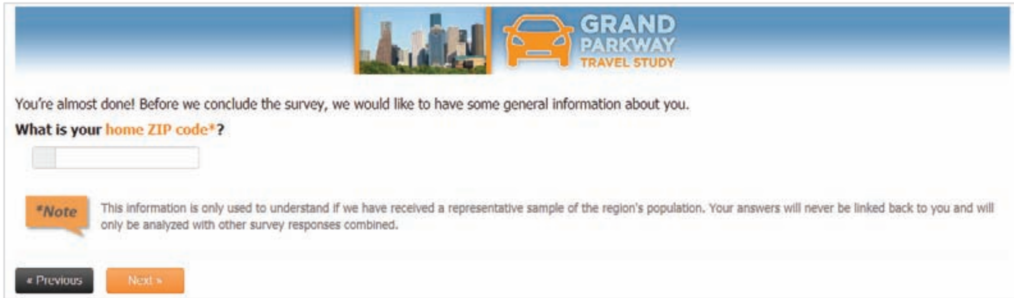
1.5 | DEMOGRAPHIC QUESTIONS

FIGURE 1-44: ZIP CODE


GRAND PARKWAY TRAVEL STUDY

You're almost done! Before we conclude the survey, we would like to have some general information about you.

What is your home ZIP code*?

*Note

This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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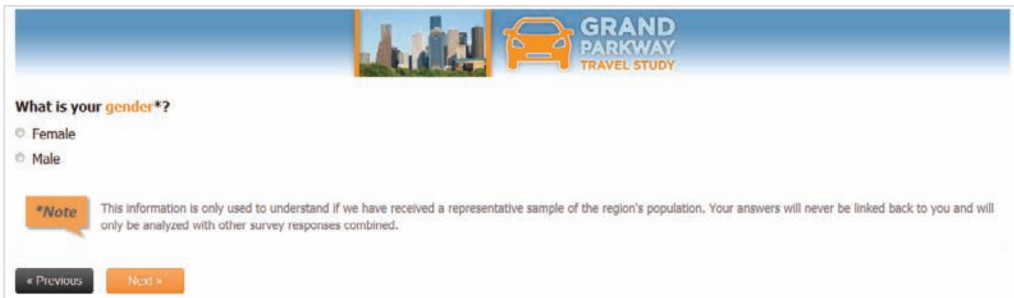
FIGURE 1-45: GENDER


GRAND PARKWAY TRAVEL STUDY

What is your gender*?

- Female
- Male

*Note

This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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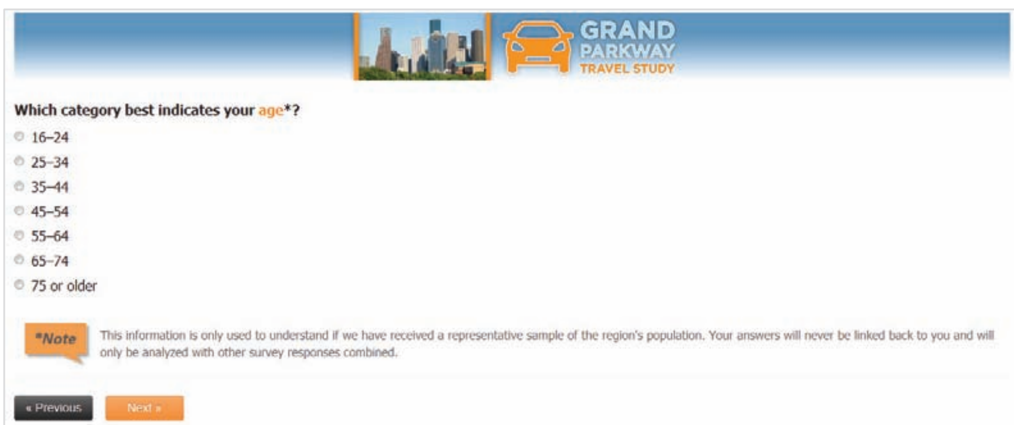
FIGURE 1-46: AGE


GRAND PARKWAY TRAVEL STUDY

Which category best indicates your age*?

- 16–24
- 25–34
- 35–44
- 45–54
- 55–64
- 65–74
- 75 or older

*Note

This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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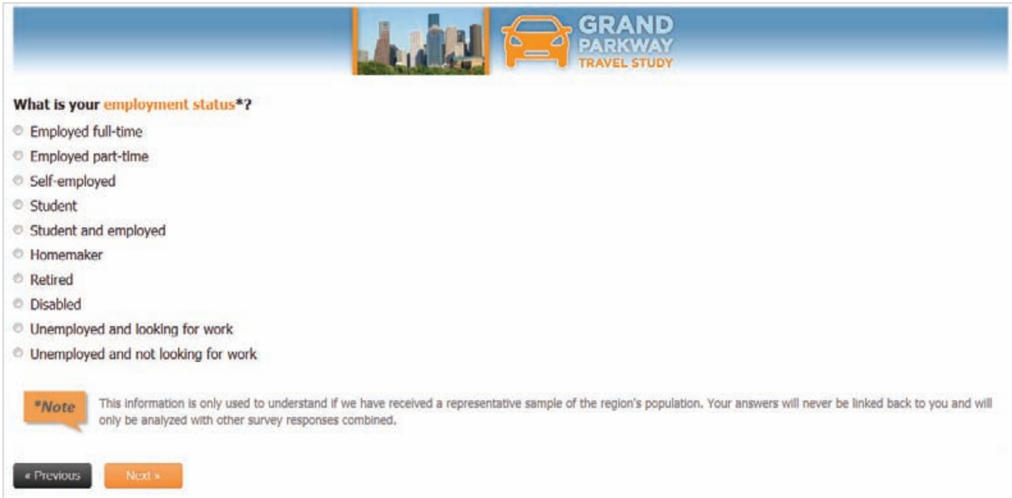
FIGURE 1-47: EMPLOYMENT STATUS


GRAND PARKWAY TRAVEL STUDY

What is your employment status*?

- Employed full-time
- Employed part-time
- Self-employed
- Student
- Student and employed
- Homemaker
- Retired
- Disabled
- Unemployed and looking for work
- Unemployed and not looking for work

*Note This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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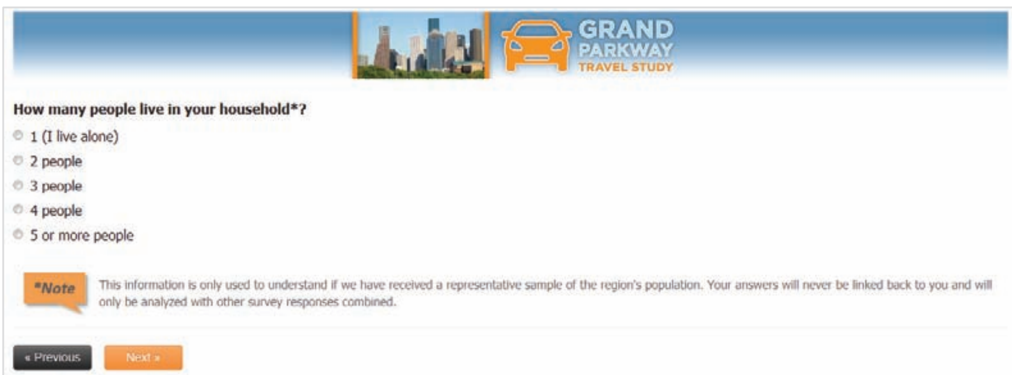
FIGURE 1-48: HOUSEHOLD SIZE


GRAND PARKWAY TRAVEL STUDY

How many people live in your household*?

- 1 (I live alone)
- 2 people
- 3 people
- 4 people
- 5 or more people

*Note This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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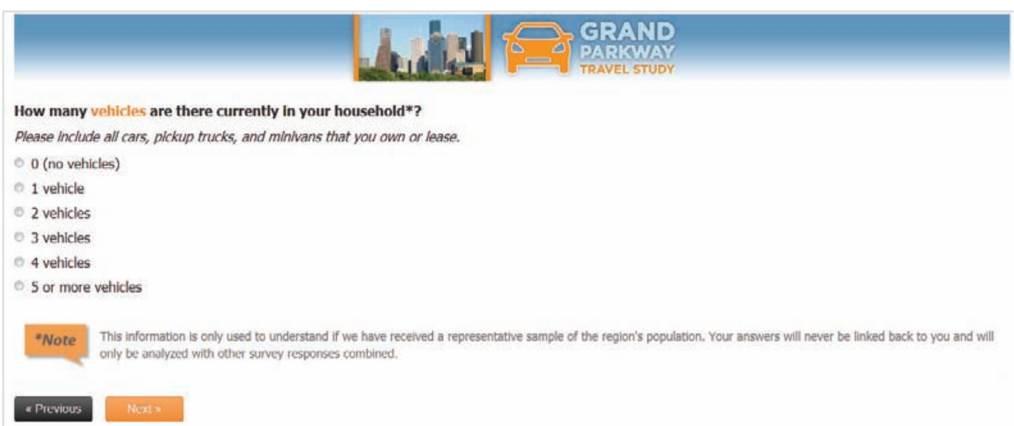
FIGURE 1-49: HOUSEHOLD VEHICLES


GRAND PARKWAY TRAVEL STUDY

How many vehicles are there currently in your household*?

Please include all cars, pickup trucks, and minivans that you own or lease.

- 0 (no vehicles)
- 1 vehicle
- 2 vehicles
- 3 vehicles
- 4 vehicles
- 5 or more vehicles

*Note This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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FIGURE 1-50: INCOME

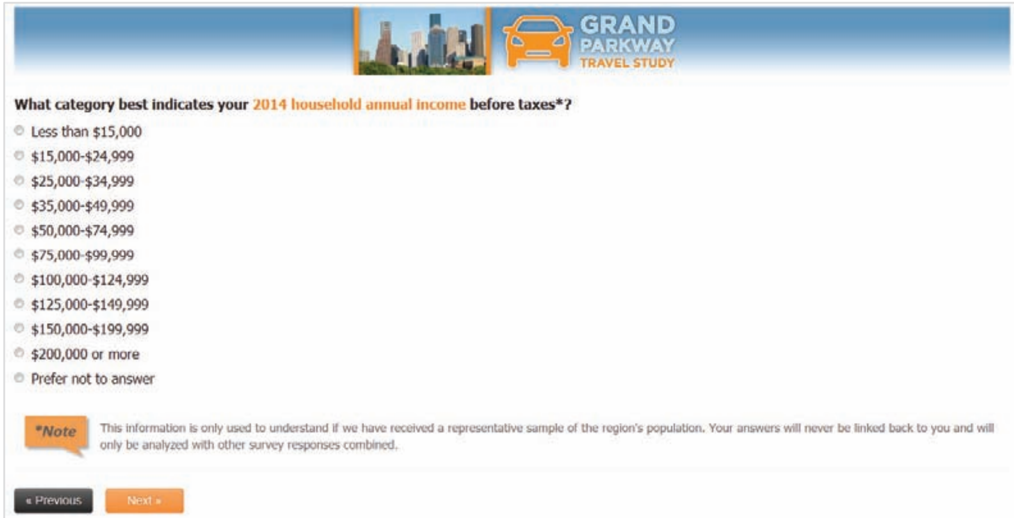


FIGURE 1-51: SURVEY COMMENTS

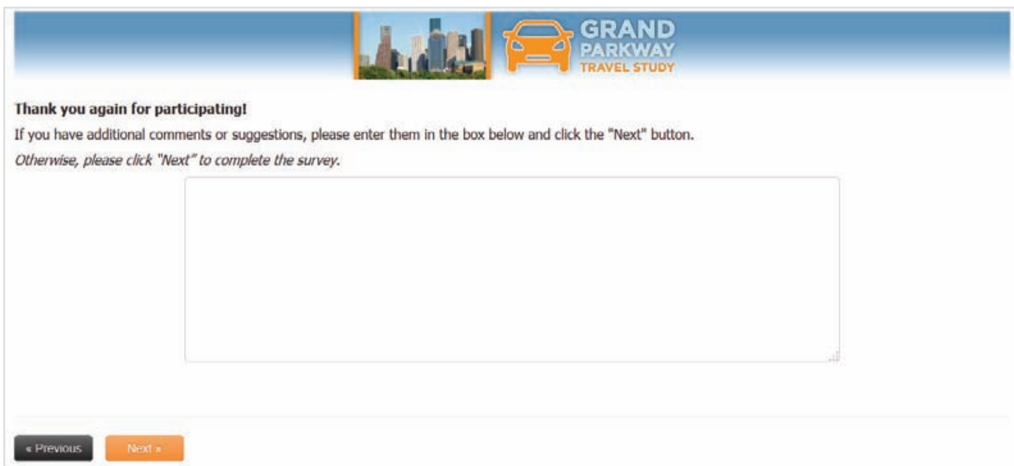


FIGURE 1-52: SURVEY END

2.0 COMMERCIAL VEHICLE SURVEY SCREEN CAPTURES

2.1 | INTRODUCTION AND QUALIFICATION QUESTIONS

FIGURE 2-1: SURVEY INTRODUCTION AND INSTRUCTIONS

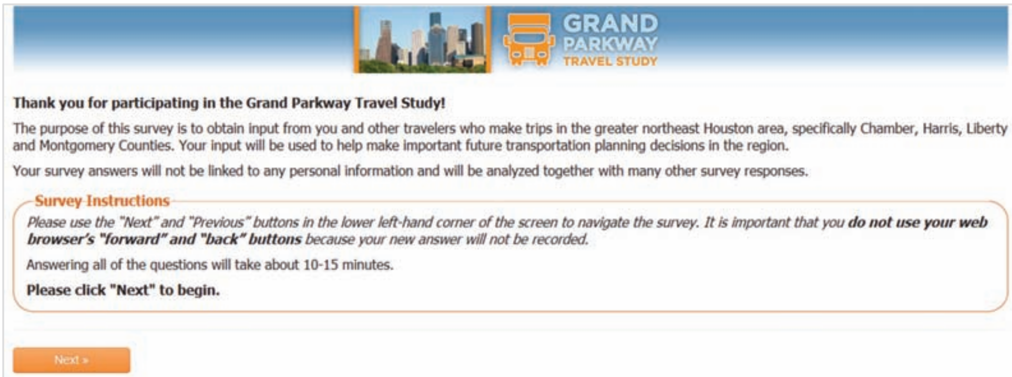


FIGURE 2-2: ROLE

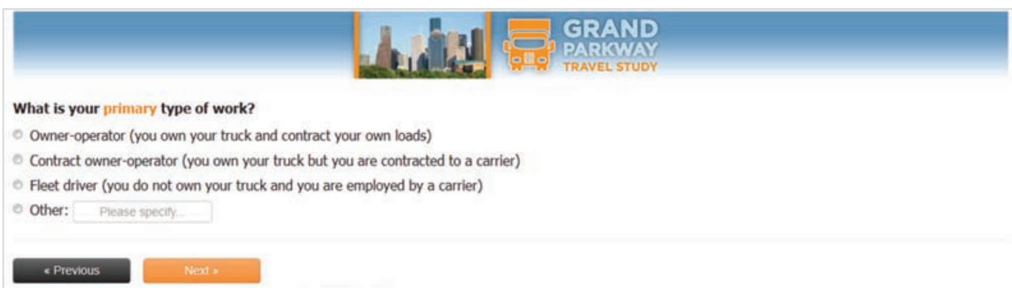


FIGURE 2-3: ROUTING DECISIONS

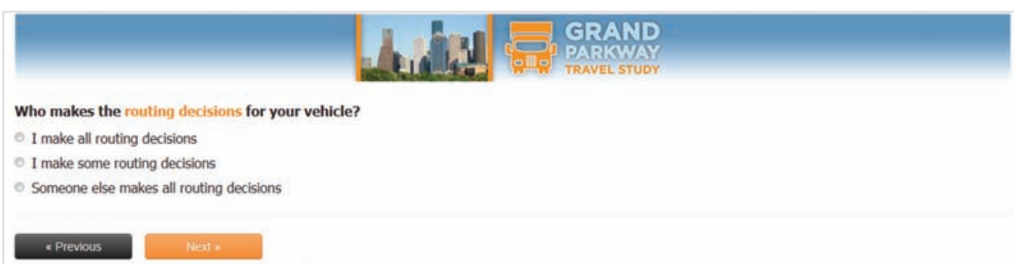


FIGURE 2-4: ROUTING DESCRIPTION

FIGURE 2-5: TERMINATION

If respondent does not make any routing decisions and cannot describe routing decisions.

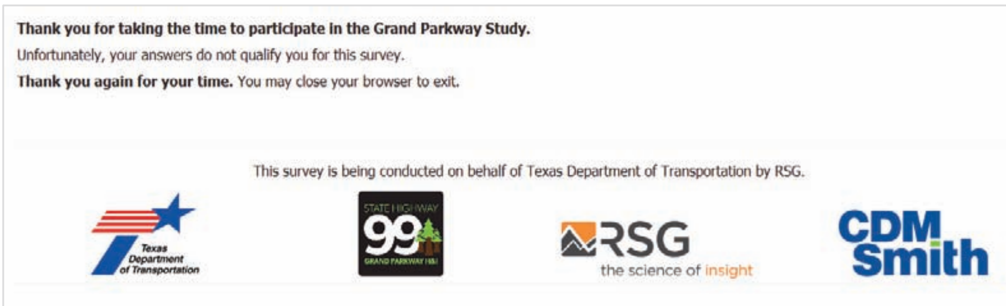
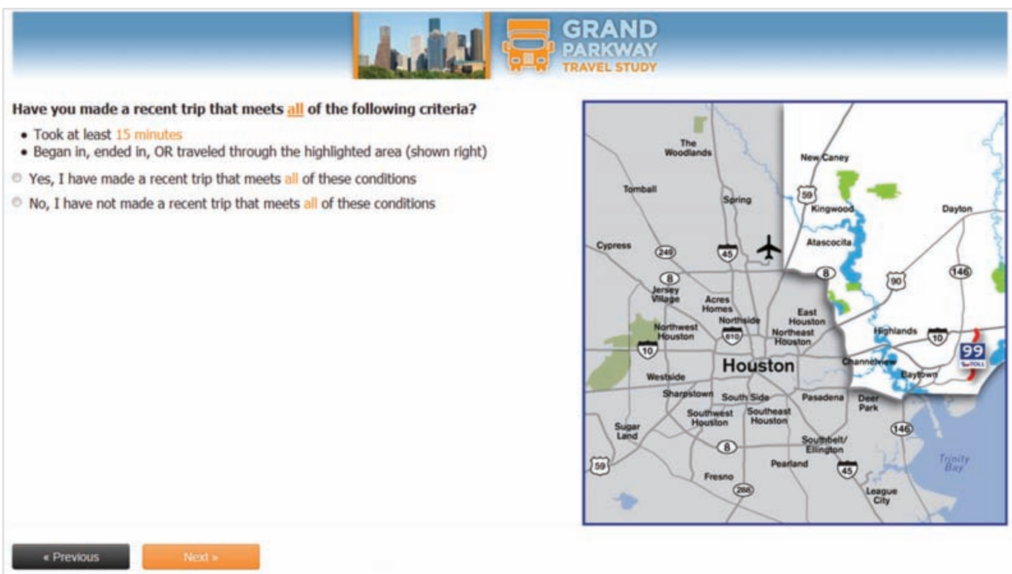


FIGURE 2-6: TRIP QUALIFICATION



2.2 | TRIP CHARACTERISTIC QUESTIONS

FIGURE 2-7: DEFINITION OF QUALIFYING ONE-WAY TRIP

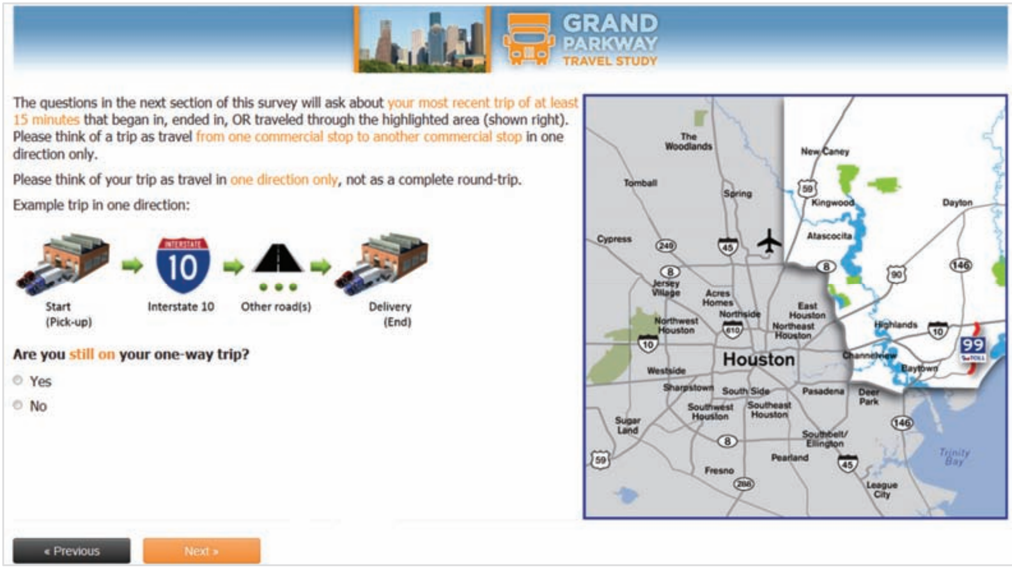


FIGURE 2-8: TRIP LENGTH

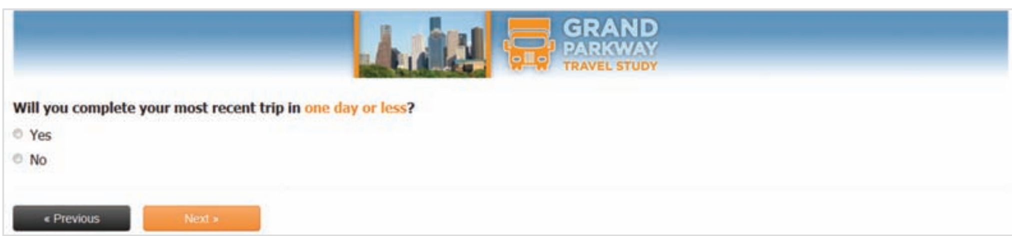


FIGURE 2-9: TRIP LENGTH IN DAYS

FIGURE 2-10: DATE OF TRIP

FIGURE 2-11: ORIGIN

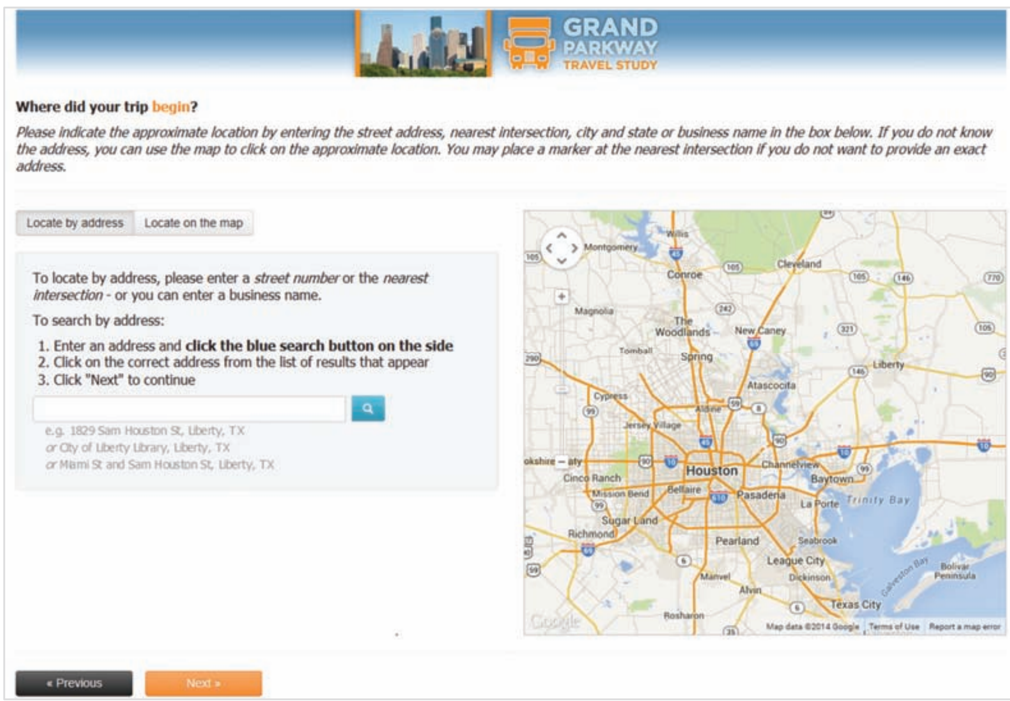


FIGURE 2-12: DESTINATION

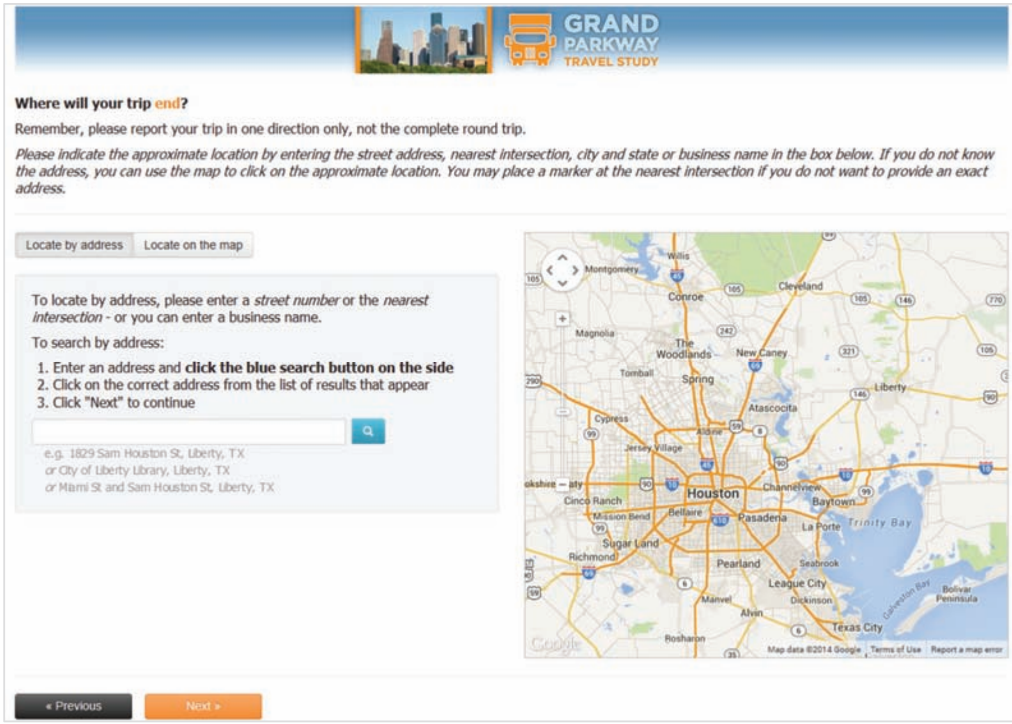


FIGURE 2-13: ORIGIN AND DESTINATION CONFIRMATION

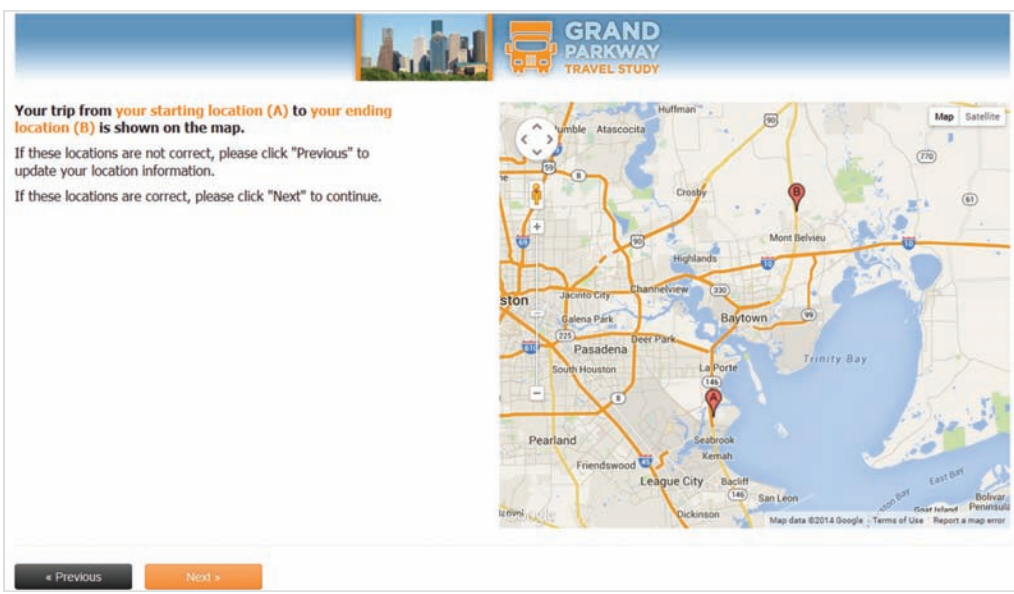


FIGURE 2-14: DISTANCE

FIGURE 2-15: TRAVEL TIME

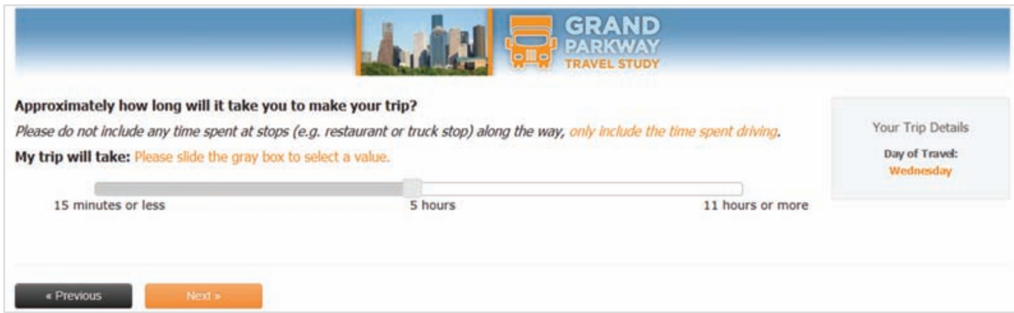


FIGURE 2-16: DELAY

If reported delay due to traffic congestion.

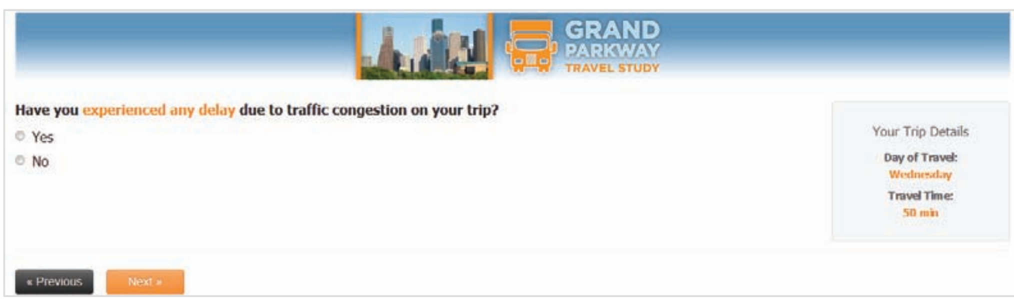


FIGURE 2-17: TRAVEL TIME WITHOUT DELAY

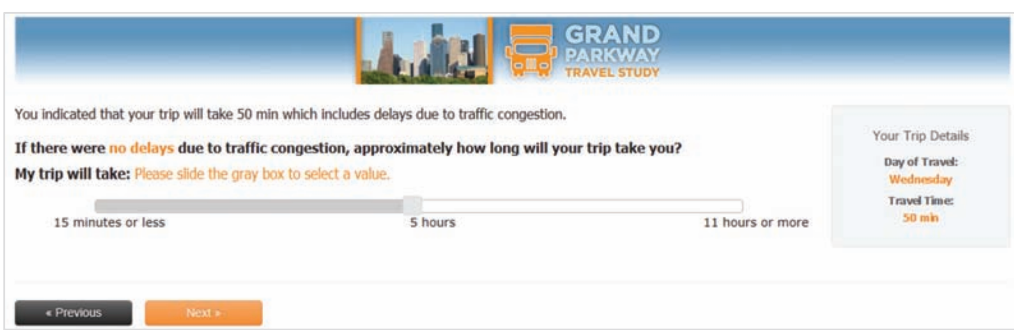
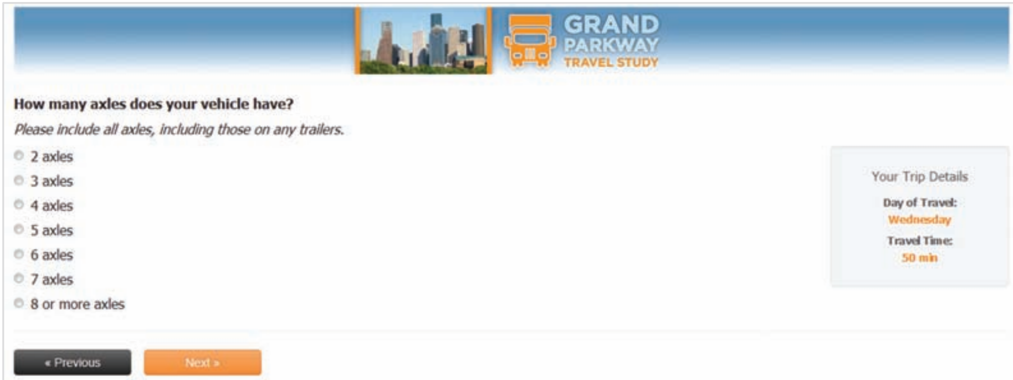


FIGURE 2-18: NUMBER OF AXLES


GRAND PARKWAY TRAVEL STUDY

How many axles does your vehicle have?

Please include all axles, including those on any trailers.

- 2 axles
- 3 axles
- 4 axles
- 5 axles
- 6 axles
- 7 axles
- 8 or more axles

Your Trip Details
Day of Travel: Wednesday
Travel Time: 50 min

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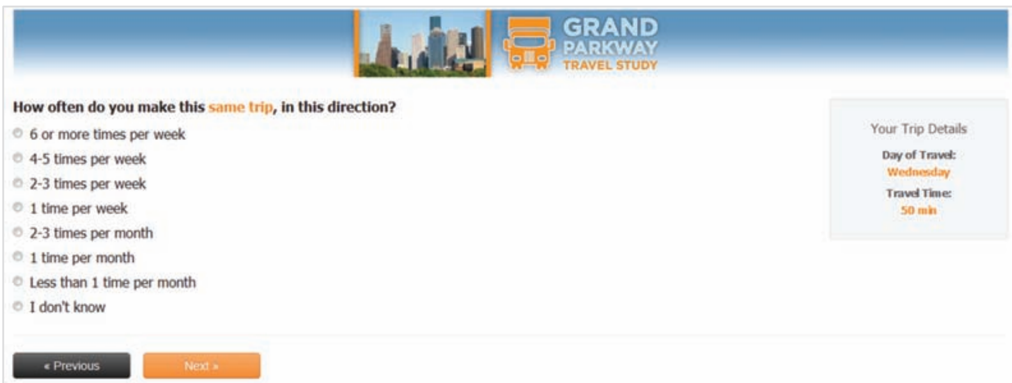
FIGURE 2-19: FREQUENCY


GRAND PARKWAY TRAVEL STUDY

How often do you make this same trip, in this direction?

- 6 or more times per week
- 4-5 times per week
- 2-3 times per week
- 1 time per week
- 2-3 times per month
- 1 time per month
- Less than 1 time per month
- I don't know

Your Trip Details
Day of Travel: Wednesday
Travel Time: 50 min

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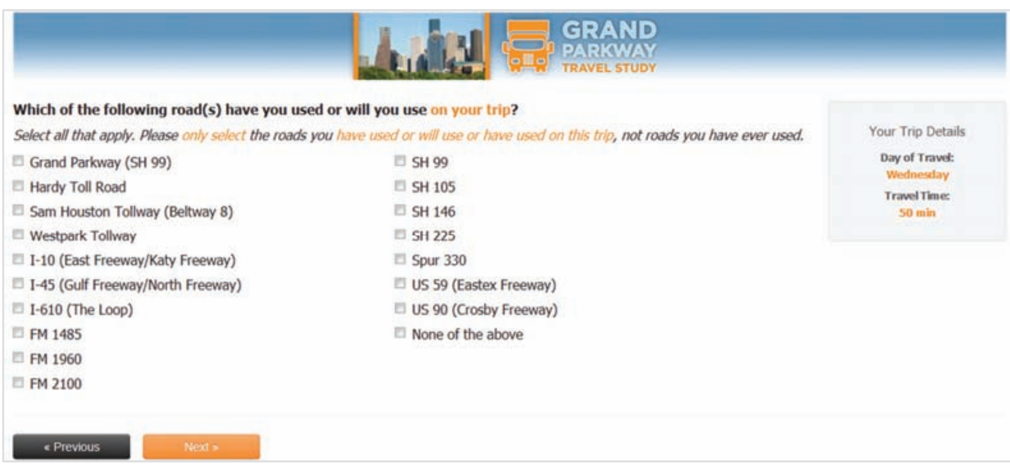
FIGURE 2-20: ROAD(S) TRAVELED


GRAND PARKWAY TRAVEL STUDY

Which of the following road(s) have you used or will you use on your trip?

Select all that apply. Please only select the roads you have used or will use or have used on this trip, not roads you have ever used.

- Grand Parkway (SH 99)
- Hardy Toll Road
- Sam Houston Tollway (Beltway 8)
- Westpark Tollway
- I-10 (East Freeway/Katy Freeway)
- I-45 (Gulf Freeway/North Freeway)
- I-610 (The Loop)
- FM 1485
- FM 1960
- FM 2100
- SH 99
- SH 105
- SH 146
- SH 225
- Spur 330
- US 59 (Eastex Freeway)
- US 90 (Crosby Freeway)
- None of the above

Your Trip Details
Day of Travel: Wednesday
Travel Time: 50 min

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FIGURE 2-21:GRAND PARKWAY/SH 99 SEGMENTS USED

If respondent indicated use of Grand Parkway or SH 99.

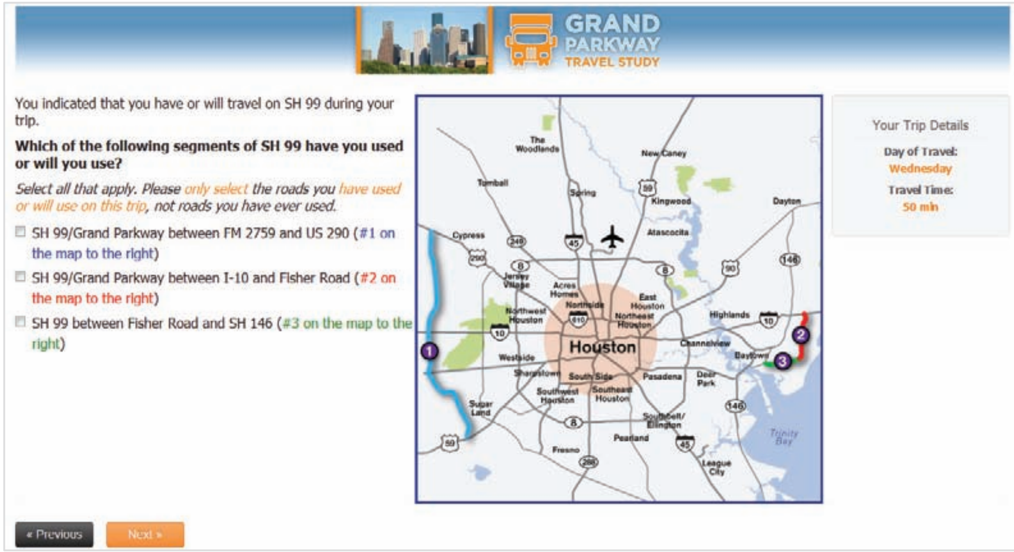


FIGURE 2-22: TOLL(S) PAID

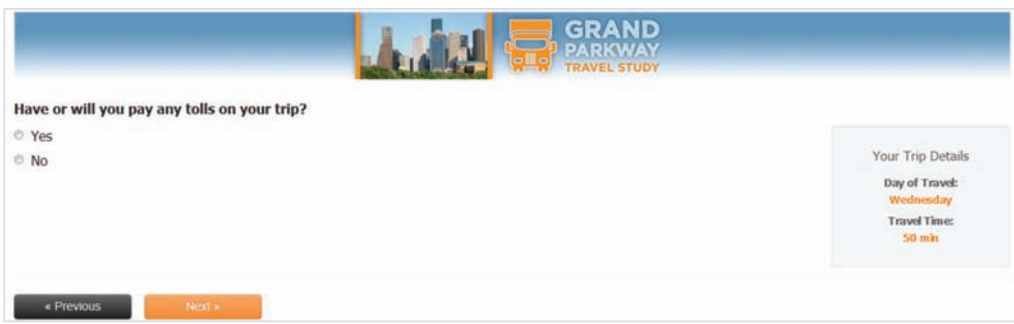


FIGURE 2-23: TOLL AMOUNT PAID

If respondent paid toll(s).

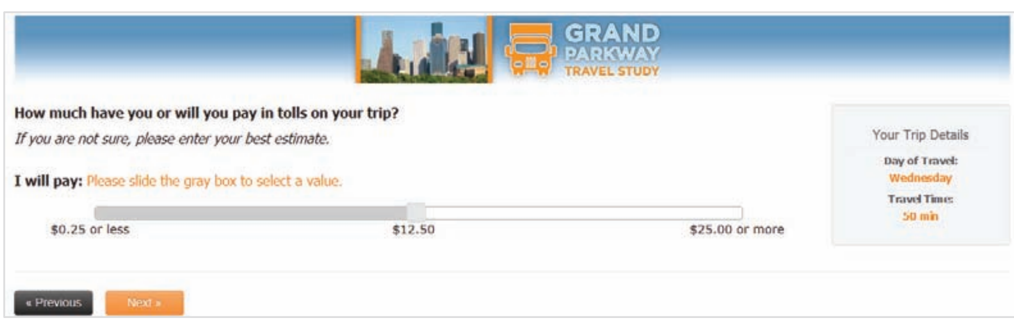
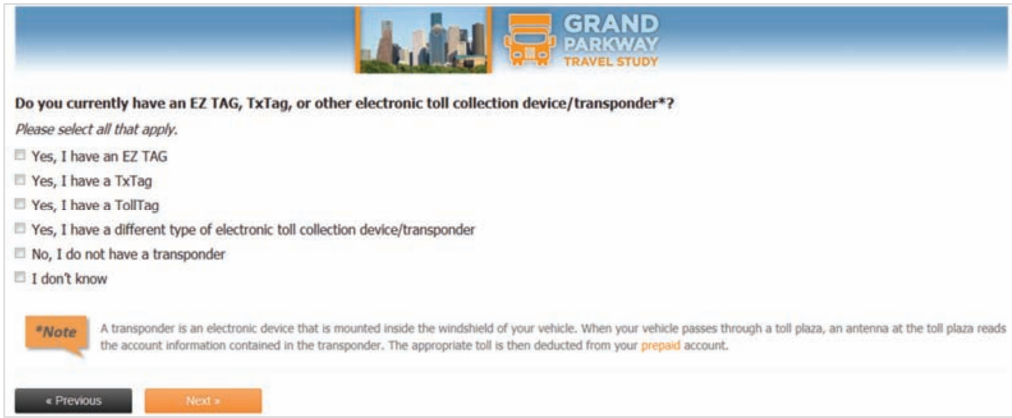


FIGURE 2-24: ETC OWNERSHIP



GRAND PARKWAY TRAVEL STUDY

Do you currently have an EZ TAG, TxTag, or other electronic toll collection device/transponder*?

Please select all that apply.

- ☐ Yes, I have an EZ TAG
- ☐ Yes, I have a TxTag
- ☐ Yes, I have a TollTag
- ☐ Yes, I have a different type of electronic toll collection device/transponder
- ☐ No, I do not have a transponder
- ☐ I don't know

*Note A transponder is an electronic device that is mounted inside the windshield of your vehicle. When your vehicle passes through a toll plaza, an antenna at the toll plaza reads the account information contained in the transponder. The appropriate toll is then deducted from your prepaid account.

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2.3 | STATED PREFERENCE QUESTIONS

FIGURE 2-25: GRAND PARKWAY PROJECT INTRODUCTION

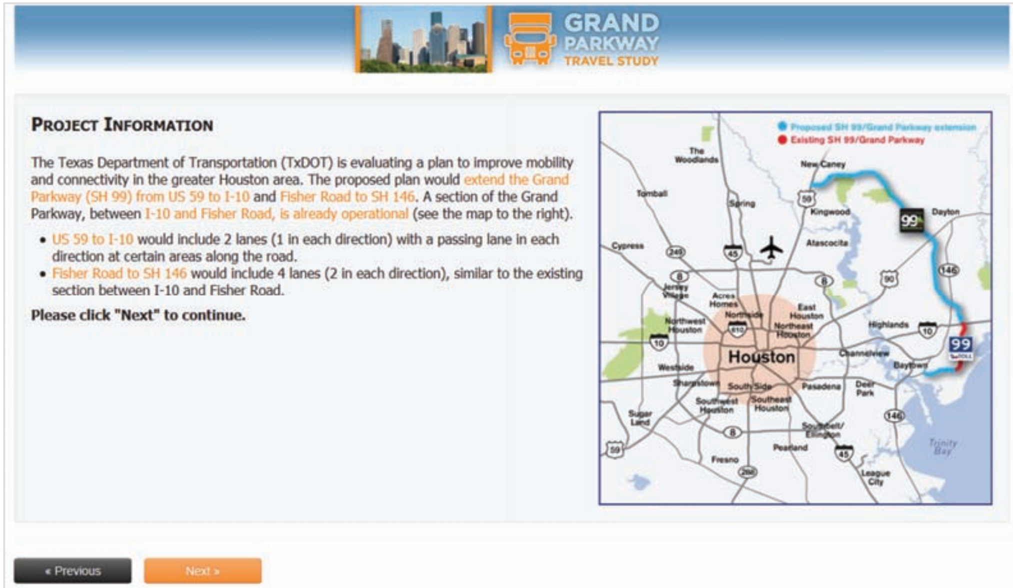


FIGURE 2-26: PAYMENT INFORMATION

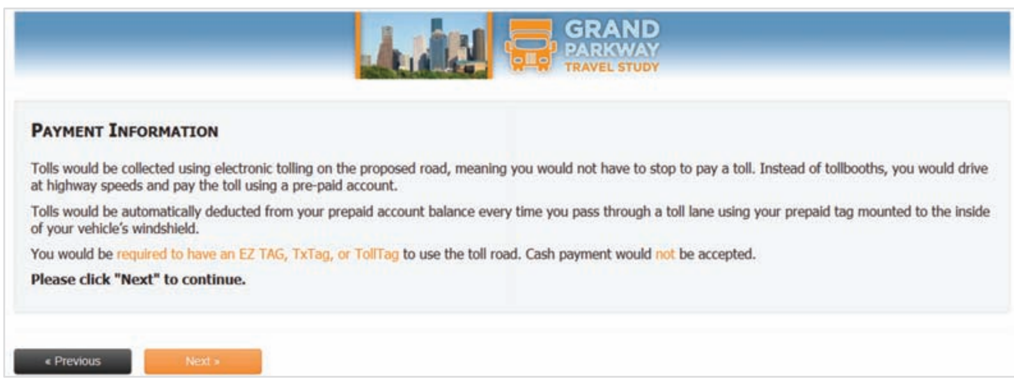


FIGURE 2-27: STATED PREFERENCE INSTRUCTIONS

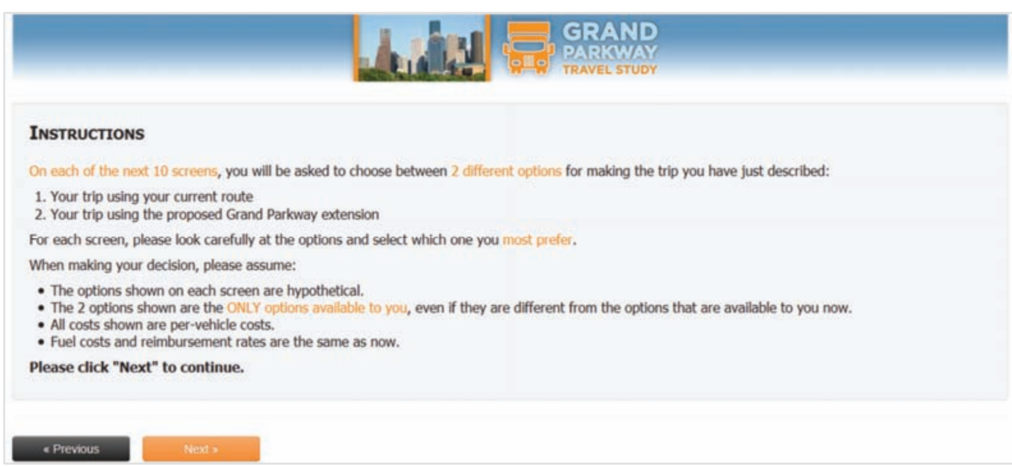
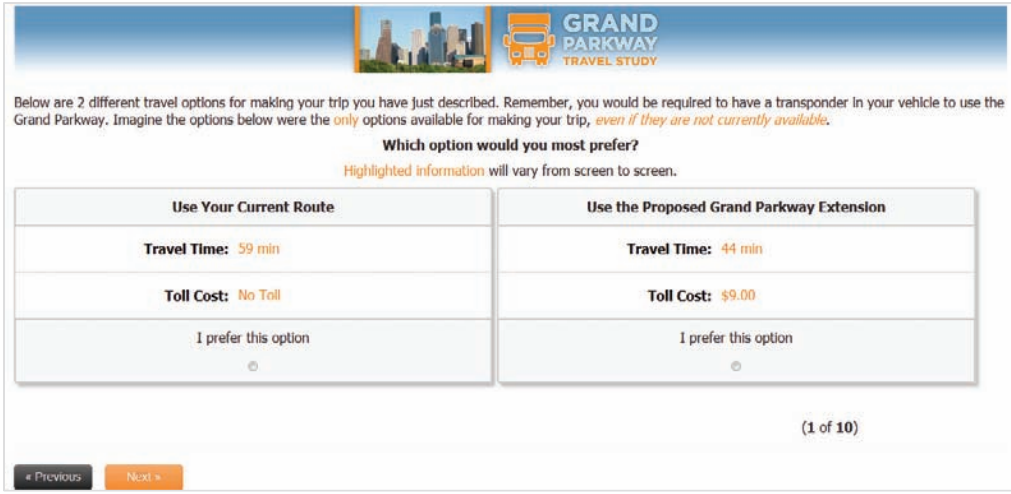


FIGURE 2-28: GRAND PARKWAY SP EXPERIMENT EXAMPLE 1



GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information will vary from screen to screen.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 59 min	**Travel Time:** 44 min
Toll Cost: No Toll	**Toll Cost:** $9.00
I prefer this option	I prefer this option

(**1** of **10**)

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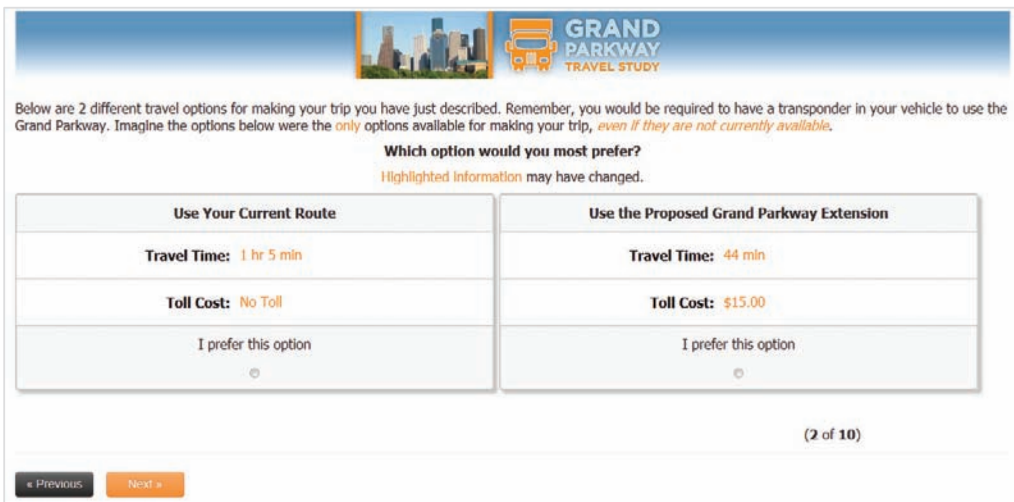
FIGURE 2-29: GRAND PARKWAY SP EXPERIMENT EXAMPLE 2



GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information may have changed.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 1 hr 5 min	**Travel Time:** 44 min
Toll Cost: No Toll	**Toll Cost:** $15.00
I prefer this option	I prefer this option

(**2** of **10**)

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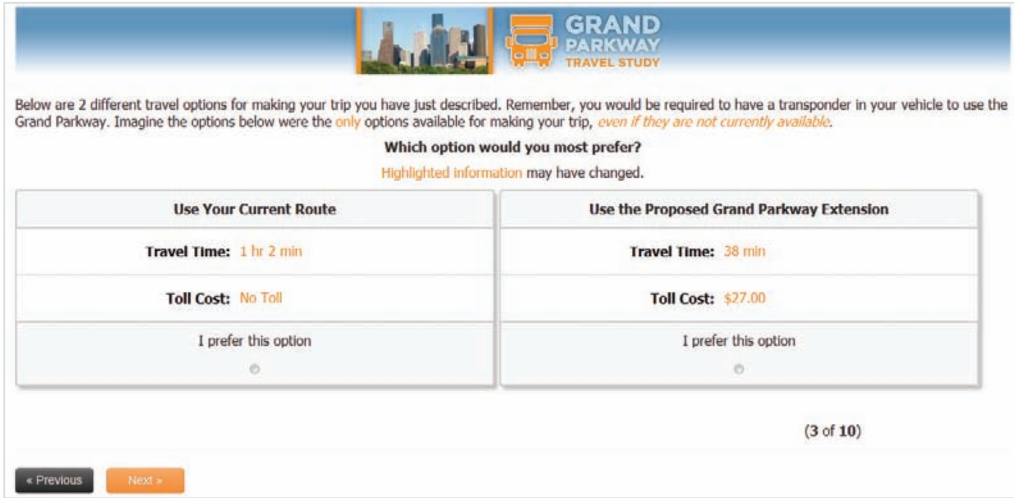
FIGURE 2-30: GRAND PARKWAY SP EXPERIMENT EXAMPLE 3


GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information may have changed.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 1 hr 2 min	**Travel Time:** 38 min
Toll Cost: No Toll	**Toll Cost:** $27.00
I prefer this option	I prefer this option

(**3** of **10**)

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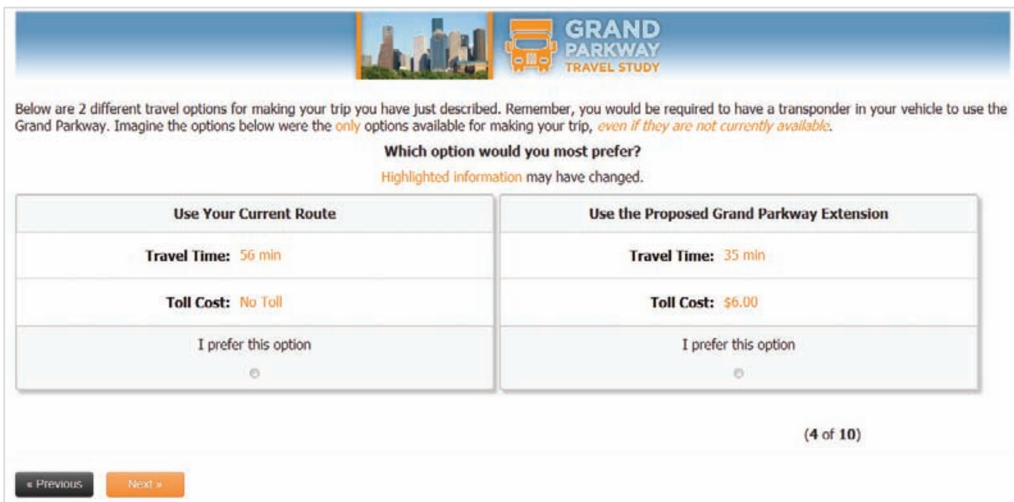
FIGURE 2-31: GRAND PARKWAY SP EXPERIMENT EXAMPLE 4


GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information may have changed.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 56 min	**Travel Time:** 35 min
Toll Cost: No Toll	**Toll Cost:** $6.00
I prefer this option	I prefer this option

(**4** of **10**)

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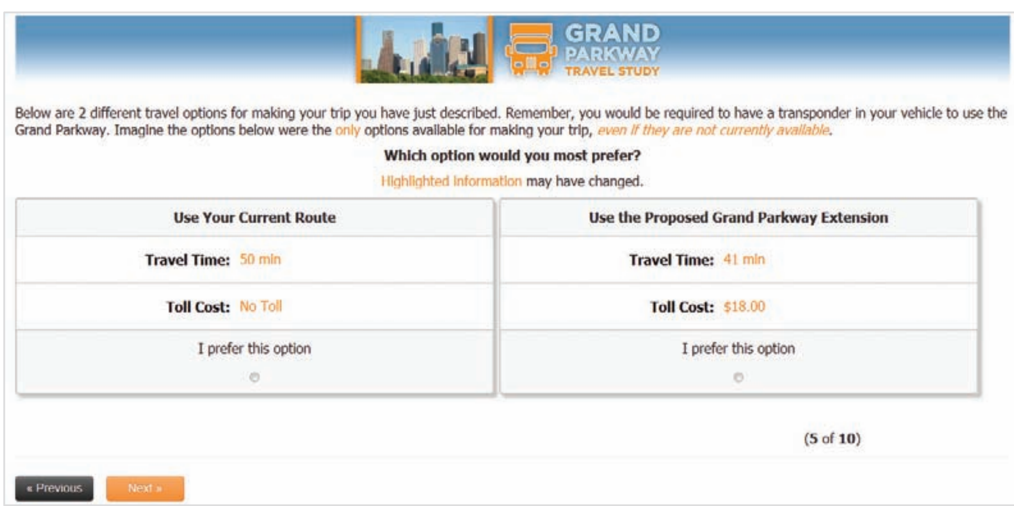
FIGURE 2-32: GRAND PARKWAY SP EXPERIMENT EXAMPLE 5


GRAND PARKWAY TRAVEL STUDY

Below are 2 different travel options for making your trip you have just described. Remember, you would be required to have a transponder in your vehicle to use the Grand Parkway. Imagine the options below were the only options available for making your trip, *even if they are not currently available.*

Which option would you most prefer?

Highlighted information may have changed.

Use Your Current Route	Use the Proposed Grand Parkway Extension
Travel Time: 50 min	**Travel Time:** 41 min
Toll Cost: No Toll	**Toll Cost:** $18.00
I prefer this option	I prefer this option

(**5** of **10**)

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FIGURE 2-33: GRAND PARKWAY SP EXPERIMENT EXAMPLE 6

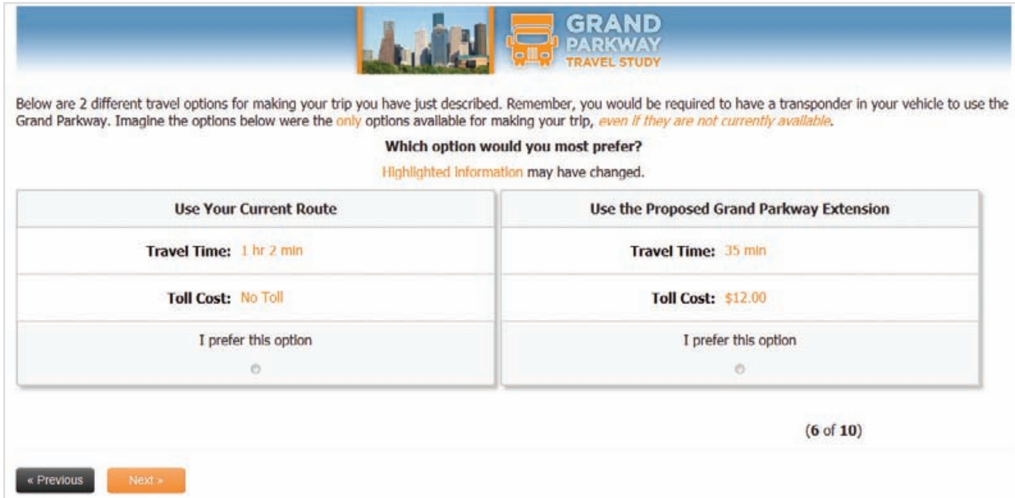


FIGURE 2-34: GRAND PARKWAY SP EXPERIMENT EXAMPLE 7

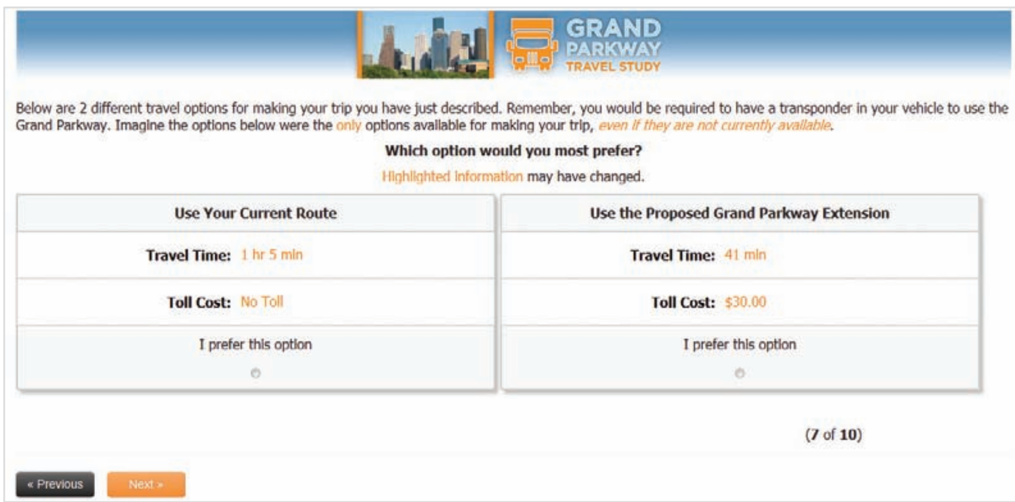


FIGURE 2-35: GRAND PARKWAY SP EXPERIMENT EXAMPLE 8

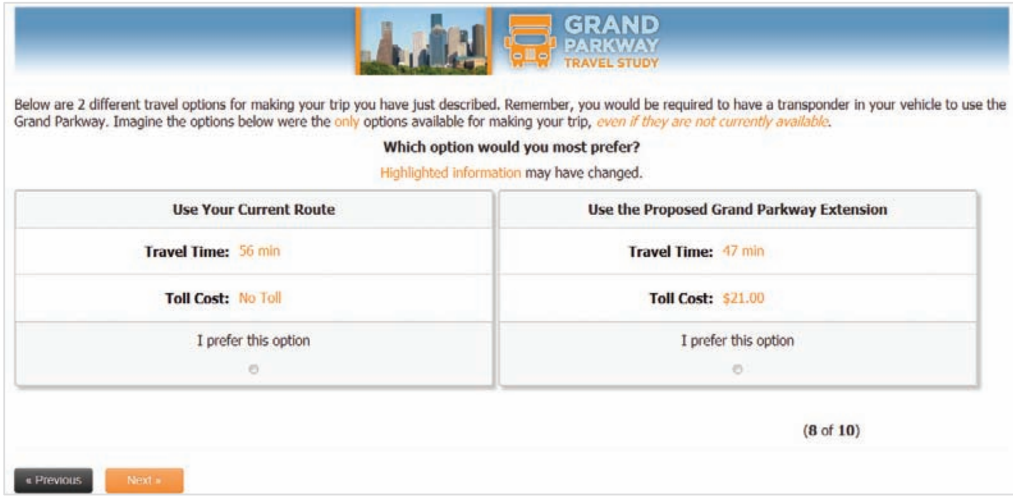


FIGURE 2-36: GRAND PARKWAY SP EXPERIMENT EXAMPLE 9

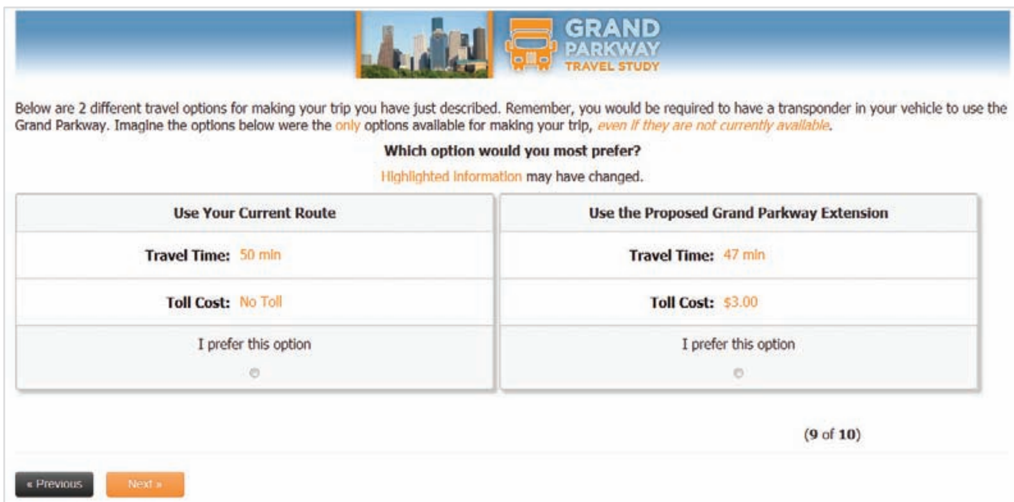
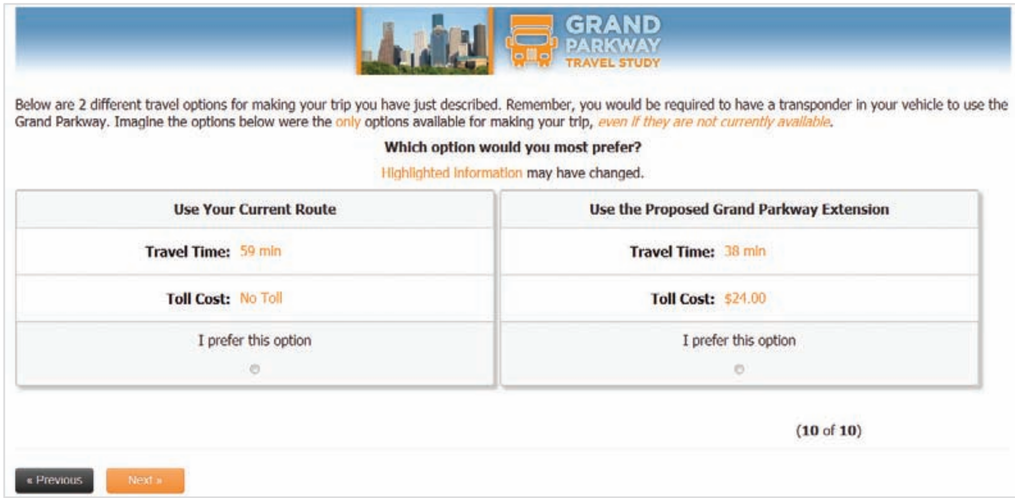


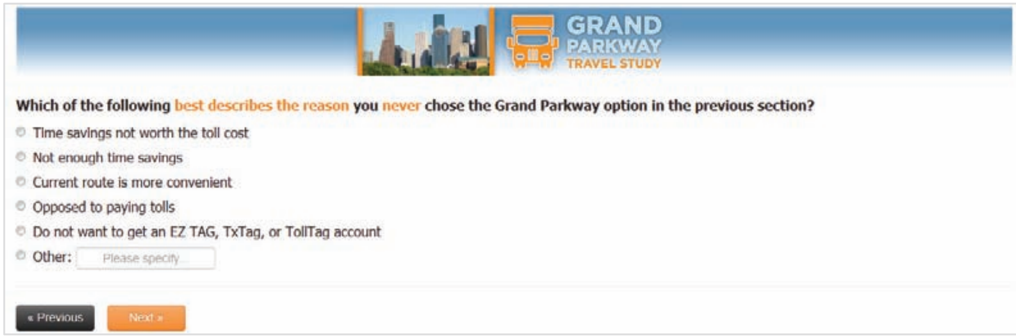
FIGURE 2-37: GRAND PARKWAY SP EXPERIMENT EXAMPLE 10



2.4 | DEBRIEF AND OPINION QUESTIONS

FIGURE 2-38: GRAND PARKWAY ATTITUDE STATEMENT

If never selected Grand Parkway option in the stated preference section.


GRAND PARKWAY TRAVEL STUDY

Which of the following best describes the reason you never chose the Grand Parkway option in the previous section?

- Time savings not worth the toll cost
- Not enough time savings
- Current route is more convenient
- Opposed to paying tolls
- Do not want to get an EZ TAG, TxTag, or TollTag account
- Other: Please specify

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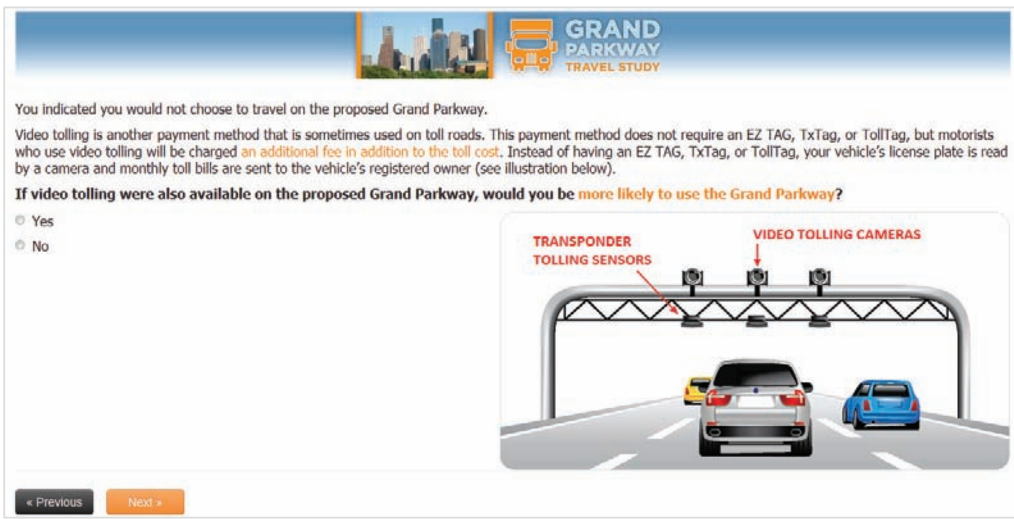
FIGURE 2-39: VIDEO TOLLING

If never selected Grand Parkway option in stated preference section and does not own an ETC.


GRAND PARKWAY TRAVEL STUDY

You indicated you would not choose to travel on the proposed Grand Parkway.

Video tolling is another payment method that is sometimes used on toll roads. This payment method does not require an EZ TAG, TxTag, or TollTag, but motorists who use video tolling will be charged an additional fee in addition to the toll cost. Instead of having an EZ TAG, TxTag, or TollTag, your vehicle's license plate is read by a camera and monthly toll bills are sent to the vehicle's registered owner (see illustration below).

If video tolling were also available on the proposed Grand Parkway, would you be more likely to use the Grand Parkway?

- Yes
- No

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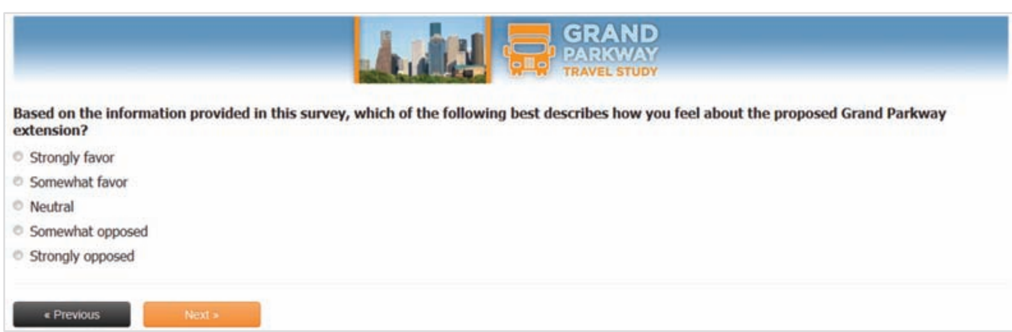
FIGURE 2-40: OPINION OF PROPOSED PROJECT


GRAND PARKWAY TRAVEL STUDY

Based on the information provided in this survey, which of the following best describes how you feel about the proposed Grand Parkway extension?

- Strongly favor
- Somewhat favor
- Neutral
- Somewhat opposed
- Strongly opposed

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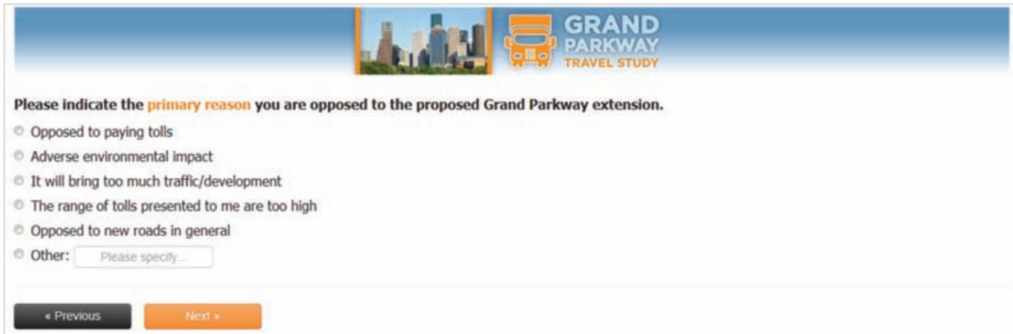
FIGURE 2-41: WHY OPPOSED TO PROJECT

If somewhat or strongly opposes the project.



GRAND PARKWAY TRAVEL STUDY

Please indicate the primary reason you are opposed to the proposed Grand Parkway extension.

- Opposed to paying tolls
- Adverse environmental impact
- It will bring too much traffic/development
- The range of tolls presented to me are too high
- Opposed to new roads in general
- Other: Please specify...

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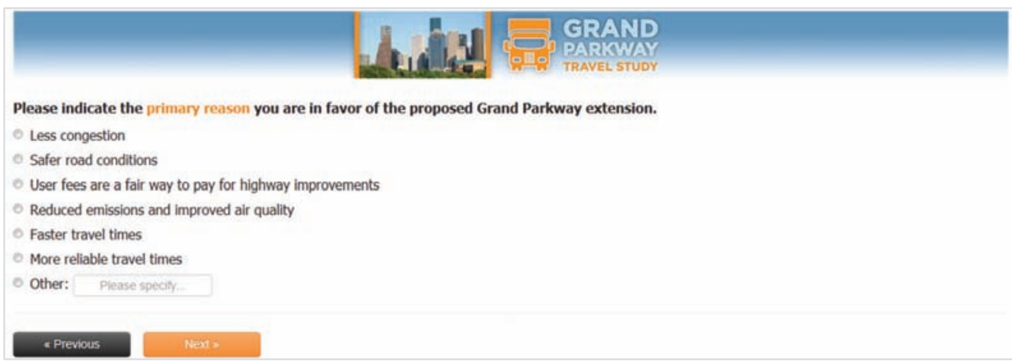
FIGURE 2-42: WHY IN FAVOR OF PROJECT

If somewhat or strongly favors the project.



GRAND PARKWAY TRAVEL STUDY

Please indicate the primary reason you are in favor of the proposed Grand Parkway extension.

- Less congestion
- Safer road conditions
- User fees are a fair way to pay for highway improvements
- Reduced emissions and improved air quality
- Faster travel times
- More reliable travel times
- Other: Please specify...

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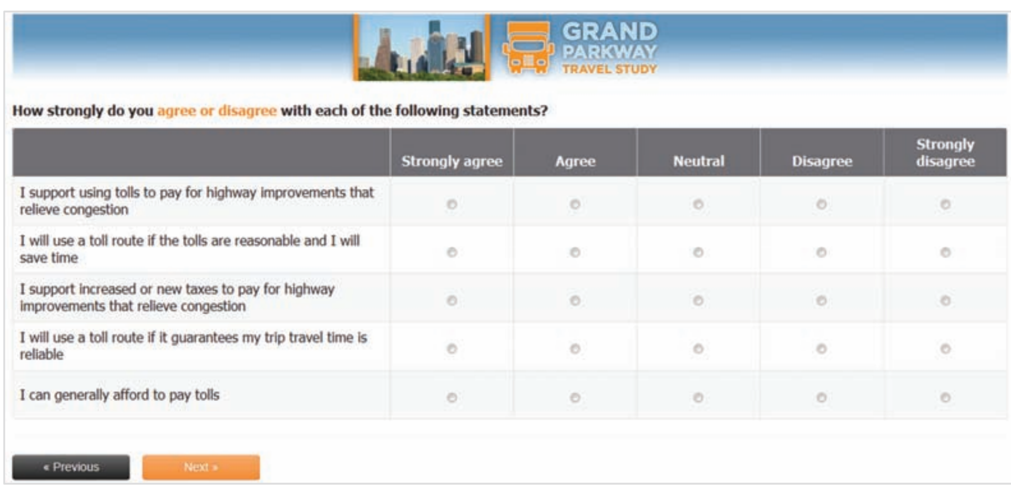
FIGURE 2-43: TOLL ATTITUDE STATEMENTS



GRAND PARKWAY TRAVEL STUDY

How strongly do you agree or disagree with each of the following statements?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I support using tolls to pay for highway improvements that relieve congestion	○	○	○	○	○
I will use a toll route if the tolls are reasonable and I will save time	○	○	○	○	○
I support increased or new taxes to pay for highway improvements that relieve congestion	○	○	○	○	○
I will use a toll route if it guarantees my trip travel time is reliable	○	○	○	○	○
I can generally afford to pay tolls	○	○	○	○	○

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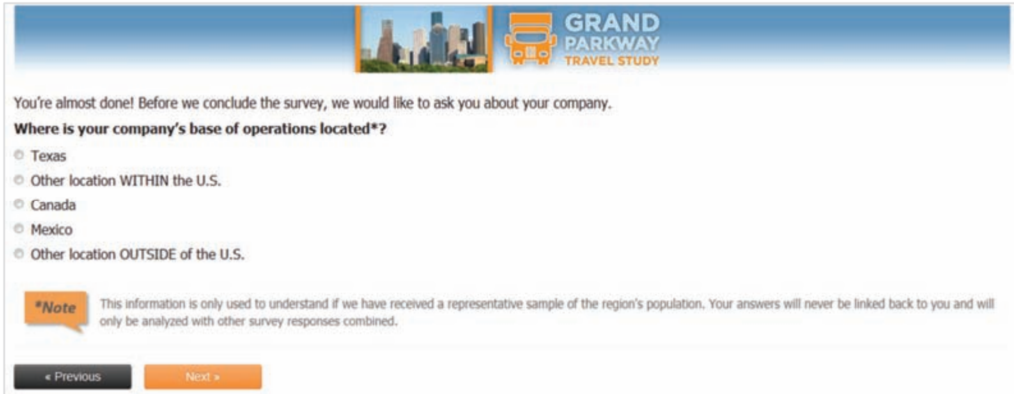
2.5 | COMPANY INFORMATION QUESTIONS

FIGURE 2-44: COMPANY HEADQUARTERS



GRAND PARKWAY TRAVEL STUDY

You're almost done! Before we conclude the survey, we would like to ask you about your company.

Where is your company's base of operations located*?

- Texas
- Other location WITHIN the U.S.
- Canada
- Mexico
- Other location OUTSIDE of the U.S.

*Note This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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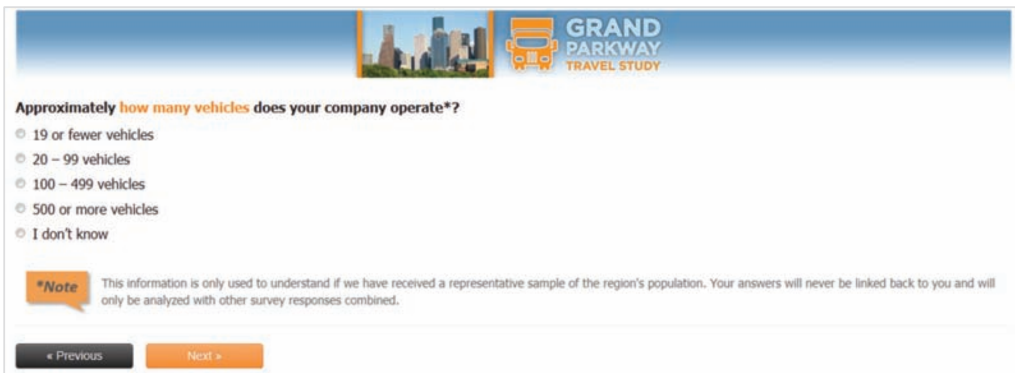
FIGURE 2-45: FLEET SIZE



GRAND PARKWAY TRAVEL STUDY

Approximately how many vehicles does your company operate*?

- 19 or fewer vehicles
- 20 – 99 vehicles
- 100 – 499 vehicles
- 500 or more vehicles
- I don't know

*Note This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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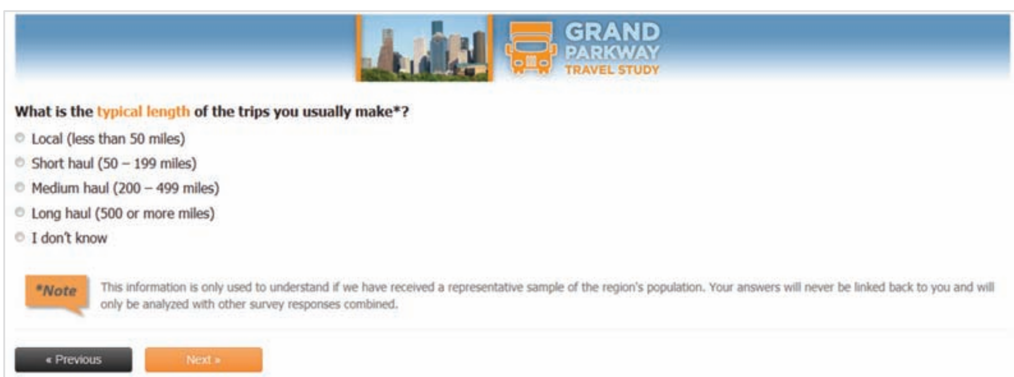
FIGURE 2-46: TYPICAL TRIP LENGTH



GRAND PARKWAY TRAVEL STUDY

What is the typical length of the trips you usually make*?

- Local (less than 50 miles)
- Short haul (50 – 199 miles)
- Medium haul (200 – 499 miles)
- Long haul (500 or more miles)
- I don't know

*Note This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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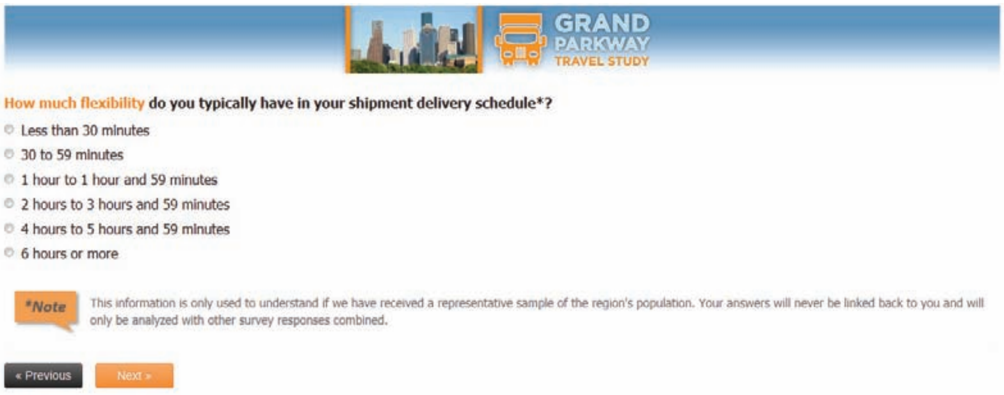
FIGURE 2-47: TYPICAL TRIP FLEXIBILITY


GRAND PARKWAY TRAVEL STUDY

How much flexibility do you typically have in your shipment delivery schedule*?

- Less than 30 minutes
- 30 to 59 minutes
- 1 hour to 1 hour and 59 minutes
- 2 hours to 3 hours and 59 minutes
- 4 hours to 5 hours and 59 minutes
- 6 hours or more

*Note This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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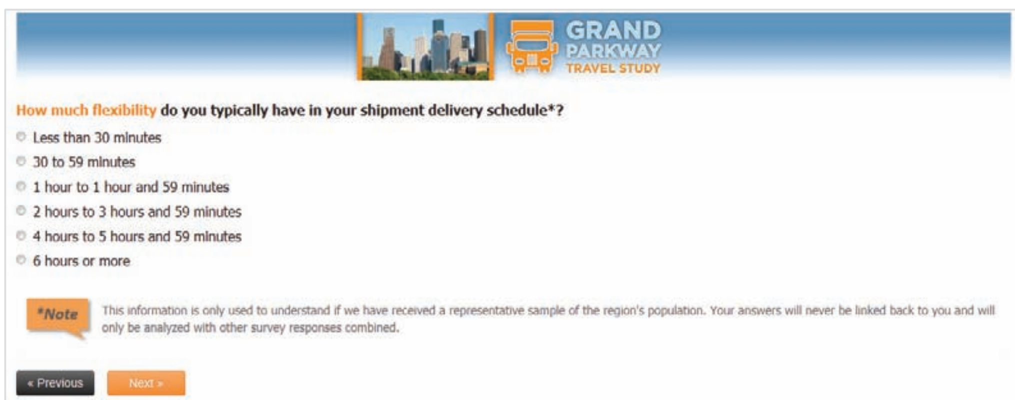
FIGURE 2-48: HOW FLEXIBLE

If has trip flexibility.


GRAND PARKWAY TRAVEL STUDY

How much flexibility do you typically have in your shipment delivery schedule*?

- Less than 30 minutes
- 30 to 59 minutes
- 1 hour to 1 hour and 59 minutes
- 2 hours to 3 hours and 59 minutes
- 4 hours to 5 hours and 59 minutes
- 6 hours or more

*Note This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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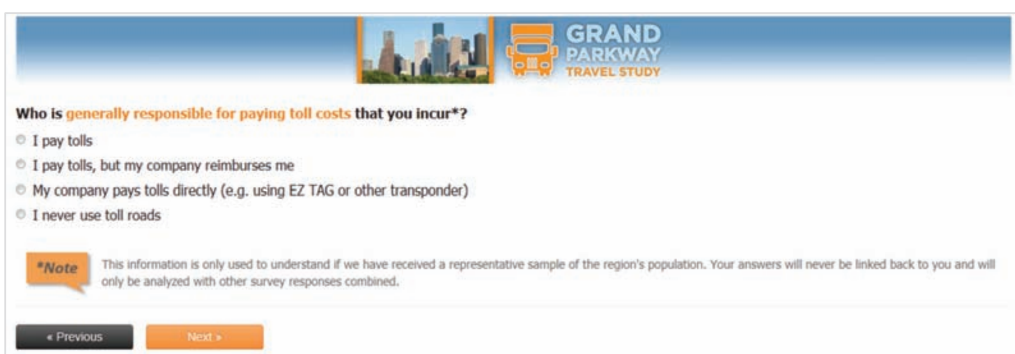
FIGURE 2-49: WHO PAYS TOLLS


GRAND PARKWAY TRAVEL STUDY

Who is generally responsible for paying toll costs that you incur*?

- I pay tolls
- I pay tolls, but my company reimburses me
- My company pays tolls directly (e.g. using EZ TAG or other transponder)
- I never use toll roads

*Note This information is only used to understand if we have received a representative sample of the region's population. Your answers will never be linked back to you and will only be analyzed with other survey responses combined.

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FIGURE 2-50: HOW TOLLS ARE CHARGED

FIGURE 2-51: COMMENTS

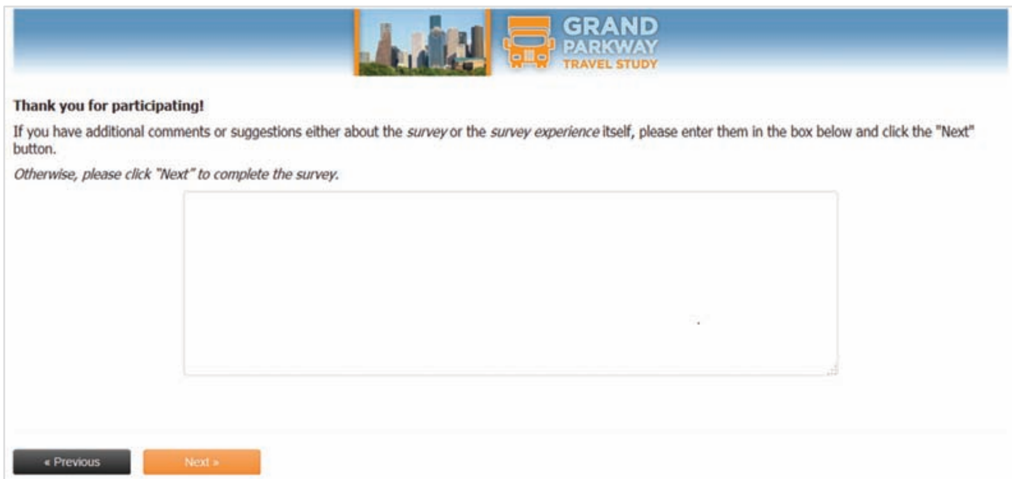
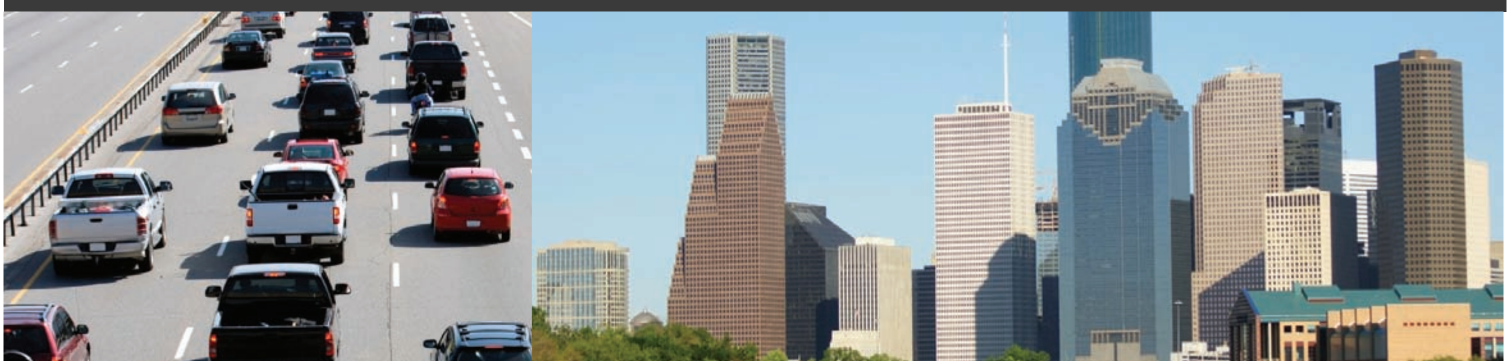


FIGURE 2-52: SURVEY END

APPENDIX B: SURVEY TABULATIONS

GRAND PARKWAY (SEGMENTS H & I) STATED PREFERENCE SURVEY

6.26.2015



PREPARED FOR:
TEXAS DEPARTMENT OF TRANSPORTATION

SUBMITTED BY:
RSG

55 Railroad Row
White River Junction, VT 05001
802.295.4999
www.rsginc.com

IN COOPERATION WITH:
CDM SMITH

CONTENTS

1.0 PASSENGER VEHICLE CROSS-TABULATIONS

TABLE 1-1: DATA SOURCE

Data source	Peak trips		Off-peak trips		Total	
	Count	Percent	Count	Percent	**Count**	**Percent**
Postcard handout	211	39%	148	35%	**359**	**37%**
Online research panel	147	27%	172	40%	**319**	**33%**
Business recruit	187	34%	107	25%	**294**	**30%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

1.1 | TRIP CHARACTERISTIC TABULATIONS

TABLE 1-2: DAY OF WEEK

On what day of the week did you make your most recent trip?	Peak trips		Off-peak trips		Total	
	Count	Percent	Count	Percent	**Count**	**Percent**
Monday	108	20%	80	19%	**188**	**19%**
Tuesday	98	18%	88	21%	**186**	**19%**
Wednesday	93	17%	73	17%	**166**	**17%**
Thursday	115	21%	102	24%	**217**	**22%**
Friday	131	24%	84	20%	**215**	**22%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-3: PURPOSE

What was the primary purpose of your trip?						
	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Go to/from work	311	57%	107	25%	**418**	**43%**
Work-related business	56	10%	67	16%	**123**	**13%**
Go to/from school	19	3%	11	3%	**30**	**3%**
Go to/from airport	6	1%	5	1%	**11**	**1%**
Shopping	24	4%	65	15%	**89**	**9%**
Social or recreational (such as visiting a friend or going to the movies)	66	12%	72	17%	**138**	**14%**
Other personal errands (such as medial appointment)	63	12%	100	23%	**163**	**17%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-4: BEGIN LOCATION

Where did your trip begin?						
	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
My home	469	86%	350	82%	**819**	**84%**
My regular workplace	61	11%	53	12%	**114**	**12%**
Another place	15	3%	24	6%	**39**	**4%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-5: END LOCAITON

Where did your trip end?						
	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
My home	64	12%	50	12%	**114**	**12%**
My regular workplace	274	50%	102	24%	**376**	**39%**
Another place	207	38%	275	64%	**482**	**50%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-6: GOOGLE MAPS ESTIMATED DISTANCE

Google Maps estimated trip distance

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
Less than 15 miles	170	31%	132	31%	**302**	**31%**
15-29 miles	199	37%	145	34%	**344**	**35%**
30-44 miles	115	21%	89	21%	**204**	**21%**
45-59 miles	35	6%	33	8%	**68**	**7%**
60 or more miles	26	5%	28	7%	**54**	**6%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-7: ROAD(S) TRAVELED

Which of the following road(s) did you use on your trip? Select all that apply.

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
Grand Parkway (SH 99)	37	7%	27	6%	**64**	**7%**
FM 2100	35	6%	27	6%	**62**	**6%**
SH 99	18	3%	7	2%	**25**	**3%**
SH 105	14	3%	10	2%	**24**	**2%**
SH 146	129	24%	86	20%	**215**	**22%**
SH 225	34	6%	29	7%	**63**	**6%**
Spur 330	27	5%	21	5%	**48**	**5%**
US 59 (Eastex Freeway)	169	31%	154	36%	**323**	**33%**
US 90 (Crosby Freeway)	37	7%	31	7%	**68**	**7%**
Hardy Toll Road	25	5%	25	6%	**50**	**5%**
Sam Houston Tollway (Beltway 8)	116	21%	90	21%	**206**	**21%**
Westpark Tollway	2	0%	5	1%	**7**	**1%**
I-10 (East Freeway/Katy Freeway)	151	28%	116	27%	**267**	**27%**
I-45 (Gulf Freeway/North Freeway)	62	11%	41	10%	**103**	**11%**
I-610 (The Loop)	42	8%	39	9%	**81**	**8%**
FM 1485	37	7%	13	3%	**50**	**5%**
FM 1960	92	17%	74	17%	**166**	**17%**
None of the above	33	6%	32	7%	**65**	**7%**
Total Number of Respondents	**545**		**427**		**972**	

TABLE 1-8: GRAND PARKWAY/SH 99 SEGMENTS USED

If used Grand Parkway or SH 99: Which of the following segments of SH 99 did you use? Select all that apply.

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
SH 99/Grand Parkway between FM 2759 and US 290	2	4%	8	26%	**10**	**13%**
SH 99/Grand Parkway between I-10 and Fisher Road	31	67%	18	58%	**49**	**64%**
SH 99 between Fisher Road and SH 146	33	72%	15	48%	**48**	**62%**
Total Number of Respondents	**46**		**31**		**77**	

TABLE 1-9: TOLL(S) PAID

Did you pay any tolls on your trip?

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Yes	126	23%	104	24%	**230**	**24%**
No	419	77%	323	76%	**742**	**76%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-10: TOLL AMOUNT PAID

How much did you pay in tolls on your trip?

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Did not pay a toll	419	77%	323	76%	**742**	**76%**
Less than $1.50	20	4%	17	4%	**37**	**4%**
$1.50-2.99	58	11%	37	9%	**95**	**10%**
$3.00-4.49	33	6%	38	9%	**71**	**7%**
$4.50-5.99	10	2%	6	1%	**16**	**2%**
$6.00 or more	5	1%	6	1%	**11**	**1%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-11: DEPARTURE TIME (CATEGORICAL)

What time did you begin your trip?

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
AM Peak (6:00-8:59 AM)	395	72%	0	0%	**395**	**41%**
Mid day (9:00 AM-3:00 PM)	0	0%	330	77%	**330**	**34%**
PM Peak (3:00-6:59 PM)	150	28%	0	0%	**150**	**15%**
Night time (7:00 PM-5:59 AM)	0	0%	97	23%	**97**	**10%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-12: DEPARTURE TIME

What time did you begin your trip?

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
0:00-0:59 AM	0	0%	2	0%	**2**	**0%**
1:00-1:59 AM	0	0%	1	0%	**1**	**0%**
2:00-2:59 AM	0	0%	2	0%	**2**	**0%**
3:00-3:59 AM	0	0%	7	2%	**7**	**1%**
4:00-4:59 AM	0	0%	21	5%	**21**	**2%**
5:00-5:59 AM	0	0%	54	13%	**54**	**6%**
6:00-6:59 AM	130	24%	0	0%	**130**	**13%**
7:00-7:59 AM	153	28%	0	0%	**153**	**16%**
8:00-8:59 AM	112	21%	0	0%	**112**	**12%**
9:00-9:59 AM	0	0%	81	19%	**81**	**8%**
10:00-10:59 AM	0	0%	71	17%	**71**	**7%**
11:00-11:59 AM	0	0%	47	11%	**47**	**5%**
12:00-12:59 PM	0	0%	38	9%	**38**	**4%**
1:00-1:59 PM	0	0%	52	12%	**52**	**5%**
2:00-2:59 PM	0	0%	41	10%	**41**	**4%**
3:00-3:59 PM	38	7%	0	0%	**38**	**4%**
4:00-4:59 PM	36	7%	0	0%	**36**	**4%**
5:00-5:59 PM	52	10%	0	0%	**52**	**5%**
6:00-6:59 PM	24	4%	0	0%	**24**	**2%**
7:00-7:59 PM	0	0%	4	1%	**4**	**0%**
8:00-8:59 PM	0	0%	3	1%	**3**	**0%**
9:00-9:59 PM	0	0%	3	1%	**3**	**0%**
10:00-10:59 PM	0	0%	0	0%	**0**	**0%**
11:00-11:59 PM	0	0%	0	0%	**0**	**0%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-13: TRAVEL TIME

How long did it take you, door-to-door, to travel from <beginning location> to <end location>? (Trip had to be at least 15 minutes long)

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
15-29 minutes	115	21%	88	21%	**203**	**21%**
30-44 minutes	131	24%	99	23%	**230**	**24%**
45-59 minutes	133	24%	94	22%	**227**	**23%**
60-74 minutes	77	14%	66	15%	**143**	**15%**
75-89 minutes	40	7%	31	7%	**71**	**7%**
90 minutes or more	49	9%	49	11%	**98**	**10%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-14: DELAY

Did you experience any delay due to traffic congestion on your trip?

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
Yes	319	59%	186	44%	**505**	**52%**
No	226	41%	241	56%	**467**	**48%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-15: TRAVEL TIME WITHOUT DELAY

If there were no delays due to traffic congestion, approximately how long would your trip have taken you, door-to-door?

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
15-29 minutes	186	34%	115	27%	**301**	**31%**
30-44 minutes	170	31%	131	31%	**301**	**31%**
45-59 minutes	106	19%	81	19%	**187**	**19%**
60-74 minutes	44	8%	54	13%	**98**	**10%**
75-89 minutes	15	3%	15	4%	**30**	**3%**
90 minutes or more	24	4%	31	7%	**55**	**6%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-16: AMOUNT OF DELAY

Amount of delay experienced

	Peak trips		Off-peak trips		Total	
	Count	Percent	Count	Percent	**Count**	**Percent**
Did not experience delay	226	41%	241	56%	**467**	**48%**
Less than 15 minutes	136	25%	75	18%	**211**	**22%**
15-29 minutes	124	23%	81	19%	**205**	**21%**
30-44 minutes	38	7%	22	5%	**60**	**6%**
45 minutes or more	21	4%	8	2%	**29**	**3%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-17: VEHICLE OCCUPANCY

Including you, how many people were in the vehicle on your trip?

	Peak trips		Off-peak trips		Total	
	Count	Percent	Count	Percent	**Count**	**Percent**
1 (I drove alone)	404	74%	257	60%	**661**	**68%**
2 people	93	17%	124	29%	**217**	**22%**
3 people	32	6%	26	6%	**58**	**6%**
4 people	13	2%	15	4%	**28**	**3%**
5 people	2	0%	5	1%	**7**	**1%**
6 people or more	1	0%	0	0%	**1**	**0%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-18: FREQUENCY

How often have you made this same trip, in this direction, between <beginning location> and <end location> in the past month (30 days)?

	Peak trips		Off-peak trips		Total	
	Count	Percent	Count	Percent	**Count**	**Percent**
6 or more times per week	50	9%	41	10%	**91**	**9%**
4-5 times per week	256	47%	86	20%	**342**	**35%**
2-3 times per week	64	12%	50	12%	**114**	**12%**
1 time per week	26	5%	38	9%	**64**	**7%**
2-3 times per month	58	11%	95	22%	**153**	**16%**
1 time per month	35	6%	51	12%	**86**	**9%**
Less than 1 time per month	56	10%	66	15%	**122**	**13%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-19: ETC OWNERSHIP

Do you currently have an EZ TAG, TxTag, or other electronic toll collection device/transponder? Select all that apply.

	Peak trips		Off-peak trips		Total	
	Count	Percent	Count	Percent	**Count**	**Percent**
Yes, I have an EZ TAG	343	63%	256	60%	**599**	**62%**
Yes, I have a TxTag	21	4%	24	6%	**45**	**5%**
Yes, I have a TollTag	5	1%	4	1%	**9**	**1%**
Yes, I have a METRO HOT Lanes Toll Tag	1	0%	0	0%	**1**	**0%**
Yes, I have a different type of electronic toll collection device/transponder	0	0%	1	0%	**1**	**0%**
No, I do not have a transponder	172	32%	145	34%	**317**	**33%**
I don't know	6	1%	3	1%	**9**	**1%**
Total	**545**		**427**		**972**	

1.2 | DEBRIEF AND OPINION TABULATIONS

TABLE 1-20: GRAND PARKWAY ATTITUDE STATEMENT

If never selected Grand Parkway in stated preference section: Which of the following best describes the reason you never chose the Grand Parkway option in the previous section?

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Not enough time savings	13	8%	9	6%	**22**	**7%**
Time savings not worth the toll cost	73	43%	56	40%	**129**	**41%**
Opposed to paying tolls	22	13%	30	21%	**52**	**17%**
Current route is more convenient	45	26%	35	25%	**80**	**26%**
If does not have an ETC transponder: Do not want to get an EZ TAG, TxTag, TollTag, or METRO HOT Lanes account	3	2%	2	1%	**5**	**2%**
Other	15	9%	9	6%	**24**	**8%**
Total	**171**	**100%**	**141**	**100%**	**312**	**100%**

TABLE 1-21: VIDEO TOLLING

If never selected Grand Parkway option and does not have an EZ TAG, TollTag, TxTag, or METRO HOT Lanes: If video tolling were also available on the proposed Grand Parkway extension, would you be more likely to use the Grand Parkway?

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Yes	12	14%	10	15%	**22**	**14%**
No	73	86%	58	85%	**131**	**86%**
Total	**85**	**100%**	**68**	**100%**	**153**	**100%**

TABLE 1-22: OPINION OF PROPOSED PROJECT

Based on the information provided in this survey, which of the following best describes how you feel about the proposed Grand Parkway extension?

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Strongly favor	155	28%	120	28%	**275**	**28%**
Somewhat favor	147	27%	98	23%	**245**	**25%**
Neutral	160	29%	136	32%	**296**	**30%**
Somewhat opposed	50	9%	48	11%	**98**	**10%**
Strongly opposed	33	6%	25	6%	**58**	**6%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-23: WHY IN FAVOR OF PROJECT

If somewhat/strongly favors project: Please indicate the primary reason you are in favor of the proposed Grand Parkway extension.

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Faster travel times	95	31%	87	40%	**182**	**35%**
Less congestion	134	44%	87	40%	**221**	**43%**
More reliable travel times	41	14%	18	8%	**59**	**11%**
Safer road conditions	10	3%	13	6%	**23**	**4%**
Reduced emissions and improved air quality	1	0%	0	0%	**1**	**0%**
User fees are a fair way to pay for highway improvements	6	2%	6	3%	**12**	**2%**
Other	15	5%	7	3%	**22**	**4%**
Total	**302**	**100%**	**218**	**100%**	**520**	**100%**

TABLE 1-24: WHY OPPOSED TO PROJECT

If somewhat/strongly opposes project: Please indicate the primary reason you are opposed to the proposed Grand Parkway extension.

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
Opposed to paying tolls	30	36%	24	33%	**54**	**35%**
The range of tolls presented to me are too high	22	27%	26	36%	**48**	**31%**
Adverse environmental impact	8	10%	3	4%	**11**	**7%**
It will bring too much traffic/development	6	7%	7	10%	**13**	**8%**
Opposed to new roads in general	0	0%	1	1%	**1**	**1%**
If does not have an ETC account: Do not want to get an EZ TAG, TxTag, TollTag, or METRO HOT Lanes account	3	4%	2	3%	**5**	**3%**
Other	14	17%	10	14%	**24**	**15%**
Total	**83**	**100%**	**73**	**100%**	**156**	**100%**

TABLE 1-25: TOLL ATTITUDE STATEMENT 1

I will use a toll route if the tolls are reasonable and I will save time

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
Strongly agree	218	40%	202	47%	**420**	**43%**
Agree	223	41%	149	35%	**372**	**38%**
Neutral	59	11%	39	9%	**98**	**10%**
Disagree	24	4%	23	5%	**47**	**5%**
Strongly disagree	21	4%	14	3%	**35**	**4%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-26: TOLL ATTITUDE STATEMENT 2

I will use a toll route if it guarantees my trip travel time is reliable

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Strongly agree	126	23%	122	29%	**248**	**26%**
Agree	234	43%	161	38%	**395**	**41%**
Neutral	120	22%	95	22%	**215**	**22%**
Disagree	36	7%	29	7%	**65**	**7%**
Strongly disagree	29	5%	20	5%	**49**	**5%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-27: TOLL ATTITUDE STATEMENT 3

I support increased or new taxes to pay for highway improvements that relieve congestion

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Strongly agree	77	14%	61	14%	**138**	**14%**
Agree	157	29%	114	27%	**271**	**28%**
Neutral	147	27%	125	29%	**272**	**28%**
Disagree	92	17%	70	16%	**162**	**17%**
Strongly disagree	72	13%	57	13%	**129**	**13%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-28: TOLL ATTITUDE STATEMENT 4

I can generally afford to pay tolls

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Strongly agree	158	29%	139	33%	**297**	**31%**
Agree	226	41%	161	38%	**387**	**40%**
Neutral	88	16%	68	16%	**156**	**16%**
Disagree	44	8%	35	8%	**79**	**8%**
Strongly disagree	29	5%	24	6%	**53**	**5%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-29: TOLL ATTITUDE STATEMENT 5

I support using tolls to pay for highway improvements that relieve congestion

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
Strongly agree	124	23%	105	25%	**229**	**24%**
Agree	223	41%	158	37%	**381**	**39%**
Neutral	96	18%	93	22%	**189**	**19%**
Disagree	54	10%	37	9%	**91**	**9%**
Strongly disagree	48	9%	34	8%	**82**	**8%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

1.3 | DEMOGRAPHIC TABULATIONS

TABLE 1-30: ZIP CODE

What is your home ZIP code?	Peak trips		Off-peak trips		Total	
	Count	Percent	Count	Percent	**Count**	**Percent**
70787	0	0%	1	0%	**1**	**0%**
75901	1	0%	0	0%	**1**	**0%**
77002	0	0%	1	0%	**1**	**0%**
77003	0	0%	1	0%	**1**	**0%**
77006	2	0%	1	0%	**3**	**0%**
77007	4	1%	0	0%	**4**	**0%**
77008	3	1%	0	0%	**3**	**0%**
77009	0	0%	1	0%	**1**	**0%**
77011	2	0%	1	0%	**3**	**0%**
77015	4	1%	11	3%	**15**	**2%**
77016	0	0%	2	0%	**2**	**0%**
77017	1	0%	5	1%	**6**	**1%**
77018	2	0%	1	0%	**3**	**0%**
77020	1	0%	0	0%	**1**	**0%**
77021	1	0%	0	0%	**1**	**0%**
77024	0	0%	2	0%	**2**	**0%**
77025	0	0%	1	0%	**1**	**0%**
77028	0	0%	1	0%	**1**	**0%**
77032	0	0%	2	0%	**2**	**0%**
77039	2	0%	0	0%	**2**	**0%**
77040	0	0%	2	0%	**2**	**0%**
77044	15	3%	10	2%	**25**	**3%**
77049	1	0%	2	0%	**3**	**0%**
77055	2	0%	0	0%	**2**	**0%**
77057	0	0%	2	0%	**2**	**0%**
77069	1	0%	0	0%	**1**	**0%**
77070	1	0%	1	0%	**2**	**0%**
77076	0	0%	1	0%	**1**	**0%**
77078	1	0%	2	0%	**3**	**0%**
77079	0	0%	2	0%	**2**	**0%**

77087	1	0%	0	0%	**1**	**0%**
77093	0	0%	3	1%	**3**	**0%**
77095	1	0%	0	0%	**1**	**0%**
77096	1	0%	0	0%	**1**	**0%**
77301	1	0%	0	0%	**1**	**0%**
77302	9	2%	3	1%	**12**	**1%**
77304	1	0%	0	0%	**1**	**0%**
77318	1	0%	0	0%	**1**	**0%**
77320	0	0%	1	0%	**1**	**0%**
77327	0	0%	4	1%	**4**	**0%**
77328	2	0%	1	0%	**3**	**0%**
77336	14	3%	11	3%	**25**	**3%**
77338	8	1%	9	2%	**17**	**2%**
77339	31	6%	37	9%	**68**	**7%**
77345	32	6%	21	5%	**53**	**5%**
77346	51	9%	28	7%	**79**	**8%**
77355	0	0%	2	0%	**2**	**0%**
77356	5	1%	1	0%	**6**	**1%**
77357	29	5%	11	3%	**40**	**4%**
77360	0	0%	1	0%	**1**	**0%**
77365	41	8%	37	9%	**78**	**8%**
77371	1	0%	0	0%	**1**	**0%**
77372	3	1%	0	0%	**3**	**0%**
77373	1	0%	2	0%	**3**	**0%**
77375	1	0%	0	0%	**1**	**0%**
77377	1	0%	0	0%	**1**	**0%**
77378	1	0%	0	0%	**1**	**0%**
77379	3	1%	4	1%	**7**	**1%**
77380	1	0%	1	0%	**2**	**0%**
77382	2	0%	0	0%	**2**	**0%**
77384	1	0%	0	0%	**1**	**0%**
77385	0	0%	1	0%	**1**	**0%**
77386	16	3%	11	3%	**27**	**3%**
77396	10	2%	8	2%	**18**	**2%**
77406	0	0%	1	0%	**1**	**0%**

77429	1	0%	2	0%	**3**	**0%**
77449	2	0%	0	0%	**2**	**0%**
77450	1	0%	0	0%	**1**	**0%**
77469	0	0%	1	0%	**1**	**0%**
77479	1	0%	1	0%	**2**	**0%**
77494	1	0%	1	0%	**2**	**0%**
77502	2	0%	3	1%	**5**	**1%**
77503	1	0%	2	0%	**3**	**0%**
77504	0	0%	1	0%	**1**	**0%**
77514	4	1%	2	0%	**6**	**1%**
77517	1	0%	0	0%	**1**	**0%**
77518	1	0%	0	0%	**1**	**0%**
77520	13	2%	12	3%	**25**	**3%**
77521	44	8%	36	8%	**80**	**8%**
77522	1	0%	0	0%	**1**	**0%**
77523	75	14%	36	8%	**111**	**11%**
77530	1	0%	3	1%	**4**	**0%**
77532	13	2%	9	2%	**22**	**2%**
77535	34	6%	33	8%	**67**	**7%**
77536	9	2%	5	1%	**14**	**1%**
77539	1	0%	1	0%	**2**	**0%**
77546	1	0%	0	0%	**1**	**0%**
77547	1	0%	0	0%	**1**	**0%**
77562	6	1%	2	0%	**8**	**1%**
77568	0	0%	1	0%	**1**	**0%**
77571	4	1%	7	2%	**11**	**1%**
77573	1	0%	1	0%	**2**	**0%**
77575	3	1%	6	1%	**9**	**1%**
77580	5	1%	7	2%	**12**	**1%**
77581	1	0%	0	0%	**1**	**0%**
77584	2	0%	0	0%	**2**	**0%**
77586	1	0%	0	0%	**1**	**0%**
77612	0	0%	1	0%	**1**	**0%**
77640	1	0%	0	0%	**1**	**0%**
77665	0	0%	1	0%	**1**	**0%**
78620	0	0%	1	0%	**1**	**0%**

90003	0	0%	1	0%	**1**	**0%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-31: GENDER

What is your gender?

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
Female	296	54%	233	55%	**529**	**54%**
Male	249	46%	194	45%	**443**	**46%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-32: AGE

Which category best indicates your age?

	Peak trips		Off-peak trips			**Total**
	Count	Percent	Count	Percent	**Count**	**Percent**
16–24	11	2%	21	5%	**32**	**3%**
25–34	92	17%	60	14%	**152**	**16%**
35–44	121	22%	64	15%	**185**	**19%**
45–54	157	29%	93	22%	**250**	**26%**
55–64	111	20%	117	27%	**228**	**23%**
65–74	47	9%	63	15%	**110**	**11%**
75 or older	6	1%	9	2%	**15**	**2%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-33: EMPLOYMENT STATUS

What is your employment status?	Peak trips		Off-peak trips			Total
	Count	Percent	Count	Percent	**Count**	**Percent**
Employed full-time	403	74%	206	48%	**609**	**63%**
Employed part-time	27	5%	27	6%	**54**	**6%**
Self-employed	28	5%	33	8%	**61**	**6%**
Student	4	1%	9	2%	**13**	**1%**
Student and employed	5	1%	10	2%	**15**	**2%**
Homemaker	21	4%	36	8%	**57**	**6%**
Retired	50	9%	88	21%	**138**	**14%**
Disabled	2	0%	7	2%	**9**	**1%**
Unemployed and looking for work	4	1%	6	1%	**10**	**1%**
Unemployed and not looking for work	1	0%	5	1%	**6**	**1%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-34: HOUSEHOLD SIZE

How many people live in your household?	Peak trips		Off-peak trips			Total
	Count	Percent	Count	Percent	**Count**	**Percent**
1 (I live alone)	56	10%	45	11%	**101**	**10%**
2 people	196	36%	190	44%	**386**	**40%**
3 people	116	21%	87	20%	**203**	**21%**
4 people	118	22%	65	15%	**183**	**19%**
5 or more people	59	11%	40	9%	**99**	**10%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-35: HOUSEHOLD VEHICLES

How many vehicles are there currently in your household?

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
0 (no vehicles)	2	0%	1	0%	**3**	**0%**
1 vehicle	70	13%	84	20%	**154**	**16%**
2 vehicles	269	49%	198	46%	**467**	**48%**
3 vehicles	134	25%	101	24%	**235**	**24%**
4 vehicles	51	9%	26	6%	**77**	**8%**
5 or more vehicles	19	3%	17	4%	**36**	**4%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

TABLE 1-36: INCOME

What category best indicates your 2014 household annual income before taxes?

	Peak trips		Off-peak trips		**Total**	
	Count	Percent	Count	Percent	**Count**	**Percent**
Less than $15,000	6	1%	11	3%	**17**	**2%**
$15,000-$24,999	10	2%	13	3%	**23**	**2%**
$25,000-$34,999	27	5%	23	5%	**50**	**5%**
$35,000-$49,999	34	6%	35	8%	**69**	**7%**
$50,000-$74,999	74	14%	70	16%	**144**	**15%**
$75,000-$99,999	86	16%	64	15%	**150**	**15%**
$100,000-$124,999	72	13%	47	11%	**119**	**12%**
$125,000-$149,999	68	12%	38	9%	**106**	**11%**
$150,000-$199,999	51	9%	43	10%	**94**	**10%**
$200,000 or more	44	8%	30	7%	**74**	**8%**
Prefer not to answer	73	13%	53	12%	**126**	**13%**
Total	**545**	**100%**	**427**	**100%**	**972**	**100%**

2.0 COMMERCIAL VEHICLE TABULATIONS

TABLE 2-1: DATA SOURCE

Data source	Count	Percent
In-person intercept	240	98%
Postcard handout	6	2%
Total	**246**	**100%**

2.1 | QUALIFICATION TABULATIONS

TABLE 2-2: ROLE

What is your primary type of work?	Count	Percent
Owner-operator	108	44%
Contract owner-operator	35	14%
Fleet driver	99	40%
Other	4	2%
Total	**246**	**100%**

TABLE 2-3: ROUTING DECISIONS

Who makes the routing decisions for your vehicle?	Count	Percent
I make all routing decisions	198	80%
I make some routing decisions	41	17%
Someone else makes all routing decisions	7	3%
Total	**246**	**100%**

2.2 | TRIP CHARACTERISTIC TABULATIONS

TABLE 2-4: CURRENT TRIP

Are you still on your one-way trip?

	Count	Percent
Yes	192	78%
No	54	22%
Total	**246**	**100%**

TABLE 2-5: TRIP LENGTH

<Did/Will> you complete your most recent trip in one day or less?

	Count	Percent
Yes	161	65%
No	85	35%
Total	**246**	**100%**

TABLE 2-6: TRIP LENGTH IN DAYS

If trip took more than one day: How many days <did/will> it take you to make your trip in one direction?

	Count	Percent
2 days	53	62%
3 days	20	24%
4 days	6	7%
5 days	4	5%
6 days or more	2	2%
Total	**85**	**100%**

TABLE 2-7: DAY OF WEEK

What day of the week did you make your trip?

	Count	Percent
Tuesday	23	9%
Wednesday	48	20%
Thursday	57	23%
Friday	59	24%
Saturday	54	22%
Sunday	5	2%
Total	**246**	**100%**

TABLE 2-8: DISTANCE

How long <was your trip/will your trip be>?

	Count	Percent
Less than 50 miles	47	19%
50-99 miles	21	9%
100-199 miles	19	8%
200-299 miles	25	10%
300-399 miles	15	6%
400-499 miles	7	3%
500-599 miles	15	6%
600-699 miles	5	2%
700-799 miles	21	9%
800 miles or more	71	29%
Total	**246**	**100%**

TABLE 2-9: GOOGLE MAPS ESTIMATED DISTANCE

Google Maps estimated trip distance

	Count	Percent
Less than 50 miles	66	27%
50-99 miles	19	8%
100-199 miles	11	4%
200-299 miles	30	12%
300-399 miles	10	4%
400-499 miles	7	3%
500-599 miles	10	4%
600-699 miles	3	1%
700-799 miles	21	9%
800 miles or more	69	28%
Total	**246**	**100%**

TABLE 2-10: TRAVEL TIME

How long did it take you, door-to-door, to travel from <beginning location> to <end location>? (Trip had to be at least 15 minutes long)

	Count	Percent
Less than 30 minutes	10	4%
30-59 minutes	23	9%
60-119 minutes	26	11%
120-179 minutes	15	6%
180-239 minutes	10	4%
240-299 minutes	12	5%
300-359 minutes	15	6%
360-419 minutes	10	4%
420 minutes or more	125	51%
Total	**246**	**100%**

TABLE 2-11: DELAY

<Did/Have> you <experience/experienced> any delay due to traffic congestion on your trip?	Count	Percent
Yes	144	59%
No	102	41%
Total	**246**	**100%**

TABLE 2-12: TRAVEL TIME WITHOUT DELAY

If there were no delays due to traffic congestion, approximately how long would your trip have taken you, door-to-door?	Count	Percent
Less than 30 minutes	20	8%
30-59 minutes	32	13%
60-119 minutes	30	12%
120-179 minutes	17	7%
180-239 minutes	9	4%
240-299 minutes	12	5%
300-359 minutes	12	5%
360-419 minutes	12	5%
420 minutes or more	102	41%
Total	**246**	**100%**

TABLE 2-13: NUMBER OF AXLES

How many axles <did your vehicle have for your trip/does your vehicle have>?	Count	Percent
3 axles	19	8%
4 axles	10	4%
5 axles	191	78%
6 axles	15	6%
7 axles	4	2%
8 or more axles	7	3%
Total	**246**	**100%**

TABLE 2-14: FREQUENCY

How often do you make this same trip, in this direction?

	Count	Percent
6 or more times per week	42	17%
4-5 times per week	16	7%
2-3 times per week	50	20%
1 time per week	28	11%
2-3 times per month	40	16%
1 time per month	18	7%
Less than 1 time per month	43	17%
I don't know	9	4%
Total	**246**	**100%**

TABLE 2-15: ROAD(S) TRAVELED

Which of the following road(s) did you use on your trip? Select all that apply.	Count	Percent
Grand Parkway (SH 99)	6	2%
FM 2100	6	2%
SH 99	9	4%
SH 105	5	2%
SH 146	80	33%
SH 225	88	36%
Spur 330	29	12%
US 59 (Eastex Freeway)	72	29%
US 90 (Crosby Freeway)	26	11%
Hardy Toll Road	8	3%
Sam Houston Tollway (Beltway 8)	35	14%
Westpark Tollway	3	1%
I-10 (East Freeway/Katy Freeway)	167	68%
I-45 (Gulf Freeway/North Freeway)	61	25%
I-610 (The Loop)	136	55%
FM 1485	5	2%
FM 1960	8	3%
Total Number of Respondents	**246**	

TABLE 2-16: GRAND PARKWAY/SH 99 SEGMENTS USED

If used Grand Parkway or SH 99: Which of the following segments of SH 99 did you use? Select all that apply.	Count	Percent
SH 99/Grand Parkway between FM 2759 and US 290	2	14%
SH 99/Grand Parkway between I-10 and Fisher Road	9	64%
SH 99 between Fisher Road and SH 146	11	79%
Total Number of Respondents	14	

TABLE 2-17: TOLL(S) PAID

<Did/Have you paid or will> you pay any tolls on your trip?	Count	Percent
Yes	53	22%
No	193	78%
Total	**246**	**100%**

TABLE 2-18: TOLL AMOUNT PAID

How much did you pay in tolls on your trip?	Count	Percent
Did not pay a toll	193	78%
Less than $5.00	7	3%
$5.00-9.99	18	7%
$10.00-14.99	10	4%
$15.00-19.99	6	2%
$20.00 or more	12	5%
Total	**246**	**100%**

TABLE 2-19: ETC OWNERSHIP

Do you currently have an EZ TAG, TxTag, or other electronic toll collection device/transponder? Select all that apply.	Count	Percent
I have an EZ TAG	44	18%
I have a TxTag	10	4%
I have a TollTag	1	0%
I have a different type of electronic toll collection device/transponder	23	9%
I do not have a transponder	150	61%
I don't know	21	9%
Total	**246**	

2.3 | DEBRIEF AND OPINION TABULATIONS

TABLE 2-20: GRAND PARKWAY ATTITUDE STATEMENT

If never selected Grand Parkway in previous screens: Which of the following best describes the reason you never chose the Grand Parkway option in the previous section?

	Count	Percent
Not enough time savings	8	7%
Time savings not worth the toll cost	48	40%
Opposed to paying tolls	42	35%
Current route is more convenient	12	10%
If does not have a TxTag, EZ TAG or TollTag: Do not want to get an EZ TAG, TxTag, or TollTag account	6	5%
Other	5	4%
Total	**121**	**100%**

TABLE 2-21: VIDEO TOLLING

If never selected Grand Parkway option and does not have an EZ TAG, TollTag, or TxTag: If video tolling were also available on the proposed Grand Parkway, would you be more likely to use the Grand Parkway?

	Count	Percent
Yes	26	24%
No	82	76%
Total	**108**	**100%**

TABLE 2-22: OPINION OF PROPOSED PROJECT

Based on the information provided in this survey, which of the following best describes how you feel about the proposed Grand Parkway extension?

	Count	Percent
Strongly favor	28	11%
Somewhat favor	52	21%
Neutral	85	35%
Somewhat opposed	22	9%
Strongly opposed	59	24%
Total	**246**	**100%**

TABLE 2-23: WHY IN FAVOR OF PROJECT

If somewhat/strongly favors project: Please indicate the primary reason you are in favor of the proposed Grand Parkway extension.

	Count	Percent
Faster travel times	32	40%
Less congestion	31	39%
More reliable travel times	5	6%
Safer road conditions	7	9%
Reduced emissions and improved air quality	1	1%
User fees are a fair way to pay for highway improvements	1	1%
Other	3	4%
Total	**80**	**100%**

TABLE 2-24: WHY OPPOSED TO PROJECT

If somewhat/strongly opposes project: Please indicate the primary reason you are opposed to the proposed Grand Parkway extension.

	Count	Percent
Opposed to paying tolls	51	63%
The range of tolls presented to me are too high	12	15%
Opposed to new roads in general	3	4%
If does not have an ETC transponder: Do not want to get an EZ TAG, TxTag, or TollTag account	7	9%
Other	8	10%
Total	**81**	**100%**

TABLE 2-25: TOLL ATTITUDE STATEMENT 1

I will use a toll route if the tolls are reasonable and I will save time

	Count	Percent
Strongly agree	49	20%
Agree	107	43%
Neutral	34	14%
Disagree	40	16%
Strongly disagree	16	7%
Total	**246**	**100%**

TABLE 2-26: TOLL ATTITUDE STATEMENT 2

I will use a toll route if it guarantees my trip travel time is reliable

	Count	Percent
Strongly agree	36	15%
Agree	89	36%
Neutral	52	21%
Disagree	50	20%
Strongly disagree	19	8%
Total	**246**	**100%**

TABLE 2-27: TOLL ATTITUDE STATEMENT 3

I support increased or new taxes to pay for highway improvements that relieve congestion

	Count	Percent
Strongly agree	24	10%
Agree	56	23%
Neutral	49	20%
Disagree	64	26%
Strongly disagree	53	22%
Total	**246**	**100%**

TABLE 2-28: TOLL ATTITUDE STATEMENT 4

I can generally afford to pay tolls

	Count	Percent
Strongly agree	24	10%
Agree	107	43%
Neutral	47	19%
Disagree	56	23%
Strongly disagree	12	5%
Total	**246**	**100%**

TABLE 2-29: TOLL ATTITUDE STATEMENT 5

I support using tolls to pay for highway improvements that relieve congestion		
	Count	Percent
Strongly agree	35	14%
Agree	81	33%
Neutral	35	14%
Disagree	55	22%
Strongly disagree	40	16%
Total	**246**	**100%**

2.4 | COMPANY INFORMATION TABULATIONS

TABLE 2-30: COMPANY HEADQUARTERS

Where is your company's base of operations located?

	Count	Percent
Texas	130	53%
Other location WITHIN the U.S.	114	46%
Canada	1	0%
Other location OUTSIDE of the U.S.	1	0%
Total	**246**	**100%**

TABLE 2-31: FLEET SIZE

If not owner-operator: Approximately how many vehicles dose your company operate?

	Count	Percent
19 or fewer vehicles	28	20%
20-99 vehicles	43	31%
100-499 vehicles	29	21%
500 or more vehicles	31	22%
I don't know	7	5%
Total	**138**	**100%**

TABLE 2-32: TYPICAL TRIP LENGTH

What is the typical length of the trips you usually make?

	Count	Percent
Local (less than 50 miles)	24	10%
Short haul (50-199 miles)	32	13%
Medium haul (200-499 miles)	46	19%
Long haul (500 or more miles)	143	58%
I don't know	1	0%
Total	**246**	**100%**

TABLE 2-33: TYPICAL TRIP FLEXIBILITY

Would you say you typically have a flexible or fixed delivery schedule?

	Count	Percent
Flexible (you typically have a window of time during which you can make your deliveries)	185	75%
Fixed (you typically have to make your deliveries at a specific time)	61	25%
Total	**246**	**100%**

TABLE 2-34: HOW FLEXIBLE

If has flexible schedule: How much flexibility do you typically have in your shipment delivery schedule?

	Count	Percent
Less than 30 minutes	21	11%
30 to 59 minutes	23	12%
1 hour to 1 hour and 59 minutes	33	18%
2 hours to 3 hours and 59 minutes	28	15%
4 hours to 5 hours and 59 minutes	9	5%
6 hours or more	71	38%
Total	**185**	**100%**

TABLE 2-35: WHO PAYS TOLLS

Who is generally responsible for paying toll costs that you incur?

	Count	Percent
I pay tolls	111	45%
I pay tolls, but my company reimburses me	38	15%
My company pays tolls directly (e.g. using EZ TAG or other transponder)	51	21%
I never use toll roads	46	19%
Total	**246**	**100%**

TABLE 2-36: HOW TOLLS ARE CHARGED

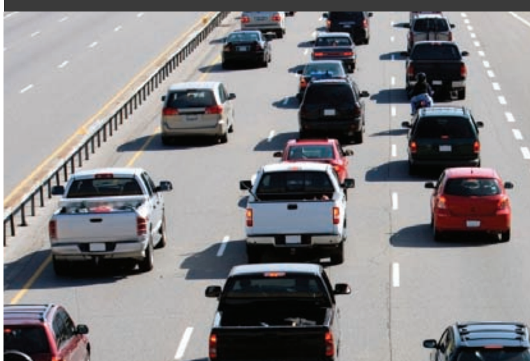
How does the company typically charge customers for tolls?

	Count	Percent
Tolls are part of the total shipment cost	76	31%
Tolls are charged as separate line items	20	8%
I don't know	102	41%
I never use toll roads	48	20%
Total	**246**	**100%**

APPENDIX C: SURVEY COMMENTS

GRAND PARKWAY (SEGMENTS H & I) STATED PREFERENCE SURVEY

6.26.2015




PREPARED FOR:
TEXAS DEPARTMENT OF TRANSPORTATION

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GRAND PARKWAY (SEGMENTS H & I) STATED PREFERENCE SURVEY

PREPARED FOR:
TEXAS DEPARTMENT OF TRANSPORTATION

CONTENTS

1.0 PASSENGER VEHICLE SURVEY COMMENTS

Before clicking the "End Survey" button on the last page of the survey, respondents had the opportunity to leave open-ended comments. These comments about the project and the survey itself are presented below, edited only for extremely profane remarks.

- 1. Through trucks from the Port need to be mandated to use Hyw 99 rather than 146 if they are going East after they cross the Fred Hartman Bridge. 2. There needs to be another special right turn lane at the Texaco at I-10 and Hwy 146 because traffic backs up onto I-10 at 5pm and someone is going to get killed. 3. You need to do everything possible to get trucks to use Hwy 99 even if it means being a free toll from Fred Hartman Bridge to I-10. Way too many trucks on Hwy 146 and it is getting worse every day. If you do not believe me, see what happens when Chevron adds 10,000 temporary construction workers. Thanks for asking.
- A rail option that would run from east to west along I10.
- A study of this proposed extension should actually begin in Seabrook, La Port and the Bayport area to ensure that the existing, newly constructed and future port facilities can easily route the already large amount of large trucks and container carrying trucks, non-stop, from the Bay Area all the way to the intersection of the Grand Parkway and the newly anointed Interstate 69. This would ensure a much safer environment for what is becoming a dangerous situation for many hundreds of truck per day that wish to get from the Bay Area or La Port all the way to north of Kingwood.
- A toll road should ALWAYS have 2 lanes, otherwise you WILL be slowed down by another driver. A toll of $6 to $7 one way is too high, especially if the tollway will be used frequently by one person.
- Again, the survey scenarios were really stupid. For my route, there is no way that the direct route along US 59 from west of downtown to Kingwood (a reverse commute) would EVER take longer than a route that's at least 5x as long and has more congestion via I-10 to SH-099 and back to Kingwood. This survey is basically invalid because the hypothetical scenarios presented are unrealistic to any given user. You can build the stupid highway, but it doesn't solve congestion for most drivers except on the occasional trip that I might happen to go directly from work to New Orleans for the weekend (I've never done this, and I'd most likely fly, anyway, because it's a horrible drive).
- any new toll roads should have AT LEAST 2 lanes in each direction
- Anything that helps traffic, is reasonable in cost, yet does not destroy the communities around the proposed parkway is helpful.
- Based on these comparisons of "would you rather"...I would never pay 4 or more times the normal amount of tolls that I currently pay to save less than 45 minutes. That is outrageous. I would rather drive 30 minutes more when time allows than spend more than $5 for ANY trip.
- Before building more roads are there any ways to make the current roads more efficient such as signal light coordination and extended turn lanes ?

- Being on a fixed income I cannot afford high tolls, and since I mostly travel socially and not for business, the travel time is not that important to me.
- Better 18 wheeler rules would help tremendously with traffic congestion, ei: can only commute on certain roads or designated highway lanes like HWY 225.
- Coming from East or West from 3pm to 6pm...There needs to be more turning lanes to get cars off of Interstate 10 onto SH 146. If the Grand Parkway can divert this traffic than it would be a great addition!
- Congestion on FM 1314 is so bad we have problems getting out of our subdivision. Don't think Grand Parkway will make our problem better or worse as it is crossing FM1314. Would like to know if anything will be done to alleviatge our problem .
- Do not currently drive anywhere near the proposed route, but it would no doubt, when completed, reduce congestion on 45, 59, 10, and maybe even 249, 290, 288, and other roads. .Assume travel would still be free for those with Disabled Veteran plates
- Feel like I am being 'tolled' to death to the point that I have had to make the decision to avoid them all together. If I were to use them whenever I and the family wanted to, we would easily be over $200 for a month. Therefore we don't use them very sparingly. Even the .35 tolls on 99 add up too much given the frequency we would use them, so we don't use them at all. They have given us 'toll fatigue'
- Fun survey! Most are BORING!!!!
- Gitter done, start digging now and pour some more concrete!
- have a set toll price for a min of 10 yrs....
- Honestly, I would love to have more toll roads available for a quicker drive, but I am not willing to pay such high rates to do so. Fix the rates. Also, all toll roads should have a minimum of 2 driving lanes for each driving direction, not a passing lane here and there. I forsee accidents with only one lane each way.
- Houston needs to consider better public transportation. Metro is NOT adequate and the Metro Lightrail is a joke! With the high taxes we already pay, putting in more Toll costs is NOT a good solution for the majority of people.
- how will travelers to the area pay a toll to use the extension, if there are no cash options?
- Hurry and complete the road from 59 to I-10, the traffic has gotten a lot worse on FM 2100. The commuting traffic on FM 2100 from I-10 to Huffman has been getting unbearable over the past few years. My drive time has increased from 50 minuets to 1:20, due to the increase in cars, with Crosby and Barrett Station being the worst.
- Hwy 146 has too many stop lights now. They have added 3 stop lights in the last 2 months. It is not a Hwy anymore, it is more like a stop and go street.
- Hwy 146 is a nightmare in the Baytown area near I-10. I would love to see alternate routes for 18-wheelers. It is very dangerous at times.

- I agree with tolls for initial construction of the new freeways, but not on going maintenance. Remember the Pasadena toll bridge? That's how it was supposed to be!
- I always hesitate to drive on two lane (one each direction) with no concrete barrer or esplanade. I am fearful of drivers crossing into oncoming traffic.
- I am a proponent of light rail as the first choice for travel within this metro area. Building more and more roads does not help at all.
- I am anxiously awaiting the Grand Parkway!
- I am concerned about persons who drive excessive speeds and endanger the lives of others on tollways. I also think there is a tendency by speeding drivers to "bully" other drivers on tollways. When the Hardy Toll Road was constructed the public was told that the road would be paid for after some years and there would no longer be tolls. This has not happened.
- I am extremely concerned about the route through the city of Mont Belvieu. There has to be a MINIMUM of three (3) overpasses within the existing city limits to keep from splitting the city from the East to the West. The current Mobility Plan for Mont Belvieu indicates a minimum of three (3) streets connecting the East side with the West side. The route through Mont Belvieu MUST take this into consideration.
- I am in favor of reasonable taxes to pay for road improvements. I am not in favor of using those tax dollars to build the road then making them tollways.
- I am looking forward to the completion of the Grand Parkway on the east side. We travel to the west side occasionally and use the Grand Parkway and love it. It truly saves a lot of travel time and is a much safer method of travel.
- I am not appreciative of the proposed route for the Grand Parkway. It is infringing on the peace and quiet of the rural neighborhoods, and will be bringing more housing and businesses, which will mean more crime/drugs. Putting it along FM 1485 will be disturbing the serenity of the neighborhoods with traffic sounds as well. I love the rural setting of my home, as do my neighbors, and that will all too soon be gone. It will change the habitat of the wildlife currently in the area. I AM NOT IN FAVOR OF THIS AT ALL.
- I am not in favor of any toll cost on Hwy 99 between the intersection of Bus. 14h and Fisher Road. As I said previously, this is the only direct Southbound road from the entrance at Fisher Road travelling South to Bus. 146, and the Fred Hartman bridge. The alternative route would be far longer by way of Interstate 10. Many who live along Hwy 2354 rely on the current 99 to get to work, to visit towns like Seabrook and Kemah or other places west as well. It is unfair and wrong to penalize these folks who may be travelling daily or several times a week.
- I am not in favor of having to pay tolls at all. Our taxes should be sufficient to pay for all the roads in Texas. There are enough residents taxes to handle it. Our taxes should not go up due to road funding. As the population increases it should bring in enough funding to cover it. Those in charge of the funds should know how to budget the amount for any improvements that we need.

- I am STRONGLY OPPOSED to the development of the Grand Parkway at the present time and feel it will be imposing on the rural neighborhoods in this area, bringing more traffic, more housing, more crime, more drugs, etc. I and my neighbors appreciate the area for it's serenity, and the wildlife that currently reside in our area. I see no reason to disrupt a peaceful neighborhood with an influx of negative progress for the area. Move it farther north, more toward the proposed theme park, where it will not be displacing residents whom have lived in the area for years.
- I am totally against paying tolls. There are many people who cannot afford to pay the tolls on a daily basis each and every day. I believe there has to be some other way to improve the congestion without having to pay tolls.
- I appose new toll roads because trucks avoid them and it causes further congestion on the inner city streets. Special encitives should be used to attract 18 wheelers to toll roads. Its the starting and stopping that causes these trucks to contribute to congestion.
- I appreciate being asked to participate in this type of survey. Traffic in and around Houston, Texas is daily becoming more and more congested and increasingly dangeous due to the number of vehicles on the road and the driving practices of motorists. I travel into the Galleria area of Houston once per week in addition to commuting to work daily. Almost every Wednesday evening, almost every freeway has major congestion and is very difficult to feel safe on. When weather is adverse, traffic is even worse!! Something more needs to be done in order for citizens to be able to move about our greater Houston area safely and effectively.
- I believe that tolls should CEASE when the roadway is paid for. As an example, there is no way in my mind that anyone can say the Sam Houston Toll Bridge over the Houston Ship Channel has not been paid off. It has bound to have been paid off for some time. In my opinion this is what gives toll roads a bad name. I am 54 years old, and the last toll road I can remember being paid for and the the toll booths removed was on I-30 between Dallas and Fort Worth. I was about 12 years old at the time. REMOVE TOLLS WHEN THE SECTIONS ARE PAID OFF!!!
- I cannot believe with the influx of people in this area that you are considering building a road of less than 2 lanes with an additional passing lane. We are expecting road traffic to go crazy but you do not seem to see this. I also cannot believe the level of charges you are asking would be ok, people do not have have money to throw around and these so called toll roads are very often more busy than the free roads that are available, why pay tolls if we do not gain any advantage from them??????
- I can't afford to pay high toll prices. If the price was $1.00 I would do it every day if it saved me at least 30 minutes.
- I definitely like the toll roads because they are much less congested; however, if I used the toll road daily, it would be too costly. I can afford it, but I don't want to spend my money on a toll road on a daily basis.
- I do no want to pay tolls plz!!!
- I do not drive the toll roads often enough to warrant the EZ tag. I will avoid toll roads that do not have toll booths and will avoid toll roads when possible.

- I do not think 2 lanes is enough I think it should be 3 lanes each way. Thanks for the expansion that will be there it is cheaper to do it right the first time instead of expansion that creates congestion when it could be done to begin with. In the long run it is much cheaper than to have to keep redoing.
- I do not want to pay more taxes when I currently pay taxes as is and the condition of roads is subpar.
- I don't believe that you should have EZ Tag roads only. This is not fair to the infrequent user, out of Town drivers or Rental car drivers.
- I don't mind paying occasional toll when traveling to a destination. I oppose paying a toll when I have to travel the road every day to and from work. I can afford it. Just don't want to pay it.
- I don't see this survey as having anything to do with relieving congestion, and everything to do with, are people going to use our crummy toll road. According to the map, in Liberty county this will be the road to nowhere, since the area where this road goes is mostly pasture, and sparsely populated. I don't live in that direction so I see road as being useless to me. It would be nice if you, you being TXDoT, would do a little to relieve congestion along the portion of 146 between I-10 and FM565. Something as simple as synchronizing the lights and turning off the light at the new school would go a long way towards relieving congestion in this area.
- I enjoy going to Houston but I hesitate due to the traffic congestion. If there is a solution for relief then I'll pay the price.
- I feel that as a tax payer/land owner we already contribute our part in taxes to build roads/bridges in our county. Especially now that Prop. 1 passed and money can be appropriated to build these roads from the state rainy day fund there's no excuse for tolls on working people. Its a disgrace to ask more when families are already strained. Most people don't want electronic transponders in their cars, people are fed up with gov. intrusion from all levels. SH 99 in Chambers is a toll and most don't use it because of having to pay. Keep the tolls in the Northern States and out of Texas. Keep Texas moving without ripping us off.
- I found many of the survey travel times hard to believe. Real time savings for my route would be time to get to the toll road. Until access locations are defined it is not clear that the time to get to the toll road will be sufficiently reduced to make up for the route being longer than what I currently drive.
- I have always wondered Why do we need to pay tolls if the taxes are raised to pay for the improvments and why do the tolls go on and on long after the road has been paid for .i have just always felt it is a good idea to pay for the labor materials and things but i also feel like we are being taking advantage of ...when theres a till fir 15 or 20 years
- i have no problem with the toll road. but do have a problem with the rate of the tolls.
- I hope some of those toll fees were not what is planned, the rates were ridiculous. The goal is to get people to use the toll roads, not dissuade them.
- I know the Grand Parkway wil help with traffic, but please don't make tolls too expensive. Prices usually will start low and then continue to climb.
- I liked the extention from rt.146 to I-10

- I look on the Grand Parkway as an alternate route to skirt traffic near the City of Houston on my way to I-45 and Dallas.
- I pay enough taxes - to pay for roads , gas tax, tire tax I believe a sales tax is the only fair way for everyone to contribute - too bad the cities give tax breaks to companies moving into their area but pass it alomg to property owners to make up for the lost revenue. I WILL NEVER PAY a TOLL charge
- I strongly disagree with the trend toward toll roads to build new roads. I think user fees exclude large pieces of the population and limit the benefit that new road construction provides. Roads are an asset that are collectively owned by the entire citizenry; user fees work against this sense of shared ownership and responsibility. It is the wrong way to go. And while I'm providing comment, I am deeply disappointed at the plans to widen Kingwood Dr.
- I suggest that 99 be a non-toll road so that the trucks coming in and out of La Porte can access I10 without using SH146. Extending 99 will not reduce congestion caused by the thousands of trucks using 146. You want to do something? Take off the tolls on 99 and the Sam/Beltway 8 so the trucks can go around our cities rather than through them!
- I think it's ridiculous to not only keep tolls on Beltway 8 after the bond was paid off and we were promised to remove tolls! To make matters worse, you recently increase toll prices. Really? If prices were lower, you would get more traffic and probably generate more money that way! Basic economics!
- I think the 18 wheelers should get a discount or no charge to encourage them to take 99 instead of SH 146 making it more congested.
- I think the toll fees are to high. I drive around 99 almost everyday. A number of vehicles are doing the same thing as myself. This is causing more congestion on hwy146 and fm 3180. If the tolls were .25 or .50 cents I know 99 would get so much more traffic. More traffic means more $. Stop being so greedy and wanting the money so fast. I'm sure you will get the same money with more traffic at lower rates. Their was so much more traffic on 99 when it opened and their was no fee. Most people will be traveling back and forth to work. Thats 2 tolls. Also I talk to Truck drivers every day, they would use 99 but it cost to much. So from Baytown to IH10 via hwy 146, we have 2 choices. 1. Hwy 146 and all the congestion and delays from the new red lights. 2. FM565 congestion, have to wait on a train 50% of the time and going this way having the option for the 99 toll a short distance.
- I think the tolls are already expensive. If they were any more, I would not use the grand parkway.
- I think the tolls should help pay for construction on other highways and streets since I know by now the cost to build all the toll roads has been paid and it'ss free money to be used instead of taxpayers money. I don't see a need for the grand parkway on the eastside of Houston. Like I said before it is hardly used now really worthless all the traffic still goes to hwy 146 causing heavy traffic and delays.
- I thought this was a very good idea on how the survey was proposed. I received the card while traveling in the are for work purposes. I routinely travel in the Baytown/Dayton area and also travel to the north Houston area and The Woodlands Area. I believe these areas in the eastern and

northeastern side of Houston have promising areas of growth. However, I think the growth is slow due to traffic and lack of optimal routes in the area. I believe the Grand Parkway on the northeastern side of Houston is vital for growth and to ease existing congestion. I look forward to the Grand Parkway construction near the Dayton/Liberty County area. Thank you

- I use to have an ez tag and I loved it. I need to get it again. Saves time and comes in handy when you least expect it.
- I was and still remain strongly opposed to The Texas Transcorridor Project. That was just a money grab for Texas private land. I fought to have that project stopped. The East side of Houston is always the "last" area to receive funding or improvements in my opinion. There needs to be immediate traffic relief on Texas Hwy 146. It was my understanding that the 18-wheelers and other commercial vehicles were supposed to taking Loop 99, but this is currently NOT the case. I will only support an extension of Loop 99 if there is minimal environmental impact and the dumptrucks and other 18-wheelers use Loop 99. The traffic, the speed, and the death toll incurred in our area lately due to these vehicles is beyond ridiculous.
- I will like it when the west-bound portion is finished for trips past Katy
- I will support the extention of SH-99 as a tollway providing the toll is low and affordable for it's ridership.I have had an EZ tag for more than 19 years and am happy that it works everywhere I go from Dallas to Houston and points inbetween Alan Kinsey
- I will take a toll road only if I think it will let me miss heavy traffic.
- I will use grand parkway, which is coming in the middle of my neighborhood, to go see my children who live off of 45. I tgink the addition of the grand parkway will relieve the congestion on 1314 to make commute easier and shorter travel time.
- I will use the new Grand parkway toll road from US59 west to I45 & 290. I will mainly use it west from US59 to SH99 & FM 1093 area.
- I wonder why this survey was handed out at the corner of FM 1960 E and West Lake Houston Pkwy. An intersection notorious for traffic congestion...when the whole survey is connected to some proposed 99 toll road that is located far away. Pointless waste of time.
- I would always be willing to pay a toll or tax to improve the driving conditions.
- I would greatly support this road if only the tolls are cheap. Lower than 2$ and I would probably use it.
- I would like for someone to find my property concerning how close my property is to the Grand Parkway. The map is not clear as to how close it is. My address is: 95 McMullen Lane, New Caney, Texas 77357 . Email: akatiemac@aol.com
- I would like to see this segment of Grand Parkway completed as soon as possible.
- I would love a road that connects from 59 straight to 45 Woodlands exit.
- I would not travel this route often, although if reasoably priced I prefer the convenience when I need it.

- I would use Hwy 99 and pay tolls, to other areas.... IF they would open it up FREE between 565 and I -10 for locals to use to help with congested FM3180
- I would use SH99 from I-10 to US59 if it meant I could bypass the traffic uncertainty when traveling to Dallas. It will even be better when SH99 connects to I-45.
- I would use the Grand Parkway to get to highway 290. The "country" roads that I use, now, are unsafe, especially at night when there is traffic coming towards us. I don't mind paying the toll, but, I am thinking about getting the EZ tag because I would use the Grand Parkway a lot.
- I would use the proposed Grand Parkway and pay tolls if I were traveling somewhere that it would benefit me. I pay to drive as a single rider in the HOV Toll Lane on 59 most afternoons.
- I wouldn't mind paying for toll roads, if the money went to actual improvement of the highways. But it does not, all highways and main roads have a lot of damage, pot holes, cheap repaired damages, etc. It's not worth the time of slowing to pay a toll that fattens a person or group of persons pockets and does not get used properly!
- If a two-lane road is constructed for the Grand Parkway segments H and I-1, I hope that it would be constructed as a Super 2, and simply a two lane road without grade separation at intersections. The time savings of a toll route is only reliable if you don't have to wait behind an 18-wheeler which has just turned onto the highway or which is accelerating very, very slowly from a red light. Similarly, safety improvement is realized when there is grade separation like a Super 2 could provide; on the other hand, a two-lane road with no grade separation or controlled access is actually probably less safe than the current conditions.
- If given the option, I would have chosen more than one reason why I'd support this toll road. This survey was fast, easy to take, and easily understandable, and I like the opportunity to give input on this subject.
- If only tolls would stop when the roads were paid for but no they continue forever and are often increased.
- If the Grand Parkway extension is constructed it makes no sense to me to have it be only one lane in each direction.
- If the Grand Parkway helps improve traffic conditions in the Porter area (1314 & Hwy 59) I'm all for it.
- If the grand parkway was not extended/expanded between fm 1405 and tx 146, the current section of road between business highway 146 & FM 1405 needs to be widened, there is a high volume of 18 wheeler traffic that cannot get up to the speed on the road (they all go 40mph in a 60mph zone) traffic lines behind each 18 wheeler can be up to 8 cars long or more at rush hour!
- If those are the actual proposed tolls, I will not take the Grand Parkway. The cost is ridiculous! Furthermore we pay enough in taxes already, so why isn't there money for our lacking infrastructure? Perhaps if we stop funding illegal immigration, the money saved can be applied to building roads that benefit the hard working taxpayers.

- If you build a toll road at least have a place to get the tags at either end of the toll road. The middle of the toll road is not a good location. This should be accessible before you get on the Toll roads, and well marked.
- I'm concerned that the number of lanes may not be sufficient for the section between 59N & I-10E. I am also concerned about how drainage will be handled for the land that is in the flood plain as more traffic and increased population comes to the area.
- I'm in favor of toll highways but honestly they are expensive most of the time, just consider from 59 south using beltway 8 north, to 59 north it cost $5.25, that is a lot money for a few miles of road.
- Improving roads/decreasing traffic congestion is a good thing. Using a toll road should be a personal choice.
- In the 77365 area, something that would REALLY help, would be for someone with some "SNAP" to synchronize the traffic light so the local traffic could move.
- It would be helpful to have email / text alerts when there will be road closures during construction. Just having signs on the route tends to only communicate to the people that use roads M-F. Traveling on the weekend can involve surprise congestion and frustrating delays.
- Just remember this part of the 99 is out of the way of most places houston travels. Tolls should be kept low if you want this part of the 99 to be used by the locals and farmers. If it's too high in this area it will be a empty road. Don't go too high on the section from I-10 to Dayton., that will get the most use if toll is reasonable.
- Keep up the good work.
- Let's get this project started and let's get it done safely. I need this route for my job asap.
- Looking forward to Grand Parkway to eliminate driving Beltway 8 or 610 Loop to reach I10 from the East to West.
- Make the tolls reasonable, please and thank you.
- Making my trip from home to work and back each day would be great if I didn't have to pay High fees and could still be able to get to work within a reasonable time.
- Most tollways seperate areas causing a driver to have to travel added distance to reach a intersection to cross the tollway. They are not for the people that live by the tollway but others to reach another area. The grand parkway in chambers is useless and not travel enough by cars to pay for itself. The only thing it has brought to the community is more trucking buisnesses and hass added more congestion to the area. Has not help traffic in the area at all. If anything made getting on Fisher road a hassel and has in noway benifited the general public.
- Move the Truck stop at 1-10 & 146 feeder road.
- My answers on Grand Parkway usage might not reflect my opinions of the project. I won't pay 2 dollars a trip to save ten minutes a day, but the commuters who benefit enough to use the new Highway system will lighten the load for my current commute. We're the single largest commuter city in the nation and one of the largest by surface area as well, we need more infrastructure. Thank you.

- My household is strongly opposed to paying tolls, and we only use toll roads when they are the only available route. If tolls were solely used to pay for the road, we would not be as opposed to paying tolls. However, we already pay considerable taxes to maintain roads in Texas, and we think that the price to drive on toll roads is excessive and the money poorly managed. Therefore, we take alternate routes in order to avoid paying tolls whenever possible.
- Need Kehma Bypass for 146
- Need to force Humble to conduct a mobility study. The traffic issues are only going to be partially addressed by large highway projects. The bulk of my time commuting is on neighborhood streets. Will Clayton Parkway is terrible, lights are not timed nor optimized to favor the predominant traffic flow direction, lane widths are not sufficient, and counter-flow options are not available to support the growth of the Atascocita area. For example, signal lights are set up such that the cycle time on the cross streets where little traffic flow occurs are equal to and in some cases longer than the predominant flow direction time. Rather than build expansive, expensive, destructive major highways, consider optimizing what you already have. Simple optimization by staff that the taxpayer already supports seems to be the best primary option. In addition, Will Clayton Parkway is a major thoroughfare and it passes through 3 school zones between West Lake Houston Pkwy and Atascocita Road (a span of about 3 miles). Who designed this and why does this make sense? Mobility starts with planning and sound design. Seems Humble has not done this and simply granted building permits without any thought. Can you get involved and apply some pressure on this poorly managed municipality?
- Need to raise speed limit to around 85 MPH
- next time mail out the surveys don't pass out on a busy street/intersection....
- Nice and short and easy survey.
- Not enough time saved to make the toll worth paying.
- Now is the time to get this done. It is way overdue and causes tremendous cost of congestion and you can't put a price on the lives that will be saved moving truck traffic out of the inner city mobility system.
- Overall, I feel the Grand Parkway Extension is a good idea. Please note that the trip we were reviewing in this survey would be unaffected by the Grand Parkway Extension. The latter does not go where my trip took me.
- Please build 1960 overpass @ West Lake Houston Parkway
- Please continue to update me status. Thanks
- Please do something to get the rigs off of 146 south of i-10. Lived here 16 years and the last couple have been terrible with these rigs.
- Please HELP us with the congestion in the Greater Houston area -- - carry on!!!

- Please make a u turn at I-10 West bound and John ralston road in baytown, Texas. They are building a buckee's and this is going to make traffic back up on the feeder.
- Please make it happen.
- Please make mandatory that 18 wheel thru traffic, use 99 Grand Parkway in Chambers county and restrict their travel on SH146. That would instantly relieve traffic congestion on SH146 and up the usage of 99. THANKS!
- Please provide metro bus services to Chambers county--specifically areas on Hwy. 146 North.
- please update employment options. I'm 74 years old but I'm not retired, unemployed or a homemaker or anything else you listed. I'm "none of the above"!
- Please, no more toll roads.
- Pleased to see this survey being made with other analytical data that is available and projected for the Greater Houston Metroplex.
- Quit adding red lights to 146. it is almost impossible to get from Dayton to Laporte unless you drive down the barbers hill school road to fisher road. 146 is a mad house now with a new school. it went from having 3 or 4 red lights to now 10 red lights from 146 to ferry rd. the state should be putting a plan into place to finish 146 with feeder roads. it should be just like the stretch of road that replaced Alexander (Buisiness 146). there is a major traffic problem on 146 and the state should be putting plans in place to inquire land on 146 and quit letting Buisinesses build so close to the highway so there will be room to expand. If the state would have went ahead and finished the stretch from alexander to I 10 like the rest of 146 is now it wouldnt have been near the cost it would cost today to buy out all the people that own property on 146. now as far as toll 99 goes i quit driving on it the day the toll was put in place i dont think its worth paying toll for such a short stretch of road. I think a highway should be a highway not a stop and go thing. if baytown wants to expand they should clean up and re open the old side of town that is dead before they expand anywhere else.
- Relieve Congestion on Hwy 146 in Baytown and on Garth Rd. please!!!!
- SH 146 is a NIGHTMARE. Now with new shopping and restaurants it's only worse. There have been MANY times I've almost been hit by especially 18 wheelers. My commute is usually delayed at least one way or the other several times a week.
- Shift the proposed route from FM 1485 further south to cross the Lake Houston Park and the uninhabited land between Highway 59 and FM 2100 and beyond and therefore avert sacrificing the homes and altering the lives of many families along the proposed FM 1485 route.
- Something needs to be done about the traffic at the I-10 exit turning right to go South on SH146
- Something needs to be done about the traffic on FM 565 at FM 1405. Trains, trucks at the pipe yards, Ameriport and the up and coming Kateon Natie facility being built. One day the train had traffic blocked for 30 minutes and I counted 77 trucks { dump and 18 wheelers} between the tracks and Hwy 146 HELP !!!!! TRAFFIC NIGHTMARE !!
- Speed limit on highway 146 needs another reduction and more red lights to get big trucks off the road and onto 99

- Still feel it is unnecessary to build new roads when existing roads are unfinished or need repairs. Toll roads are especially unnecessary as that means paying twice for the same journey, once for taxes and the second to line the investors pockets because I am pretty sure there wont be that much put back to improve travelling conditions.
- Taxes are high enough, I don't want to pay additional to drive on a road.
- Thank you for considering the Grand Parkway development in our area. Especially leading to Hwy 146. The area is growing fast and there are so many 18 wheelers that the roads are becoming congested and less safe to travel. In some parts there aren't even turn lanes. I would support this new development and appreciate the cost consideration for those that would use this new road on a daily basis.
- thank you for having survey about toll way because I hate having to pay toll way.
- The collection of tolls are said to be for the repayment of bonds or borrowed money to build the toll roads. Will the money be used for this or like now will they be used for the commissioners pet projects in there district?
- The current 99 route from IH-10 to Fisher road is a complete SCAM. There is a charge for a VERY short distance. Drivers take alternate routes to avoid this scam. This causes greatly increased traffic on FM 3180 and this has created dangerous conditions to the point of fatality accidents in our area that involved friends and family. This was my old route to/from work. I now work downtown and have no alternative route except IH-10. There are NO toll roads or HOV/HOT lanes available. Drivers have no choice except to sit in the traffic everyday. Most other freeways leading to downtown have choices to pay for an HOV lane.
- The Grand Parkway does not need extending. There is next to no traffic on it. I presumed it was being built to encourage trucks from distribution centers in the area (Walmart) to use it rather than SH14 but they do not.
- The Grand Parkway is an excellent addition to the Houston area!
- The Grand Parkway is in an industrial area that could relieve road congestion with commercial traffic but it is not convent since there is no toll both to except money and it is unreasonable to assume or require citizens to obtain maintain multiple toll passes for each vehicle owned. We should be able to move the toll tag from one vehicle to another. Plus with the amount of commerce and cost it currently requires to keep a vehicle on the road no their should not be any toll roads at all. Toll roads have gotten away from their intention, and tolls should not exists once the road has been paid for just for additional revenue.
- The only help that the proposed extension would provide would be an extra lane for slower traffic, primarily trucks, but would also lead to more of them traveling in that area.
- The only toll road I use regularly is the SAM Houston between IH45 (NASA) on the South and IH 45 on the North (greenspoint) . in general I find the toll on this roadway to be excessive compared to toll roads I used elsewhere. it appears to me that the tolls are set to discourage use of the Tollway

to keep it from being crowded. In which case they do not aid mobility, they just present an easy travel option for the wealthy.

- The only way Houston will ever solve their problems of congestion is to have reliable public transportation. It will bring jobs, relieve congestion, diminish drunk driving and bring us into the 21 century. I will never support any taxes that don't involve eliminations ringtone need for fossil fuel. Move forward, stop building highways and begin a future of mass transport for all.
- The people who handed out the survey forms were not as effective as they could have been. At first I wasn't sure what they were doing. .I thought they were begging as there are frequently panhandlers at that location. I didn't understand at first that the cards were for a survey. Having two large roadside signs would have helped....one that said road workers.(You had something along those words....but again the workers were sloppily dressed and I wasn't sure what they were doing) Second sign clearly stating...people handing out Survey Cards....be blunt ...be obvious. State in exact words what people are doing.
- The politicians will sell the toll roads to foreign corporations so they can "Privatize" every damn government service and perpetually screw the taxpayers. The right wing privatizers are nothing less than Fascists.
- The proposed extension of the GP appears only to support growth in a fairly remote area as opposed to relieving traffic congestion. My current delay is traveling South on West Sam Houston Parkway just North of Beltway 8. It takes about 10 minutes of stop and go to reach Beltway 8. With future development planned for the area of the Parkway from FM1960 to Beltway 8, that stretch will be seriously clogged unless remediation is done now. Also, I would guess the development of Generation Park will also have a serious impact in this area. So lets relieve traffic in areas already in the process of developing and defer the GP extension for many years.
- The proposed tolls seem a little high considering most of them only save 2 -18 mins.
- The routes shown would be unrealistic for where I travel. The grand parkway would run by my property & I'm opposed to the environmental impact,developement & noise pollution it will create.
- The toll prices listed were ridiculous and will not help our horrible traffic because no one will.pay those rates
- The toll roads help reduce congestion especially with so many big rigs in our area now.
- The traffic around the 146 and i10 intersection is horrible. Our neighborhood does not have a light so it is very dangerous to enter and exit. i doubt the 18wheelers will not likely use the toll because there are not any stores or places to eat on that road.
- The traffic congestion in the area of fm. 565 and fm. 3180 is as bad as any place in Houston and the death toll is steadily climbing. We definitely need better, wider roads.
- There are so many accidents on SH 146 that the nearby portion of 99 should be toll free as soon as the funds have been recouped to pay for the road to relieve the amount of congestion from plants and local traffic. It is dangerous, and there is an empty road there that could be utilized by the trucks

if there were available access points from 99 to the plants. They don't avoid 99 because of the toll, they avoid it because they won't build roads to connect the businesses to 99.

- There is no reason to add this to this tiown. You are just wanting more money from us and will impact us on our town. You all just want to add a highway for no reason . It is close to beltway
- There needs to be a real plan to bring in a track system to relieve traffic. Even if just to the airport. Building more highways is not a long range solution.
- This section of the Grand Parkway would be very helpful in traveling fromthe Kingwood area down to Highway 90.
- This segment of the Grand parkway is needed ASAP; with the rapid growth of industry in the area, less congested routes , especially for trucks, are essential our safety . These segments need to be built before traffic is a nightmare-PLEASE be proactive!
- This survey only asked about my most recent trip. I travel to Austin about once a month and would definitely use a toll road to save time on a longer trip like that.
- This toll road is a waste of money. The current section of 99 barely gets used now.
- This was a difficult survey to access and complete.
- Toll road is not viable on the east side of Houston due to lack of commuter traffic. New highways to serve the large number of trucks serving the Port of Houston and growing industrial base are needed. It makes no sense to toll the new SH 99 segment I-2 (just south of IH-10 to FM 1405) as it discourages truck use and they overwhelm the nearby free roads such as SH 146, FM 1405, FM 565, FM 3180. These roads are getting beaten to a pulp while the new 13" concrete of SH 99 is operating at about 3% of capacity. The tolls collected barely even cover the cost of the toll gantry, book keeping, bank fees and admin. The road should be free. The only sensible way to fund it is with higher gas/diesel taxes. The current system is moving us all backwards.
- Toll Roads are a pathetic way to milk more of the people's hard earned money! Use state tax revenue more efficiently, including licensing and registration fee revenue!!!!!!
- Toll roads are OK as long as the travel time is improved. The Beltway 8 around Houston on the NW corner has become so congested that I can't use it during business hours but would if it were not as congested as the freeways.
- Toll roads having so many curves and around adding miles do not seem to make sense.
- Toll roads should provide significant time travel and traffic congestion savings. I travel to Florida twice a year and would a appreciate a reasonably priced toll road that connects Highway 59 North to Highway 10 East. The current tolled road of Beltway 8 to Highway 10 is priced too high and not a significant saving of time and money. We travel to the 610 loop from Highway 59 to Highway 10 east at this time.
- Tolls are to high I would pay $ .25 - $ .50 to travel on texas 99 but no more.

- Tolls should be proportional to the miles between toll booths, and reasonably related to time and/or miles saved
- Tolls should be temporary.
- Totally against all this land clearing and cutting down of our trees...money could be used to improve what we have...if we had smoother, wider lanes there wouldn't be a need to go off course and pay a toll...I don't even use the main freeways unless I have to...going to work I get off and go back streets. (for 17yrs)
- TRAINS THANKS
- TXDOT should improve traffic flow on FM 3180 and FM 2354 to make them safer for people to drive who may not be able to afford a toll on 99!!! We need more lanes and traffic lights at neighborhood entrances and turning lanes! People pass on shoulders and cause fatal accidents!
- Use tax dollars to pay for the expansion and limit tolls if any way possible.
- Very strange survey. It was all predicated on taking a route that has nothing to do with the proposed tollway. Had it been set up differently, I would have answered differently. I might use the proposed tollway to take other trips.
- We already have "extra" money in Texas to pay for roadways. Toll roads are not the way to go. I pay allot of taxes already and will NOT pay to drive on a road that I've already paid for. The drive time difference is definitely NOT worth paying a toll.
- We desperately need new highways and toll bridges to help with the congestion. Interstate 10 is conjugated all day long.
- We don't travel enough anymore to make it cost effective to get an EZ-tag, but we might use a toll road once in a while if we had the option of the camera filming us and sending a bill.
- we go to Austin often to visit family. we can't wait until the section from 59 to 290 opens.
- We live close to the new Hwy.99 and in an area with extreme, rapid industrial growth. We are currently INUNDATED with big trucks using FM 565, FM 3180 and Hwy.146 that SHOULD use the toll road but instead clog our smaller roads, intersections and the railroad crossings. IT IS A NIGHTMARE and DANGEROUS! Please make the Grand Parkway a REQUIREMENT for industrial trucks even if it means removing the tolls and increasing taxes!!!!!
- We need relieve at the intersection HWY 146 and I-10. There are a lot of times that we are unable to get off of our street due to the traffic.
- We pay enough taxes already, additional tolls on roads are unnecessary.
- When toll roads function efficiently, and are maintained I do not mind paying. However, when learning that so much hardship has been placed on so many for the ease and advantage of so few, it is very troubling.
- While I agree with having tolls versus increased taxes or to reduce impact on taxes, I do not agree with forcing people to sign up for accounts to use them.

- While I may not use the tollway for general travel, I would use it if in a hurry or the free route has significant congestion.
- While my responses seemed to be negative towards the Grand Parkway, that is only because it would not benefit me at all, at least in my present circumstances. However, I'm sure that many people would benefit and this is probably a good project to pursue through to completion.
- Why cant the tolls be reduced for people with the transponder instead of paying the same tolls as those without the transponder - it's an incentive for people to purchase the transponder.
- Why pay tolls? The roads (like the shipchannel bridge) tolls were supposed to be temporary. Now 20 years later we are still paying! Stop taxing our roads! Taxes are high enough!
- With regards to proposed GP from I-59 to I-10; 2 Lanes (1 lane in each direction) seems myopic, which, sadly, is in tune with the Planning Dept of TxDOT. With the rate at which population is increasing in the affected counties, by the time the 2-Lane GP was complete and open, it would be, as most expansions are, already behind the population curve. If this is going to be done, it should be a minimum of 4-Lanes (2 in each direction). It's basic common sense- if you're going to do something, do it right THE FIRST TIME. The expansions of I-10 West (Katy), I-45 North (The Woodlands) and Sam Houston Toll Way West (basically from Westpark to I-59, should serve as prime examples where poor planning only meets basic requirements. How many people sit in traffic, on a road they have to pay to use (BW toll), on a daily basis, because of piss-poor planning? Thousands. Daily. Try to get it right. Just once- we beg of you.
- Would love to have the Grand Parkway
- Would love to use 99 between I-10 and Highway 146 ---- but I'm NEVER going to pay a toll only to save only a few minutes. I do use Hardy Toll Rd between Baytown and Woodlands as it spares me nightmare traffic. HOWEVER, I only need it once or twice a month to shop or visit friends in Conroe. I wouldn't pay that outrageous toll fee if I traveled that way 5 days a week.
- Yes, be sure that the contractor and subs take care of any warranty issues and not have taxes pay for that too. Very excited too see how fast the 249 and GP around 249 are running.

2.0 COMMERCIAL VEHICLE SURVEY COMMENTS

Before clicking the "End Survey" button on the last page of the survey, respondents had the opportunity to leave open-ended comments. These comments about the project and the survey itself are presented below, edited only for extremely profane remarks.

- I do not support toll roads that DOT uses for hunting drivers and using it for a money making project.i do like driving on them if the toll is reasonable unlike the I-30 toll in Austin.
- all trucks should run free on toll roads because we already pay for the heavy use tax 550 DOLLARS
- any road that is paid through government taxes should not have a toll on it.
- any thing thats gonna help traffic i agree with toll roads
- As a commercial vehicle we are charged a road use fee for all roads traveled,why should I pay twice for the same road?
- Believe toll roads are politicians way of get out using road taxes for the purpose it was designated for... and once the road is paid for they NEVER remove the toll, they just say it is now paying for something else. It is crooked system. I will never use a toll road because of these reasons and because I cant do it. If the toll roads were toll-free, I would use them to save time and congestion. It would have to save me HOURS AND HOURS of time to ever justify me paying a toll.
- Company's already pay fuel tax so if tolls are real reasonable to save time and save congestion would be a good thing, especially around Houston area. Houston is usually grid lock.
- dedicated truck lanes might be a nice option for houston
- Delivering to Wal-Mart distribution center
- don,t like tools
- don't agree with tolls.
- dont beleive we should have to pay tolls to del freight.thought this was america...
- Don't charge tolls
- dont make the tolls to high.... make them reasonable so its inviting to take the road and that the road is maitained and cared for and has places to stop and park if need be due to dot regulaions
- First let me say thank you for asking what I think. If the toll road paid itself off and then became a public road, or the price dropped just to maintain it I'd use them. They are nothing more then a piggy bank for those in charge. The money isn't used for the projects intended. No accountability, corruption, broken promises, is it any wonder people don't trust TXDOT. Thank your lucky stars I'm not in charge of your budget. I love the city of Houston but it's so corrupt so I guess it shouldn't come as any surprise that they are right there with you. Stay safe out there, to many TxDot workers get hurt each year. Safety Safety Safety.

- Generally tolls are too high and there is too much crooked profit in there for company's. Sometimes we get on toll roads by accident and there should be a way to pay cash if needed. I think there is too much corruption between the state and the private companies constructing and managing the tolls roads.
- have truck shops on toll road an rest areas
- Highway 99 would be a great improvement. It would save some time.
- hope thats there was no feed
- Houston tolls are very high. Tolls need to be in line with other parts of the country.
- I am strongley desagree on the toll feed
- I am strongly agree wiht the fees and the toll roads
- I can't figure out y'all's tolls there - what you charge. I get on line and try to look it up and it doesn't say what it will cost you. It's got it for cars and not for trucks. That's important for an owner-operator. There's no incentive to use a toll road because they are always longer than the untolled route and I get charged on my taxes based on mileage. Time is irrelevant because I get tolled on mileage. The state of texas charges 36 cents a mile. So if I take the toll road, I burn more fuel and have more road use tax. I don't care about the time so there is no incentive to use the toll road. We're Taxed enough already. Method of payment, I'm not sure about that either. You got some of those things that say no cash and I want to know how I'm supposed to figure out what I'm going to be charged because I need to know what my expenses are so I know if I'm making money for the trip.
- I can't take the toll road if it doesn't take an ez-pass. I avoid toll roads unless I HAVE to take them. They are building all these roads, spending all this money but people aren't using them because they don't want to pay for them.
- I do not understand the use of tolls,because times is hard and hard to dill with. charging people for the use of a road and I don't see where the money is going or why they raise the rates; then at the same time extend more tolls. Express to the people how we are benefited and where the money is going.
- I don't even know what the tolls are - my company pays them. I guessed when it asked the question. Toll roads are ok, but they should make one devices (transponder) to use the roads around the country. Need more service plazzas - places to park. I won't take 130 around Austin because there is no place to park.
- I drive bridge girders, an oversize load. Right now I'm empty, but when I'm loaded most toll roads will not accept me. And if they do, I put down extra axles that really raises the price.
- I feel it will help with houston traffic issues.
- I generally avoid toll roads. You often don't know what you are going to get charged until you get there so I just avoid them.

- i generally disagree with paying tolls because I already pay a lot of road taxes; we are getting double taxed; i would rather pay more for my personal vehicle registration and use that to improve roads instead of having tolls roads. And the tolls are too expensive, even when I am reimbursed it takes time for my company to do that it creates a hardship for myself.
- I generally support toll roads if prices aren't too steep and they save time or congestion. Some toll roads are now becoming as congested as other roads. I also try to avoid tolls if I can, but if other roads are too congested then I will take the toll road even if it wasn't planned.
- I haul haz mat on this trip, so I couldn't actually take the toll roads because they won't let me.
- I have an ez pass. I would be more likely to take the road if it accepted ez pass.
- I hope you all build it because that would take pressure off traffic in Houston.
- I love Texas! Continue improving our roads and making them safer. I drive the toll roads personally but not for work. Our routes currently don't require toll road use.
- I pay taxes for roadway improvement use my tax dollars to build highways. It is not an option to travel toll roads to expensive for me. Dont let this happen to this area we dobt want it we dont even uses the 99 toll road that it already built.
- I prefer construction work happen at night so as not delay traffic. Make the toll payments more reasonable.
- I prefer to use toll roads because it is quicker and safer; the company prefers we do not use toll roads so I don't unless it is unavoidable.
- I stay away from toll roads because my company doesn't like to pay for them.
- I strongly agree and back this program 100%
- i think we go back to just paying taxes to fix the roads not pay taxes and build toll roads that you pay again to ride on. we already paid..i totally disagree with paying. sometime politicans in office get greedy an forgrt about the people that put them into office..we spend enough out of pocket now we dont need to speed no more money going outside the home. i will pay higher fuel prices
- I thought they were going to do like Austin with an upper and lower deck. Interstate 45 is the road that needs attention. I just can't see that one road easing up traffic.
- I use toll roads for personal driving, but not for work (truck driving) because they are too expensive to repeatedly pay for multiple trips daily. I might use toll roads more if the costs were less expensive.
- I vigorously oppose toll roads. It's the principle.
- i will use toll roads if the highways are backed up, if it saves me 45 min or more because other roads are backed up. But cost cant be too high or I won't take it.
- i would like the toll roads to be faster, less expensive for truck drivers, not because of heavier weight (and have to pay more). we are the ones that keep america going.
- I would love for the NE section of HW99 to be completed. With the growth that Houston is experiencing, it will help, especially long term. I would use this weekly, as long as the tolls were

reasonalble. It needs to be at least 4 lanes though. It mentioned that it would be one lane in both directions with some passing lanes. You need to just make it four lanes to begin with, this will save money in the longterm. I would have a hard time paying for a one lane road. If a one lane road is what you are planning, then it should not be a toll road.

- I would ONLY take the toll road if you could pay by mail. Route 8 sucks because it's the only road that does not do pay by mail. So we can't even take it. We have to come through the city. Unless we get a pre-paid tag. Right now the only prepaid tag I have is for Florida and that's only because I go there a lot. If you made more of your toll roads like you did 130, you'd be set. A lot more trucks would use them.
- I would prefer to use toll roads to save travel time but my company doesn't reimburse for tolls so I never use them. I think that industries should be required to pay a road tax because that is how they receive their materials and freight.
- I would take the toll roads if they would take EZ Pass
- I wouldn't usually take the toll road because I've seen the toll roads backed up too and I couldn't depend on the travel time being less like the survey says.
- If I can avoid a stop and go with my liquid haz-mat load, I'd take a toll road. I'd take the toll road to avoid a DOT stop.
- If I'm late, I'd pay the tolls. Build some kind of system so that people don't get stuck in traffic and not to have to pay tolls. It's too much. We're already spending so much in gas and expenses.
- if it good less trafica
- If it's going to be a toll road it can't be too much out of the way.
- if road taxes take care of the infratructures, why is there a need for tolls?
- If Texas would accept the EZ Pass I'd be more likely to use it. A lot of people would. --as long as it's a reasonable price. The 8 is too expensive. The toll should begin and end at a definite date when the road is paid off, not just to keep it maintained. Maintenance should come from state fuel taxes.
- if the toll cost is not so high, i would be a user of the grand parkway or other tolls; but not currently
- It definitely needs to go around the city. If the city is going to increase taxes for this when the roads aren't even funded it would definitely piss me off. [rant about taxes]
- It sucks! We don't need no more damm tolls. Tolls should be forbidden for trucks. We keep the economy moving! We are what moves everything! 18 wheelers move it, so why do we have to fork out money from our pockets when we are doing America a favor!
- its useful but too expensive, be reasonable with the 18 wheeler s
- just fix the road we have not that would help traffic a lot
- local trucker should have a discount on tolls. as every day usage..
- lower prices for 18 wheeler driver

- Make it a freeway, without lights or stop and go.
- Make It Driver Friendly For All Truck Drivers O.T.R. and Local Thur out The City. Remenber We Are The Back Bone!!!! for This Great U.S.A . !!!!! Long Live Us Truck Drivers.!!!!! Thank you.
- make tolls cheaper for multi axle vehicles
- most drivers look at tolls as not a time saver but buy the cost per mile if that is reasonable then look if the route is shorter.
- need to get traffic outside of houston.
- No on toll roads
- No tolls...All roadways should be free to the motoring public.Thank you
- put the money of the tolls were it would actually be more convenient to fix the roads.
- Road taxes are supposed to pay for roads already. The trucking industry already pays too much.
- Road would have to accept EZ Pass for us to use it. Otherwise our answers are null and void.
- shouldn't have to pay for toll roads cause truckers pay enough already.
- speed limits should be enforced on small vehicles too on toll roads. it is unsafe and trucks get sued for most all accidents.
- Stop requiring transponders to use toll roads, and I might use them. My company doesn't hand out transponders to OTR drivers, and they will not reimburse tolls paid by a transponder that is not in their name. My company isn't the only company that does that, and I imagine that there would be more traffic from guys in my position.
- strongly desagrees with the toll fees
- that the feed should me resables
- The company determines if I'd take the toll road. I think the 99 should go in but not be a toll road. I haul crude oil.
- The Katy tollway is empty because nobody will pay the toll. People would rather sit in the traffic than pay the toll. I would take a toll road if it took EZ Pass, but none of the toll roads in Texas accept it. The 99 loop is too big to use for most truckers. When you take trucks away from the city, you take your revenue from the city.
- the money is missused.
- The new 99 from fisher rd to i-10 should be a mail in toll. Most of the trucks on hwy 146 are from out of state and do not have a ez tag so they do not use 99. It should be made easier for them to use
- the rates are too high!
- the road system is part of the commons. Don't privatize them and don't toll them. Instead, be honest with the tax payers about the needs, tax appropriately. Then be transparent and accountable.

- The toll roads on the west side waste so many lanes that could be used for better traffic management and only make one lane that is either out or in at different times of the day. Extremely poor waste of taxe dollars. It is also a safety hazard as it takes away the shoulder on the insides lanes. My granddaughter, that is 10, asked me why they did that. It is hard to explain to a child about how some folks just waste other's money.
- The traffic around garth road and I10 is absolutely atrocious traveling any direction. If I could write a blank check and get the issue taken care of I would but since I cant I have to trust our elected officials to listen and act on complaints. So my complaint is traffic sucks at garth road! please, for the love of all that is human fix this nightmarish gaggle f@ck we call traffic at garth road and I10.
- There are so many variables - if I'm late, especially. What my time is worth changes depending on the circumstances.
- This sucks. I avoid tolls.
- this would be a great thing for me i wouldnt have to use 610 loop anymore
- Toll roads are convenient because I can finish trips on time. My trips are timed so I will pay the toll to be on time.
- Tolls - if I can avoid them, I will.
- tolls are a form of double tax
- Tolls should be free for commercial carriers, especially if delivering freight to your city! If we, the commercial drivers have to deal with your traffic and and your warehouses we should not incur the cost to manover in your city!! ---- It needs EZ pass (the only one my company pays) or I will avoid it. You can go ahead a raise taxes, I don't live here!
- Us the road tax money for the roads; don't misappropriate the funds and then we wouldn't need the funds from toll roads. Don't sell our roads to private companies or other sources.
- use the road money that is collected to build new roads. use the money that is collected from truckers tax to build roads.
- We all already pay enough taxes for our roads. The first toll in Houston was Blt 8 bridge and it was only supposed to last for 2-4 years. Once a toll is introduced it never goes away so what wrong with making our tax dollars (that we already pay) work to free up congestion. TXDot AND their contractors use undocumented (illegal aliens) labor which should be cheap and of whom pay no taxes to travel the same roads!
- We need mass transit in addition to more roads.
- We pay too much already - we pay heavy road tax, we pay fuel tax, we pay sales taxes on every product we buy. There shouldn't be a need for more taxes or tolls for roads when there are already taxes enough. They waste too much on looks - fancy decor and images on the bridges. There's millions of dollars wasted there which could go to paving roads.
- When I drove a company truck I liked using the toll roads because they saved time and distance.

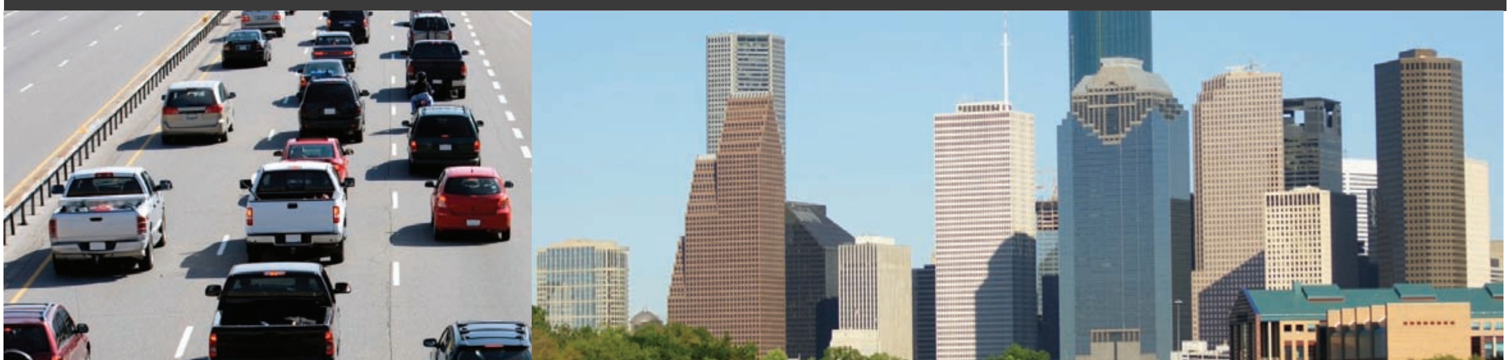
- why start something that been started
- Will it accept overside loads? We driver overside loads and would only use the road if it can take us.
- Would be convenient. Houston has so many projects in the works it seems like a lot of it jams up traffic instead of helping.

APPENDIX D: SEGMENTS D THROUGH G UPDATE

GRAND PARKWAY (SEGMENTS H & I) STATED PREFERENCE SURVEY

RSG the science of insight

6.26.2015



PREPARED FOR:
TEXAS DEPARTMENT OF TRANSPORTATION

SUBMITTED BY:
RSG

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GRAND PARKWAY (SEGMENTS H & I) STATED PREFERENCE SURVEY

PREPARED FOR:
TEXAS DEPARTMENT OF TRANSPORTATION

CONTENTS

1.0 GRAND PARKWAY (SEGMENTS D THROUGH G) 2011 STATED PREFERENCE SURVEY

1.1 | MODEL RESULTS

MULTIMNOMIAL LOGIT (MNL) MODEL

The final model specification includes variables for travel time and toll cost. A non-linear transformation of the toll cost coefficient by household income was estimated to capture the relationship between toll cost sensitivity and household income. Finally, two alternative specific constants were included for the tolled route alternative:

- A constant for respondents who used a toll road during their reported trip and
- a constant for respondents who did not use a toll road during their reported trip.

The coefficient values, robust standard errors, robust t-statistics, and general model statistics are presented for the aggregate sample as well as each model segment (described below) in **Table 1-1** through **Table 1-3**. Automobile traveler segment models were estimated for two market segments based on trip travel time:

1. Peak period trips (6:30 AM to 8:30 AM or 3:30 PM to 6:30 PM)
2. Off-peak period trips (8:30 AM to 3:30 PM or 6:30 PM to 6:30 AM)

TABLE 1-1: MULTINOMIAL LOGIT: AGGREGATE MODEL COEFFICIENTS

Coefficient	Units	Value	Robust Std. Error	Robust *t*-stat
Travel Time	Minutes	-0.144	0.00493	-29.18
Toll Cost*	Dollars	-2.65	0.0928	-28.5
Constants				
Non-toll user	(0,1)	-1.64	0.0436	-37.72
Toll user	(0,1)	0.576	0.0622	9.27

**The toll cost variable enters the model in the form: Toll Cost * (LN(Income Midpoint/1000)).*

Model Statistics	
Number of estimated parameters	4
Number of observations	13,496
Number of individuals[1]	1,687
Null log-likelihood	-9,354.714
Final log-likelihood:	-6,742.008
Rho-square	0.279
Adjusted rho-square	0.279

TABLE 1-2: MULTINOMIAL LOGIT: PEAK PERIOD TRIPS MODEL COEFFICIENTS

Coefficient	Units	Value	Robust Std. Error	Robust *t*-stat
Travel Time	Minutes	-0.160	0.00723	-22.15
Toll Cost*	Dollars	-2.70	0.135	-19.96
Constants		-1.69	0.065	-26.03
Non-toll user	(0,1)	0.417	0.0929	4.49
Toll user	(0,1)	-0.160	0.00723	-22.15

**The toll cost variable enters the model in the form: Toll Cost * (LN(Income Midpoint/1000)).*

Model Statistics	
Number of estimated parameters	4
Number of observations	6,248
Number of individuals	781
Null log-likelihood	-4,330.784
Final log-likelihood:	-3,165.666
Rho-square	0.269
Adjusted rho-square	0.268

[1] Respondents were shown eight stated preference experiments in the 2011 survey.

TABLE 1-3: MULTINOMIAL LOGIT: OFF-PEAK PERIOD TRIPS MODEL COEFFICIENTS

Coefficient	Units	Value	Robust Std. Error	Robust *t*-stat
Travel Time	Minutes	-0.13	0.00672	-19.31
Toll Cost*	Dollars	-2.58	0.127	-20.38
Constants		-1.62	0.0588	-27.47
Non-toll user	(0,1)	0.711	0.0834	8.52
Toll user	(0,1)	-0.13	0.00672	-19.31

**The toll cost variable enters the model in the form: Toll Cost * (LN(Income Midpoint/1000)).*

Model Statistics	
Number of estimated parameters	4
Number of observations	7,248
Number of individuals	906
Null log-likelihood	-5,023.931
Final log-likelihood:	-3,563.92
Rho-square	0.291
Adjusted rho-square	0.290

Values of Time: MNL

The values of time evaluated at each income category midpoint are shown below in **Table 1-4**. The median income for each segment is $87,500.

TABLE 1-4: MULTINOMIAL LOGIT MODELS: VALUES OF TIME BY SEGMENT AND INCOME

Household Income	Segment		
	Aggregate	Peak	Off-peak
$10,000	$7.51	$8.19	$6.96
$22,500	$10.15	$11.07	$9.41
$30,000	$11.09	$12.09	$10.28
$42,500	$12.22	$13.33	$11.34
$62,500	$13.48	$14.70	$12.50
$87,500*	$14.58	$15.90	$13.52
$112,500	$15.40	$16.79	$14.28
$137,500	$16.05	$17.51	$14.89
$175,000	$16.84	$18.36	$15.61
$225,000	$17.66	$19.26	$16.37

**Median household income midpoint for all segments.*

MIXED MULTINOMIAL LOGIT (MMNL) MODEL

For the 2011 study, MMNL models were estimated using a similar specification to that which was identified in the preliminary MNL models for each of the study segments. However, there are a few key differences between the MMNL specification and the MNL specification. First, the travel time and toll cost coefficients were transformed in the utility equation to estimate the value of time, or willingness to pay, directly. Second, random parameters were specified for the willingness to pay and for the alternative-specific constant on the toll alternative.

As with the MNL models, the toll cost variable was divided by the natural log of household income in thousands of dollars. This transformation allows the distribution of values of time to be calculated for any income level.

Coefficient values as well as general model statistics for the multinomial logit models are provided for each segment in **Table 1-5** through **Table 1-7** below.

TABLE 1-5: MIXED MULTINOMIAL LOGIT: AGGREGATE MODEL COEFFICIENTS

Coefficient	Units	Value	Robust Std. Error	Robust t-stat
Travel Time				
Travel time	Minutes	-3.33	0.0556	-59.85
Travel time standard deviation	Minutes	0.742	0.0429	17.28
Toll Cost*	Dollars	-9.81	0.554	-17.72
Constants				
Toll route constant	(0,1)	-2	0.2	-10.02
Toll route constant standard deviation	(0,1)	5.06	0.301	16.8

**The toll cost variable enters the model in the form: Toll Cost * (LN(Income Midpoint/1000)). In this model, the distribution of travel time sensitivity was assumed to be lognormal. The parameters reported here are for the underlying normal distribution.*

Model Statistics	
Number of pseudo random draws	1,000
Number of estimated parameters	5
Number of observations	13,496
Number of individuals	1,687
Null log-likelihood	-9,354.714
Final log-likelihood	-4,943.142
Adjusted rho-square	0.471

TABLE 1-6: MIXED MULTINOMIAL LOGIT: PEAK SEGMENT MODEL COEFFICIENTS

Coefficient	Units	Value	Robust Std. Error	Robust t-stat
Travel Time				
Travel time	Minutes	-3.31	0.0736	-44.93
Travel time standard deviation	Minutes	0.707	0.0452	15.65
Toll Cost*	Dollars	-10	0.8	-12.57
Constants				
Toll route constant	(0,1)	-2.06	0.285	-7.21
Toll route constant standard deviation	(0,1)	-4.94	0.381	-12.98

**The toll cost variable enters the model in the form: Toll Cost * (LN(Income Midpoint/1000)). In this model, the distribution of travel time sensitivity was assumed to be lognormal. The parameters reported here are for the underlying normal distribution.*

Model Statistics	
Number of pseudo random draws	1,000
Number of estimated parameters	5
Number of observations	6,248
Number of individuals	781
Null log-likelihood	-4,330.784
Final log-likelihood	-2,361.927
Adjusted rho-square	0.453

TABLE 1-7: MIXED MULTINOMIAL LOGIT: OFF-PEAK SEGMENT MODEL COEFFICIENTS

Coefficient	Units	Value	Robust Std. Error	Robust t-stat
Travel Time				
Travel time	Minutes	-3.35	0.0692	-48.5
Travel time standard deviation	Minutes	-0.758	0.0491	-15.43
Toll Cost*	Dollars	-9.8	0.738	-13.27
Constants				
Toll route constant	(0,1)	-2.07	0.268	-7.74
Toll route constant standard deviation	(0,1)	-5.07	0.36	-14.11

**The toll cost variable enters the model in the form: Toll Cost * (LN(Income Midpoint/1000)). In this model, the distribution of travel time sensitivity was assumed to be lognormal. The parameters reported here are for the underlying normal distribution.*

Model Statistics	
Number of pseudo random draws	1,000
Number of estimated parameters	5
Number of observations	7,248
Number of individuals	906
Null log-likelihood	-5,023.931
Final log-likelihood	-2,580.956
Adjusted rho-square	0.485

Values of Time: MMNL

TABLE 1-8: MIXED MULTINOMIAL LOGIT MODELS: VALUES OF TIME BY SEGMENT

Segment	Median VOT* ($/hr.)	Mean VOT* ($/hr.)
Aggregate	$9.81	$12.98
Peak	$10.17	$12.92
Off-peak	$9.66	$12.73

**Evaluated at $87,500, the median household income for the sample.*

1.2 | VALUE OF TIME UPDATE MEMO

TO:	Phani Jammalamadaka, CDM Smith
FROM:	Courtney Nielson, RSG; Mark Fowler, RSG
DATE:	March 23, 2015
SUBJECT:	Grand Parkway, Segments D through G, Value of Time Update

In early 2011, RSG conducted a stated preference (SP) survey for automobile drivers who use or could potentially use part of the proposed and existing SH 99/Grand Parkway segments D through G. In the four years that have elapsed since that administration effort, including the completion of segments D and E, it is possible that the original estimates of value of time (VOT) need updating to reflect possible socioeconomic changes in the region. In general, values of time in a particular corridor can be affected by several factors, including:

1. The types of trips being made in the corridor (e.g., trip purposes, trip lengths),
2. The general travel conditions in the corridor (e.g., congestion levels on existing roads)
3. The characteristics of the households making trips in the corridor (e.g., household incomes) and
4. Economic conditions

While there may have been some changes in trip types and travel conditions in the corridor, they are likely to have been small and their effects are most likely to be mixed. The factors that are more likely to affect values of time over a four-year period are the characteristics of the households traveling in the corridor and the prevailing economic conditions in the region.

If income levels have changed significantly in the region, it is likely that values of time have also changed. In addition to the effect of household income on VOT, two economic effects can have an impact on values of time. First, inflation directly affects the net value of a given income level. Because the survey was conducted in 2011, both the values of time and the income levels are in 2011$. Over the period from February 2011, when administration began, to the end of 2014, the consumer price index (CPI) has risen by approximately 6.4% according to BLS data from the Houston-Galveston-Brazoria, TX region. All else equal, the nominal value of time should be increased by 6.4% to reflect 2014$. The table below shows annual CPI growth for Houston-Galveston-Brazoria region re-normalized to 1.0 for 2011.

TABLE 1-9: HOUSTON-GALVESTON-BRAZORIA ANNUAL CPI GROWTH

Year	Annual CPI Growth
2011	1.000
2012	1.019
2013	1.035
2014	1.064

The second potential economic effect that can influence travelers' willingness to pay is changes in discretionary spending. It is possible that consumers could change the amounts they spend independently of changes in income by trying to save money in anticipation of more difficult economic times. The U.S. Bureau of Labor Statistics (BLS) reports consumer expenditures data in two-calendar year intervals. The most recent data for the greater Houston area includes information for 2011-2012 and 2012-2013. Between 2011 and 2013, average household spending increased by 2.5%, which is less than the CPI over the same period. However, total spending on transportation items increased approximately 6.3% during this same time period, which is similar to CPI. Much of this spending can be attributed to a 23% increase in the mean amount of dollars consumers in the region spent on new vehicle purchases.

Incomes in the greater Houston region have also changed since 2011. According to annual wage data from the BLS, between 2011, when the survey was conducted, and 2013 (information regarding 2014 weekly wages is preliminary and not final), average annual wages in Fort Bend and Harris County, Texas have increased 6.3% and 5.4%, respectively.

TABLE 1-10: FORT BEND COUNTY AVERAGE WEEKLY WAGES (US$)

Year	Qtr1	Qtr2	Qtr3	Qtr4	Annual
2011	977	881	925	953	934
2012	1024	907	928	1006	966
2013	1027	951	968	1024	993

TABLE 1-11: HARRIS COUNTY AVERAGE WEEKLY WAGES (US$)

Year	Qtr1	Qtr2	Qtr3	Qtr4	Annual
2011	1258	1119	1155	1240	1193
2012	1338	1164	1154	1331	1247
2013	1334	1191	1188	1316	1257

CONCLUSIONS

Based on our review of the available data, we believe the values of time that we estimated for potential travelers of the Grand Parkway, segments D through G, should be adjusted to reflect the changes in the CPI from 2011$ to 2014$. Household income and household expenditures in the region appear to be growing at or slightly below the CPI over the same period and we see nothing in the data to indicate that values of time should be adjusted at a level below or above estimated inflation. As a result, VOT has likely kept up with the CPI in the region and VOTs should be adjusted to match.

Appendix C

Additional Information

This Appendix provides a summary of recent developments and trends observed within the Houston region based on most recent 2017 information and data that is continuously being made available since the independent economic analyses undertaken in 2016. It contains the documentation of the announced housing and commercial developments along Segments D through G, Segments H and I, that were implicitly assumed in the socioeconomic forecasts developed by the independent economists, CDS. In addition, this appendix also includes comparison of traffic and revenue projections included in this study with those presented in the June 2013 Grand Parkway Segments D through G Comprehensive T&R Study.

Exhibit C-1 lists housing developments and commercial developments near Segments D through G and Segments H and I.

Exhibit C-2 lists commercial developments and housing developments near segment I-2, specifically near the Chambers Town Center in Baytown.

Exhibit C-3 compares forecasts for Segments D through G developed in 2013, and forecasts for Segments D through G and Segments D through I developed in the current study. The exhibit also shows average annual growth rates for all segments, share of 2035 revenues by segment, and share of truck transactions by segment.

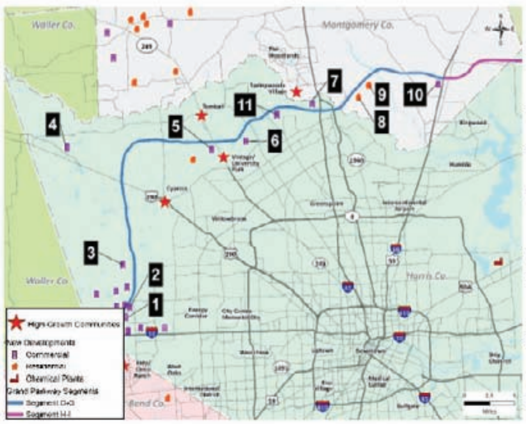
Exhibit C-1

Housing developments and commercial developments near Segments D through G and Segment H and I that are not explicitly mentioned in the T&R report but were considered by CDS.

High Economic Growth (Segments D - G)

Additional Housing and Commercial Developments Announced

Developments in the Houston Region



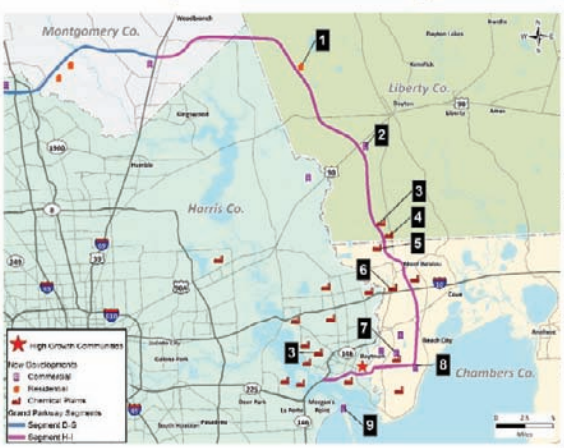
Announced Developments

1. **Grandway Business Park** - 56 ac with 780,000 sf of offices planned with two of five buildings completed, pre-leasing on the remaining three is underway with completion likely by 2025
2. **Grand Morton Town Center** - 89 ac with 627, 532 sf of offices/buildings planned with Kroger and several smaller stores opened in late 2016, Walmart and other stores to open later in 2017, pad site development could continue through 2020
3. **FedEx Ground Distribution Complex** - 488 ac with 800,000 sf of buildings opened in October 2017
4. **Daikin Texas Technology Park** - $417 million campus creating 4600 jobs opened in May 2017
5. **Grand Parkway Town Center** -128 ac with 453,861 sf commercial center planned with Kroger expected to open in 2018 along with other retail, pad site development could continue past 2020
6. **HEB** -13.46 ac with 101,173 sf grocery/fuel station/pad sites opened in April 2017
7. **ExxonMobil Houston Campus** - 385 ac facility to accommodate 10,000 employees open since 2015 will likely have most of the employees in place before 2020
8. **Harmony** -1000 ac master-planned community (2500 new single family homes) Community and HEB have been open for several years, should approach buildout by 2020 and be completed by 2025
9. **Woodson Reserve** - 692 ac master-planned residential community under construction now, development will likely continue through the 2020s
10. **Valley Ranch** -1400 ac master-planned community (1200 homes and 1000 multifamily residences) plus 240 ac Town Center has been under construction for several years, first stores opened in late 2016 and is expected to be completed by 2020
11. **Grand Parkway Marketplace** - 66 ac with 481,476 sf of commercial buildings planned Target opened in March 2017 with additional stores expected to open through 2017 and 2018

High Economic Growth (Segments H & I)

Additional Housing and Commercial Developments Announced

Developments in the Houston Region



Announced Developments

1. **Castlehill** - 5,549 ac planned residential development and 1,628 acre planned commercial development expected to start in 2025
2. **Gulf Inland Logistics Park –** 1,500 acres of multi-modal facility, 9.6 million sf of industrial/commercial, 2,000 rail car storage with rail service from CMCRR, BNSF and UPRR expected to be completed in 2020
3. **ExxonMobil –** $4.4 billion investment in 3,400+ acres for refinery and chemical production with 2,200 full-time workers plus 2,100 contract workers. Annual salary and wages exceed $250 million expected to be completed in 2020
4. **ONEOK** - $500 million investment in "Frac" #3; 2020 expected completion
5. **Enterprise Products** - $2 billion investment including Propane DH Project, 2020 expected completion
6. **Chevron Phillips** - $6 billion investment in the largest polyethylene plant in the world in conjunction with Ineos. Currently employs 800 workers with an additional 350 contract employees working on a 1,200 acre site which is only 50% developed at this time; 2020-2025 expected completion
7. **Bayer** - $1.3 billion investment in a 1,650 acre (35% developed) facility that employs over 2,000 workers . This is Bayer's largest worldwide investment; 2020-2025 expected completion
8. **Cedar Crossing Industrial Park**- 15,000 acres of the largest master planned rail and barge served industrial park in the US. Handling 500,000 rail cars per year and planning a $22 million rail expansion expected to be on-going through 2040
9. **Port of Houston (Barbours Cut Container and Bayport Terminals)** - 30.5 million tons of cargo annually in over 2.1 million containers on over 8,000 ships generating over 1 million jobs throughout Texas creating $264.9 billion in economic impact along with over $5 billion in state and local taxes; 2020 expected completion

Other Notable Developments - Kinder Morgan BOSTCO, Kuraray, TopSail Energy, Pinnacle Machineworks, Air Products planning expansions and/or new plants/facilities in the Baytown/ Ship Channel/ La Porte/ Mont Belvieu corridor

Exhibit C-2

Housing developments and commercial developments near segment I-2, specifically near the Chambers Town Center in Baytown, that are not explicitly mentioned in the T&R report but were considered by CDS. The exhibit is a brochure provided by NewQuest Properties for Chambers Town Center that is shown in the following pages.

NewQuest PROPERTIES

CHAMBERS TOWN CENTER

Freeway Pad Sites and Retail Available For Lease

SEC of I-10 & SH 146 | Baytown, Texas

COMING SOON: SHOGUN, DICKEY'S BARBEQUE, VERIZON, SUPERCUTS, AND CRICKET WIRELESS

Bob Conwell | Brad Elmore | Austen Baldridge | 281.477.4300

Leasing | Tenant Representation | Development | Land Brokerage | Acquisition | Property Management

72%
POPULATION GROWTH
FROM 2010 - 2017
*WITHIN 3 MILE

$101K AVERAGE HOUSEHOLD INCOME WITHIN 5 MILES

A MASSIVE EXPANSION PROJECT

Chevron

$6 BILLION INVESTMENT

$$$$$

129,717 CURRENT POPULATION WITHIN TRADE AREA

MAJOR AREA EMPLOYERS

ExxonMobil
Chevron
BAYER

CHAMBERS TOWN CENTER

EXCELLENT HIGHWAY VISIBILITY and access to I-10 and SH 146

Future expansion of **CHEVRON, EXXON** and others will create **1,000** new permanent jobs and over **11,000** skilled labor jobs

KILGORE PARKWAY and **NEEDLEPOINT ROAD** expansions will connect SH 146 and Grand Parkway

MULTIPLE new master planned residential developments and expansions in progress with an estimated **15,000 NEW HOMES**

COMING SOON: SHOGUN, DICKEY'S BARBEQUE, VERIZON, SUPERCUTS, AND CRICKET WIRELESS

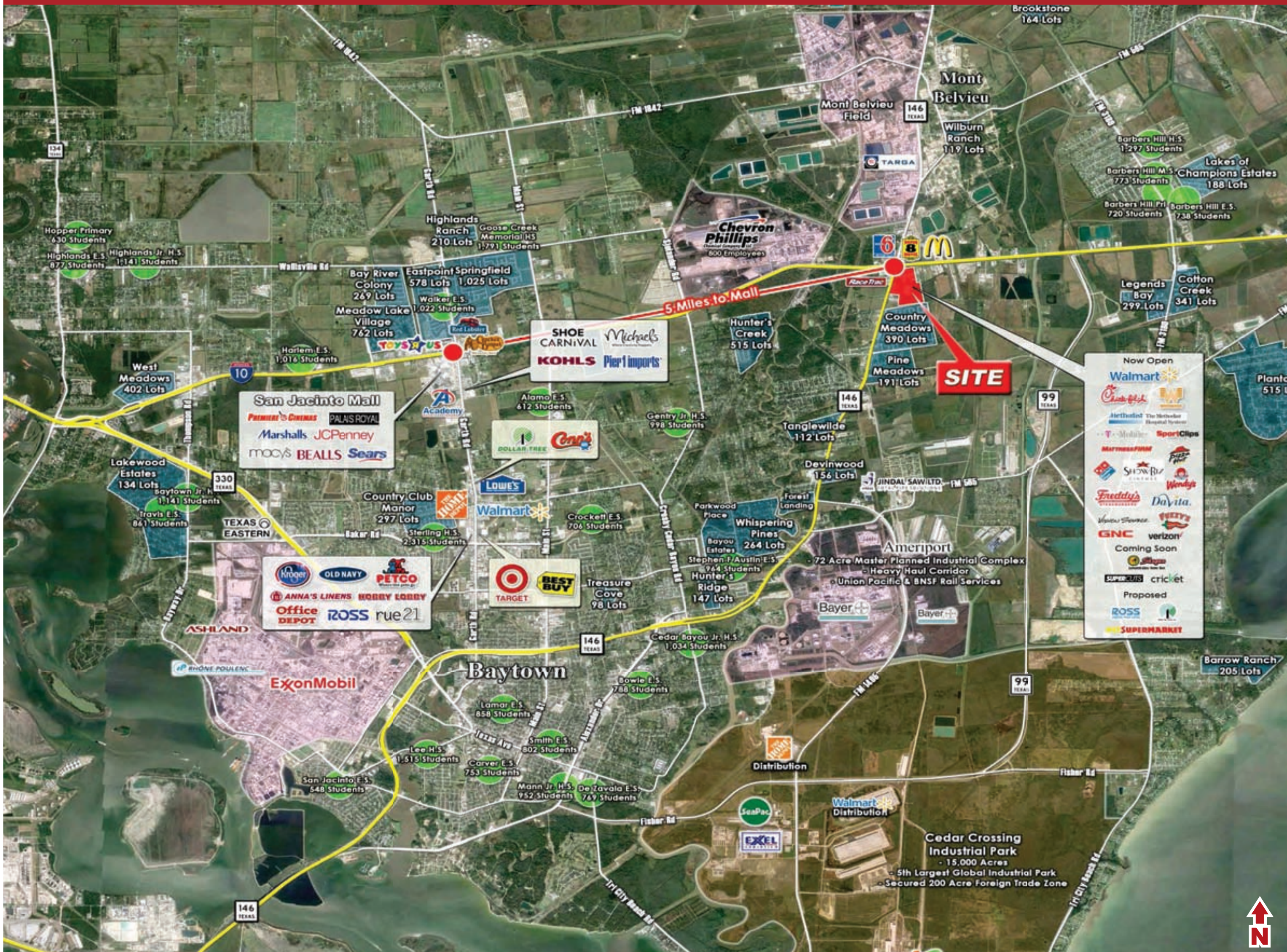
Bob Conwell
281.477.4324
bconwell@newquest.com

Brad Elmore
281.477.4362
belmore@newquest.com

Austen Baldridge
281.477.4363
abaldridge@newquest.com

WHAT'S AROUND

NewQuest PROPERTIES



MAJOR AREA EMPLOYERS

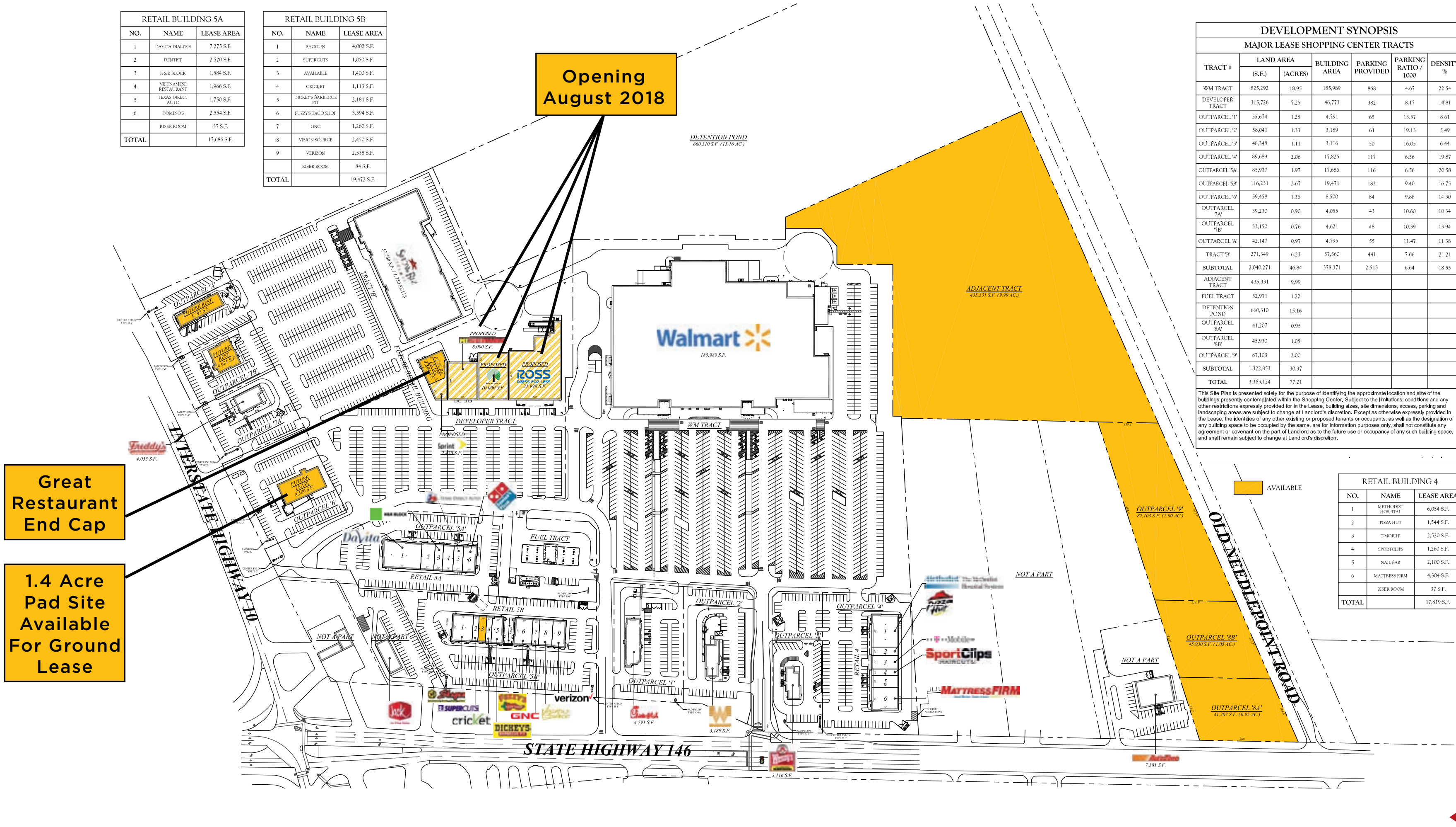
- **EXXONMOBIL:** Encompassing 3,400+ acres for refinery & chemical production, the facility has 2,200 full time employees plus an additional 2,100 contract personnel. Annual salaries and wages exceed $250 million ($68.8 million in taxes each year)
- **CHEVRONPHILLIPS:** Largest polyethylene plant in the world in conjunction with BP Solvay (now Ineos). Currently, employs around 800 workers with an additional 350 contract employees. Facility consists of around 1,200 acres, only 50% of which are developed at this time.
- **BAYER:** 1,650 acre facility (35% developed) that employs over 2,000 workers. Bayer has its largest worldwide investment at this facility, totaling $1.3 billion.

WHAT'S AROUND

NewQuest PROPERTIES

WHERE YOU COULD BE

NewQuest PROPERTIES®



RETAIL BUILDING 5A		
NO.	NAME	LEASE AREA
1	DAVITA DIALYSIS	7,275 S.F.
2	DENTIST	2,520 S.F.
3	H&R BLOCK	1,584 S.F.
4	VIETNAMESE RESTAURANT	1,966 S.F.
5	TEXAS DIRECT AUTO	1,750 S.F.
6	DOMINO'S	2,554 S.F.
	RISER ROOM	37 S.F.
TOTAL		17,686 S.F.

RETAIL BUILDING 5B		
NO.	NAME	LEASE AREA
1	SHOGUN	4,002 S.F.
2	SUPERCUTS	1,050 S.F.
3	AVAILABLE	1,400 S.F.
4	CRICKET	1,113 S.F.
5	DICKEY'S BARBECUE PIT	2,181 S.F.
6	FUZZY'S TACO SHOP	3,394 S.F.
7	GNC	1,260 S.F.
8	VISION SOURCE	2,450 S.F.
9	VERIZON	2,538 S.F.
	RISER ROOM	84 S.F.
TOTAL		19,472 S.F.

DEVELOPMENT SYNOPSIS

MAJOR LEASE SHOPPING CENTER TRACTS

TRACT #	LAND AREA (S.F.)	LAND AREA (ACRES)	BUILDING AREA	PARKING PROVIDED	PARKING RATIO / 1000	DENSITY %
WM TRACT	825,292	18.95	185,989	868	4.67	22 54
DEVELOPER TRACT	315,726	7.25	46,773	382	8.17	14 81
OUTPARCEL '1'	55,674	1.28	4,791	65	13.57	8 61
OUTPARCEL '2'	58,041	1.33	3,189	61	19.13	5 49
OUTPARCEL '3'	48,348	1.11	3,116	50	16.05	6 44
OUTPARCEL '4'	89,689	2.06	17,825	117	6.56	19 87
OUTPARCEL '5A'	85,937	1.97	17,686	116	6.56	20 58
OUTPARCEL '5B'	116,231	2.67	19,471	183	9.40	16 75
OUTPARCEL '6'	59,458	1.36	8,500	84	9.88	14 30
OUTPARCEL '7A'	39,230	0.90	4,055	43	10.60	10 34
OUTPARCEL '7B'	33,150	0.76	4,621	48	10.39	13 94
OUTPARCEL 'A'	42,147	0.97	4,795	55	11.47	11 38
TRACT 'B'	271,349	6.23	57,560	441	7.66	21 21
SUBTOTAL	2,040,271	46.84	378,371	2,513	6.64	18 55
ADJACENT TRACT	435,331	9.99				
FUEL TRACT	52,971	1.22				
DETENTION POND	660,310	15.16				
OUTPARCEL '8A'	41,207	0.95				
OUTPARCEL '8B'	45,930	1.05				
OUTPARCEL '9'	87,103	2.00				
SUBTOTAL	1,322,853	30.37				
TOTAL	3,363,124	77.21				

This Site Plan is presented solely for the purpose of identifying the approximate location and size of the buildings presently contemplated within the Shopping Center. Subject to the limitations, conditions and any other restrictions expressly provided for in the Lease, building sizes, site dimensions, access, parking and landscaping areas are subject to change at Landlord's discretion. Except as otherwise expressly provided in the Lease, the identities of any other existing or proposed tenants or occupants, as well as the designation of any building space to be occupied by the same, are for information purposes only, shall not constitute any agreement or covenant on the part of Landlord as to the future use or occupancy of any such building space, and shall remain subject to change at Landlord's discretion.

RETAIL BUILDING 4		
NO.	NAME	LEASE AREA
1	METHODIST HOSPITAL	6,054 S.F.
2	PIZZA HUT	1,544 S.F.
3	T-MOBILE	2,520 S.F.
4	SPORTCLIPS	1,260 S.F.
5	NAIL BAR	2,100 S.F.
6	MATTRESS FIRM	4,304 S.F.
	RISER ROOM	37 S.F.
TOTAL		17,819 S.F.

WHO'S NEARBY

DEMOGRAPHICS

2010 Census, 2017 Estimates with
Delivery Statistics as of 6/17

	3 Miles	5 Miles	7 Miles	Trade Area
POSTAL COUNTS				
Current Households	5,485	14,395	34,248	45,539
Current Population	16,365	43,859	99,147	129,717
2010 Census Average Persons per Household	2.98	3.05	2.90	2.85
2010 Census Population	9,542	32,147	73,944	99,072
Population Growth 2010 to 2017	71.57%	36.46%	34.89%	32.45%
CENSUS HOUSEHOLDS				
1 Person Household	14.06%	14.20%	20.54%	20.69%
2 Person Households	30.78%	29.64%	28.39%	30.09%
3+ Person Households	55.16%	56.15%	51.07%	49.22%
Owner-Occupied Housing Units	86.67%	84.69%	70.99%	74.50%
Renter-Occupied Housing Units	13.33%	15.31%	29.01%	25.50%
RACE AND ETHNICITY				
2017 Estimated White	74.06%	72.58%	65.91%	68.88%
2017 Estimated Black or African American	9.28%	9.57%	14.09%	13.35%
2017 Estimated Asian or Pacific Islander	1.92%	2.13%	2.57%	2.13%
2017 Estimated Other Races	14.01%	14.93%	16.83%	15.06%
2017 Estimated Hispanic	24.79%	28.69%	33.81%	27.85%
INCOME				
2017 Estimated Average Household Income	$98,165	$101,429	$81,931	$81,513
2017 Estimated Median Household Income	$89,127	$90,246	$70,518	$69,522
2017 Estimated Per Capita Income	$33,633	$33,923	$29,123	$29,026
EDUCATION (AGE 25+)				
2017 Estimated High School Graduate	26.03%	25.28%	27.22%	30.46%
2017 Estimated Bachelors Degree	17.47%	15.08%	12.45%	11.40%
2017 Estimated Graduate Degree	7.82%	7.48%	5.84%	5.56%
AGE				
2017 Median Age	34.2	33.3	33.3	34.6

Our quest is your success.

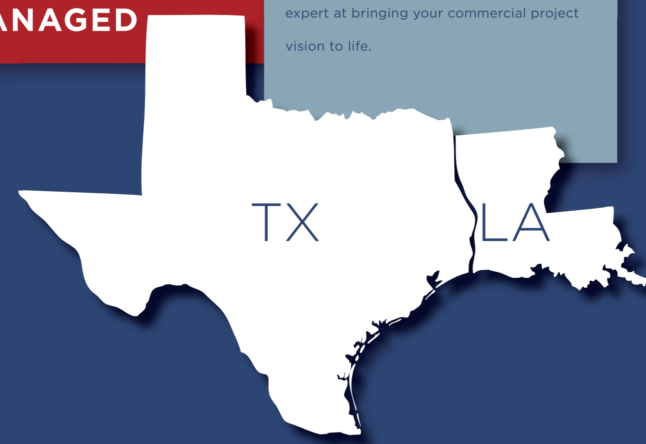
9.9M SF **OWNED**

12.1M SF **LEASED**

10.3M SF **MANAGED**

Specializing in retail space leasing, management, development, land brokerage, investment sales and tenant representation, NewQuest Properties is one of the premier commercial real estate brokerage firms in Texas and Louisiana.

Our dedicated team excels at meeting your needs and exceeding all expectations. From retail center development, leasing, acquisition and financing to architectural design, marketing, space planning, and property management, NewQuest is an expert at bringing your commercial project vision to life.



Information About Brokerage Services

Texas law requires all real estate license holders to give the following information about brokerage services to prospective buyers, tenants, sellers and landlords.

TYPES OF REAL ESTATE LICENSE HOLDERS:

- A BROKER is responsible for all brokerage activities, including acts performed by sales agents sponsored by the broker.
- A SALES AGENT must be sponsored by a broker and works with clients on behalf of the broker.

A BROKER'S MINIMUM DUTIES REQUIRED BY LAW (A client is the person or party that the broker represents):

- Put the interests of the client above all others, including the broker's own interests;
- Inform the client of any material information about the property or transaction received by the broker;
- Answer the client's questions and present any offer to or counter-offer from the client; and
- Treat all parties to a real estate transaction honestly and fairly.

A LICENSE HOLDER CAN REPRESENT A PARTY IN A REAL ESTATE TRANSACTION:

AS AGENT FOR OWNER (SELLER/LANDLORD): The broker becomes the property owner's agent through an agreement with the owner, usually in a written listing to sell or property management agreement. An owner's agent must perform the broker's minimum duties above and must inform the owner of any material information about the pro erty or transaction known by the agent, including information disclosed to the agent or subagent by the buyer or buyer's agent.

AS AGENT FOR BUYER/TENANT: The broker becomes the buyer/tenant's agent by agreeing to represent the buyer, usually through a written representation agreement. A buyer's agent must perform the broker's minimum duties above and must inform the buyer of any material information about the property or transaction known by the agent, including information disclosed to the agent by the seller or seller's agent.

AS AGENT FOR BOTH - INTERMEDIARY: To act as an intermediary between the parties the broker must first obtain the written agreement of each party to the transaction. The written agreement must state who will pay the broker and, in conspicuous bold or underlined print, set forth the broker's obligations as an intermediary. A broker who acts as an intermediary:

- Must treat all parties to the transaction impartially and fairly;
- May, with the parties' written consent, appoint a different license holder associated with the broker to each party (owner and buyer) to communicate with, provide opinions and advice to, and carry out the instructions of each party to the transaction.
- Must not, unless specifically authorized in writing to do so by the party, disclose:
  - that the owner will accept a price less than the written asking price;
  - that the buyer/tenant will pay a price greater than the price submitted in a written offer; and
  - any confidential information or any other information that a party specifically instructs the broker in writing not to disclose, unless required to do so by law.

AS SUBAGENT: A license holder acts as a subagent when aiding a buyer in a transaction without an agreement to represent the buyer. A subagent can assist the buyer but does not represent the buyer and must place the interests of the owner first.

TO AVOID DISPUTES, ALL AGREEMENTS BETWEEN YOU AND A BROKER SHOULD BE IN WRITING AND CLEARLY ESTABLISH:

• The broker's duties and responsibilities to you, and your obligations under the representation agreement.
• Who will pay the broker for services provided to you, when payment will be made and how the payment will be calculated.

LICENSE HOLDER CONTACT INFORMATION: This notice is being provided for information purposes. It does not create an obligation for you to use the broker's services. Please acknowledge receipt of this notice below and retain a copy for your records.

Home Asset, Inc., dba NewQuest Properties	**420076**	**-**	**(281)477-4300**
Licensed Broker/Broker Firm Name or Primary Assumed Business Name	License No.	Email	Phone
H. Dean Lane, Jr.	**366134**	**dlane@newquest.com**	**(281)477-4300**
Designated Broker of Firm	License No.	Email	Phone
H. Dean Lane, Jr.	**366134**	**dlane@newquest.com**	**(281)477-4300**
Licensed Supervisor of Sales Agent/Associate	License No.	Email	Phone
Sales Agent/Associate's Name	License No.	Email	Phone

Buyer/Tenant/Seller/Landlord Initials ______ Date ______

EQUAL HOUSING OPPORTUNITY

Regulated by the Texas Real Estate Commission (TREC) | Information available at http://www.trec.texas.gov

 Rev. 10/12/17 ct

Exhibit C-3

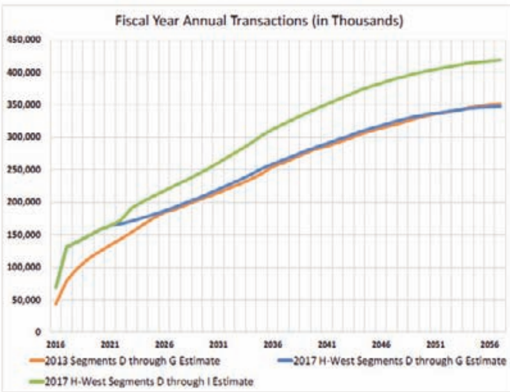
This Exhibit includes comparison of traffic and revenue (T&R) projections included in this study with T&R projections in the June 2013 Grand Parkway Segments D through G Comprehensive T&R Study. The exhibit also shows average annual growth rates for all segments, share of 2035 revenues by segment, and share of truck transactions by segment.

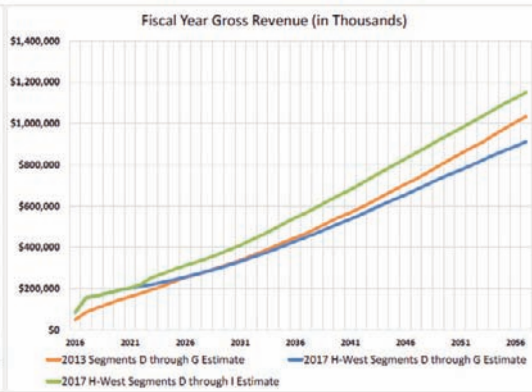
Proposed Segments H & I Summary

New Segments are Projected to Add Revenues to the System

Traffic & Revenue Forecast Comparison

- Revised Segments D-G only revenue estimate is slightly higher than the original 2013 forecast through early part of forecast period
- Proposed Segments H & I are projected to add 21% and 26% in revenue to the System in fiscal years 2025 and 2035, respectively





Note: Comparison of Segments D-G only estimates, without Segments H & I

2017 T&R Study - Traffic & Revenue Projections Summary

Projected Annual Net Transactions and Net Toll Revenue[1]

FYE 8/31	Net Transactions ('000s) D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total
2016 (2)	1,216	20,149	11,438	15,723	7,834	-	-	-	-	64,350
2020	1,614	40,412	30,088	42,832	35,388	-	-	-	-	150,332
2025	1,077	48,407	34,405	47,014	47,675	9,297	3,870	5,113	6,525	202,183
2035	2,317	66,200	44,199	57,406	79,958	18,113	7,733	8,578	11,600	296,120
2060	3,308	93,958	63,233	75,992	109,338	26,758	11,447	12,374	16,709	413,177

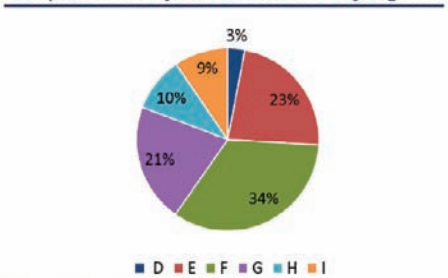
FYE 8/31	Nominal Net Revenues ($'000s) D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total
2016 (2)	5,150	35,253	13,033	17,219	6,844	-	-	-	-	77,499
2020	7,439	53,795	36,769	52,265	33,222	-	-	-	-	183,490
2025	9,400	67,429	46,601	64,004	51,040	21,577	8,243	9,134	4,743	282,251
2035	15,325	115,076	73,084	96,555	105,801	46,858	19,514	18,143	10,439	503,575
2060	37,316	280,435	182,283	220,195	249,411	124,075	49,099	44,986	25,989	1,214,389

Projected Annual Net Transaction and Net Toll Revenue Growth[1]

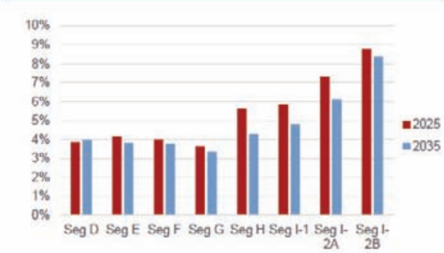
FYE 8/31	Net Transactions D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total
2016 - 2020	7.3%	9.6%	27.4%	28.5%	45.8%	-	-	-	-	23.6%
2020 - 2025	3.1%	2.8%	2.7%	1.9%	6.1%	-	-	-	-	6.1%
2025 - 2035	2.1%	3.6%	2.5%	2.0%	5.3%	6.9%	7.2%	5.3%	5.9%	3.9%
2035 - 2060	1.4%	1.4%	1.4%	1.1%	1.3%	1.6%	1.6%	1.5%	1.5%	1.3%

FYE 8/31	Nominal Net Revenues D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total
2016 - 2020	9.6%	11.1%	29.6%	32.0%	48.4%	-	-	-	-	24.0%
2020 - 2025	4.8%	4.6%	4.9%	4.2%	9.0%	-	-	-	-	9.0%
2025 - 2035	5.0%	5.5%	4.7%	4.2%	7.6%	8.5%	9.0%	7.1%	8.2%	6.0%
2035 - 2060	3.6%	3.6%	3.7%	3.4%	3.5%	3.8%	3.8%	3.7%	3.7%	3.6%

Composition of Projected 2035 Revenues by Segment



Truck Transaction Percentages



1 Net of leakage (violations and veterans discount)
2 Includes FY 2016 net revenues, which were estimated in the 2017 CDM Smith T & R study based on unaudited transactions, toll rates and the associated leakage assumptions for FY 2016, and are slightly different from the audited actual net revenue collected from the Initial Project
Note: Segments F-1 and F-2 opened in February 2016 and Segment G opened in April 2016

CDMSMITH.COM

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APPENDIX G

2018 T&R LETTER

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9430 Research Boulevard,
Suite 1-200
Austin, TX 78759
tel: 512 346-1100

March 19, 2018

Mr. Mike Midkiff, P.E.
Project Manager
Project Finance, Debt and Strategic Contracts Division
Texas Department of Transportation
7745 Chevy Chase Drive
Building 5 Suite 300
Austin, TX 78752

Subject: Grand Parkway System Segments D through I Traffic and Revenue Bringdown Letter

Dear Mr. Midkiff:

Pursuant to your recent request, CDM Smith is pleased to provide you with this Grand Parkway System Segments D through I Traffic and Revenue Bringdown Letter (this "2018 T&R Letter") to highlight several updates undertaken for the Grand Parkway System Segments D through I in support of the project's financing. Currently, the Grand Parkway Transportation Corporation's Grand Parkway System includes Segments D (Harris County), E, F-1, F-2,G, H, I-1 and I-2.[1] For traffic and toll revenue ("T&R") estimation purposes, it was assumed that tolling along Segments H, I-1, I-2A and I-2B will begin on May 22, 2022.[2] Construction of the new Grand Parkway System Segments H and I traversing Liberty and Chambers counties will improve mobility in the greater Houston region and serve as a critical part of the overall Grand Parkway outer loop providing connectivity between US 59, US 90, IH 10 and SH 146. The base case T&R estimates in this 2018 T&R Letter supersede such estimates in our prior "Grand Parkway Transportation Corporation's Grand Parkway System (SH 99) Segments D through I Comprehensive Traffic and Revenue Study" dated September 2017 (referred to in this document as the "2017 Traffic and Revenue Study").

This 2018 T&R Letter summarizes the updates undertaken to the traffic and toll revenue estimates for the Grand Parkway System based on updated assumptions to the 2017 Traffic and Revenue Study including re-benchmarking to the observed traffic from December 2016 to January 2018

---

[1] Segment I-2 is comprised of Segments I-2A and I-2B. As used in this report, all references to "Segment I" include Segments I-1, I-2A and I-2B, and all references to "Segments H and I" include Segments H, I-1, I-2A and I-2B.

[2] Segment I-2A is currently in operation; however, the Grand Parkway Transportation Corporation ("GPTC") will not begin receiving revenues from, and GPTC will not become obligated to operate and maintain, Segment I-2A until Segments H, I-1 and I-2B, and the newly constructed portion of Segment I-2A, are substantially complete and open to tolled traffic.

(with appropriate adjustments regarding the impacts of Hurricane Harvey, which impacted the Houston region in late August/early September 2017). The key influential changes in assumptions, among others, include the implementation of the changes to toll collection and billing procedures required by Senate Bill 312 ("SB 312"), which is referred to in this document as the Pay-By-Mail (PBM) option, and assumption of the expansion of a portion of Segment H (between US 59N and Huffman/Cleveland Road) from two lanes to four lanes, which is referred to in this document as the "H-West option." Implementation of the PBM option and the H-West option were assumed as sensitivity tests in the 2017 Traffic and Revenue Study. The 2017 Traffic and Revenue Study assumed that Segments H, I-1 and I-2B will be substantially complete and open to tolled traffic on May 9, 2022 whereas this 2018 T&R Letter assumes that Segments H, I-1 and I-2B will be substantially complete and open to tolled traffic on May 22, 2022.

Background

The 2017 Traffic and Revenue Study was initially completed in September 2017. The 2017 Traffic and Revenue Study included updates to the travel demand models from the June 2013 Grand Parkway Segments D through G Comprehensive Traffic and Revenue Study, and assumed the opening of the new proposed Segments H and I. The 2017 Traffic and Revenue Study also incorporated observed traffic and revenue trends along Segments D (Harris County), E, F-1, F-2 and G of the Grand Parkway System through November 2016, and reflected the socioeconomic growth potential of the region and the Grand Parkway System Segments D through I corridor as forecasted in 2016 by an independent local economist (Community Development Strategies, CDS). The 2017 Traffic and Revenue Study utilized a combination of the comprehensive traffic count and travel time data collected within Segments H and I in late 2014, and supplemental traffic count collection efforts undertaken in May/June 2016. Inflation adjustments were made to the value of time parameters and other factors affecting toll road utilization sensitivity. CDM Smith also examined project-specific toll sensitivity and the estimated sensitivity of traffic and revenue to changes in future variables and the key assumptions. It is worth noting that the T&R estimates included in the 2017 Traffic and Revenue Study were developed and finalized in December 2016.

As part of this 2018 T&R Letter, CDM Smith updated the T&R for the Grand Parkway System including Segments D (Harris County), E, F-1, F-2 and G and the contemplated addition of Segments H, I-1, I-2A and I-2B, based on the observed actual T&R trends through January 2018. Implementation of the PBM option and operation of the H-West option, assumed earlier as sensitivity tests in the 2017 Traffic and Revenue Study, were included as the baseline condition in this 2018 T&R Letter. In addition, minor changes to the opening dates of roadways in the vicinity of Grand Parkway System Segments D through I are incorporated in this 2018 T&R Letter. The assumptions associated with revenue recovery were also updated as part of this 2018 T&R Letter based on the recent trends in the revenue recovery and incorporating the assumed implementation of the PBM option by May 22, 2022. As per the requirements of Senate Bill 312, the PBM option was implemented for the Grand Parkway System on March 1, 2018; however, for the purpose of this 2018 T&R Letter it was assumed that the positive effects of the PBM option will begin by May 22, 2022 with the opening of Segments H and I and the full implementation of signage and customer awareness campaigns.

Grand Parkway System Existing Segment Trends

Segments D (Harris County), E, F-1, F-2 and G of the Grand Parkway System opened to traffic under transponder only toll operations. Segments D and E both opened in December 2013 and TxDOT began collecting tolls on the mainlanes in February 2014. **Figure 1** shows the monthly toll transactions along Segments D (Harris County) and E. As can be seen, the total bi-directional transactions in Segments D and E averaged more than 3.0 million vehicles per month in 2017, with a spike in August 2017 and September 2017 due to the impact of Hurricane Harvey and toll-free operations that were initiated. Hurricane Harvey hit Houston on August 25, 2017. Due to the accumulation of heavy rainfall, certain mainlane and frontage road locations within the Grand Parkway System corridor were temporarily closed beginning on August 27, 2017 and ending on August 30, 2017; however, most of these mainlane locations were reopened within 24 hours of the initial closure.

TxDOT suspended Grand Parkway System toll charges during Hurricane Harvey beginning on August 27th, 2017 and resumed toll collections on September 14th, 2017 for all tolling locations except for the southbound entrance ramp and northbound exit ramp at Clay Road, which resumed tolling on September 26th, 2017. The toll-free operations spiked the monthly total traffic along the Grand Parkway System, but reduced the overall monthly tolled transactions for the months of August and September 2017(Figure 1). **Figure 2** compares actual monthly transactions for Segment D (Harris County) and Segment E from December 2016 through January 2018, with the forecasts in the 2017 Traffic and Revenue Study. The actual transactions closely followed the forecasted transactions prior to Hurricane Harvey but deviated thereafter positively over several months and have recently shown to be renormalizing back to our 2017 Traffic and Revenue Study forecasted levels by January 2018.

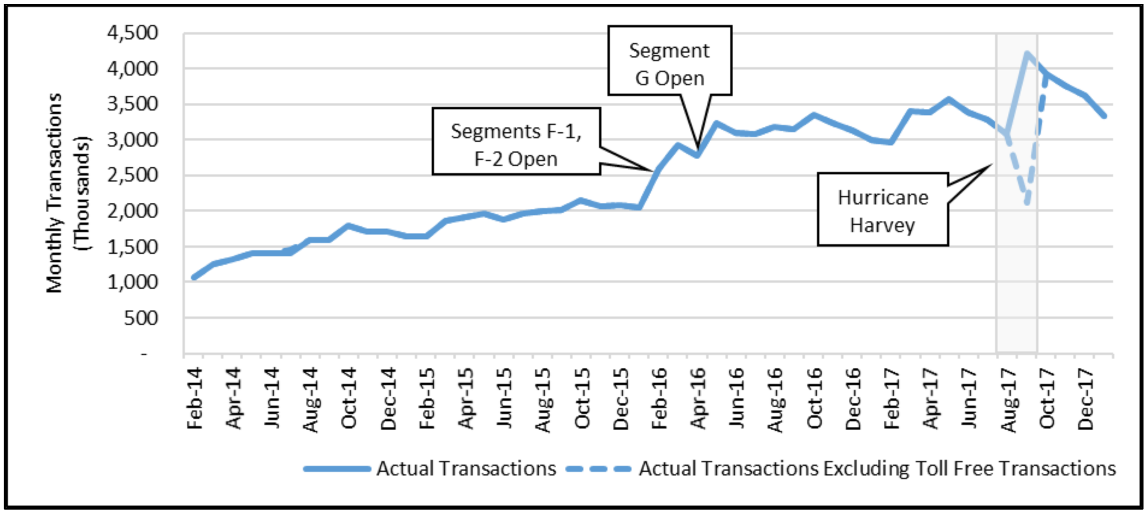


Figure 1: Grand Parkway System Segments D (Harris County) and E: Actual Monthly Transactions

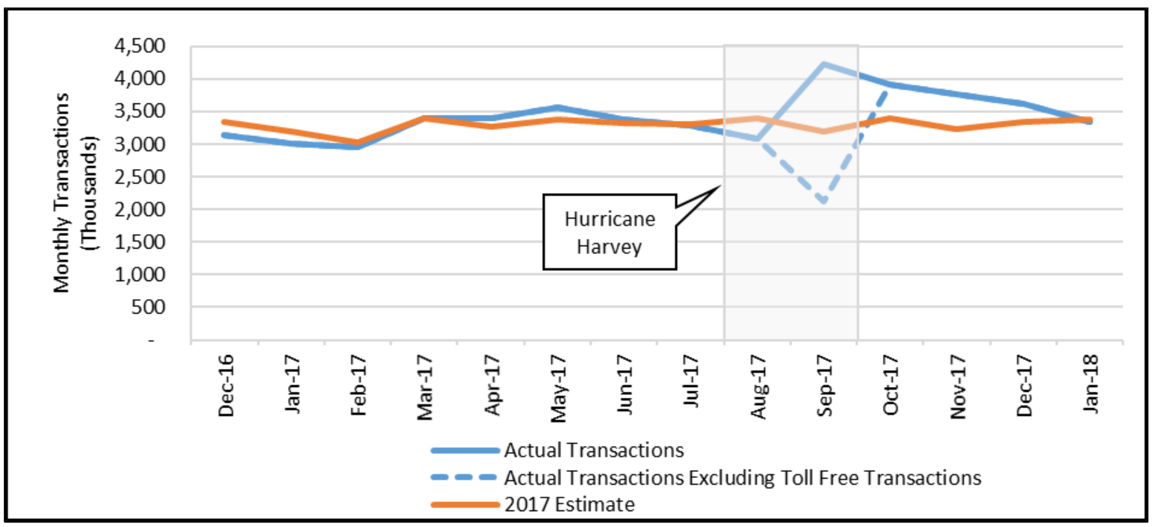


Figure 2: Grand Parkway System Segments D (Harris County) and E: Actual Transactions versus 2017 Traffic and Revenue Study Estimates

TxDOT began collecting tolls on the mainlanes along Segments F-1 and F-2 on February 15, 2016. **Figure 3** and **Figure 4** show recent monthly trends for all ramps and mainlane plazas on Segments F-1 and F-2 respectively. As can be seen, the total bi-directional transactions were approximately 2.5 million vehicles and 3.5 million vehicles per month along Segments F-1 and F-2 respectively with a spike occurring in August 2017 and September 2017 due to impact of Hurricane Harvey.

Figure 5 and **Figure 6** compare actual monthly transactions from December 2016 through January 2018 with 2017 Traffic and Revenue Study estimates.

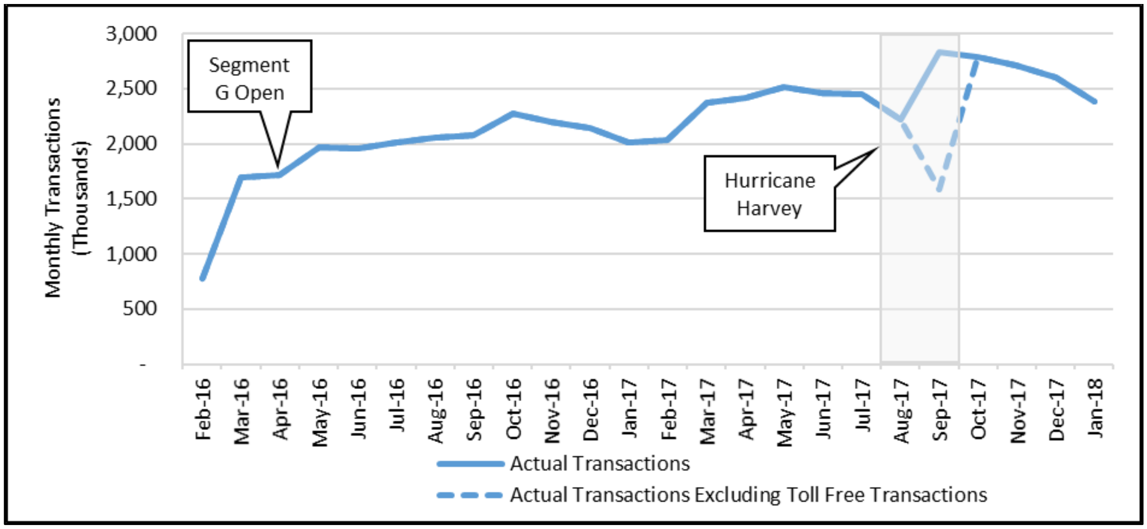


Figure 3: Grand Parkway System Segment F-1: Actual Monthly Transactions

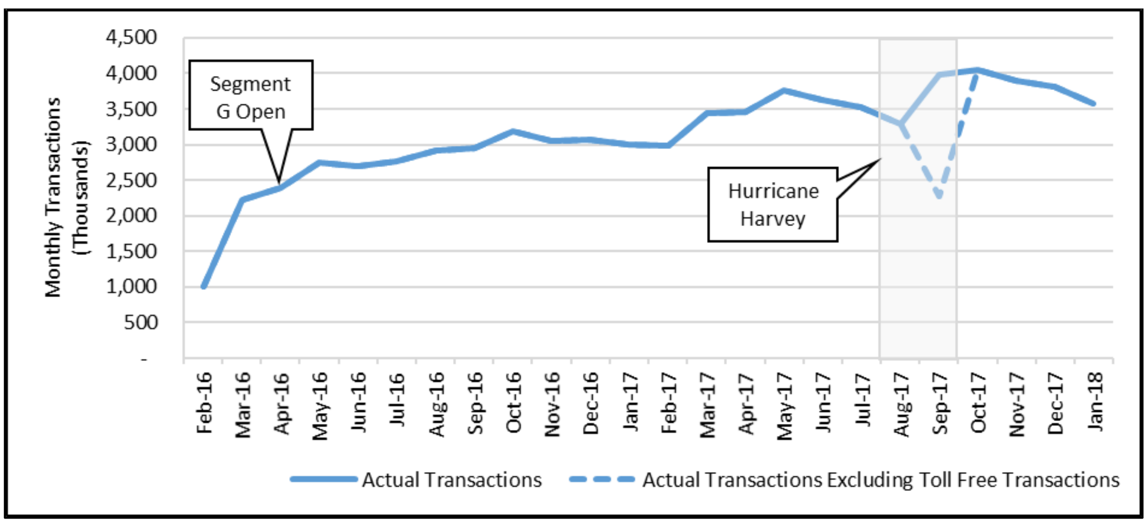


Figure 4: Grand Parkway System Segment F-2: Actual Monthly Transactions

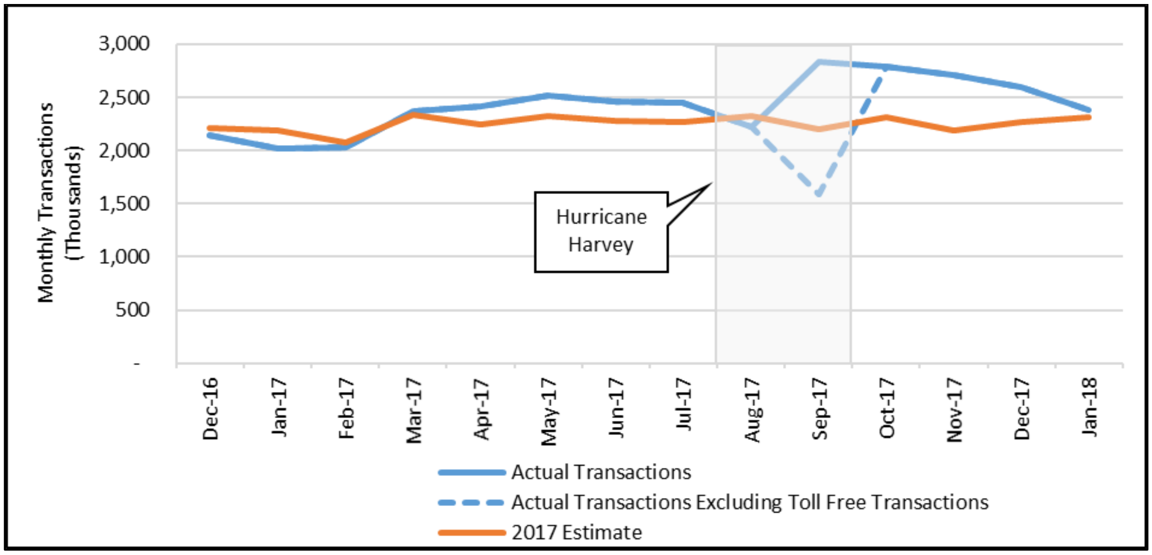


Figure 5: Grand Parkway System Segment F-1: Actual Transactions versus 2017 Traffic and Revenue Study Estimates

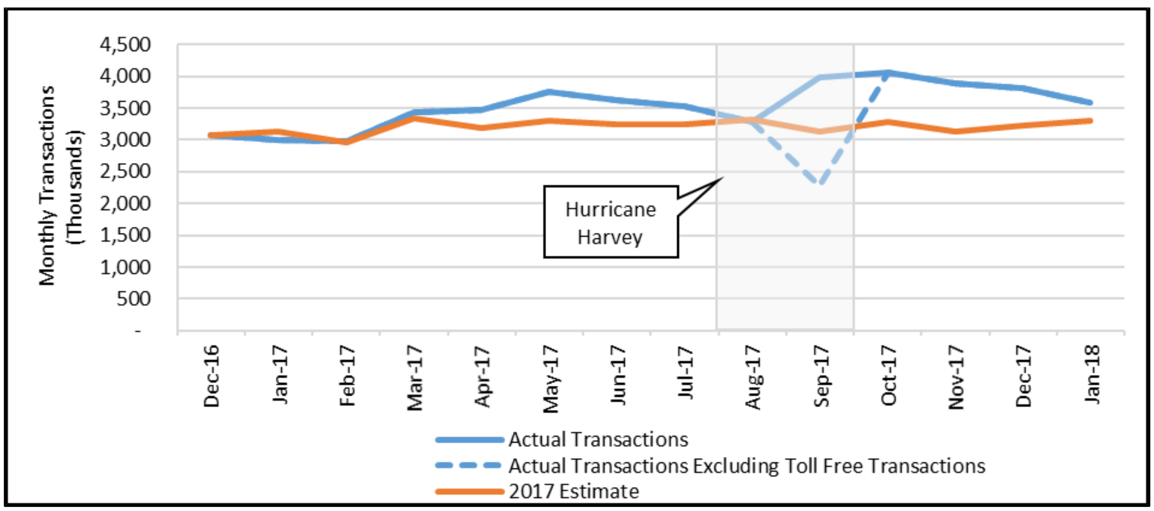


Figure 6: Grand Parkway System Segment F-2: Actual Transactions versus 2017 Traffic and Revenue Study Estimates

TxDOT began collecting tolls on the mainlanes along Segment G on April 4, 2016. **Figure 7** shows the recent monthly trends for all ramps and mainlane plazas on Segment G. As can be seen, the total bi-directional transactions in Segment G were over 2.5 million vehicles per month in 2017 with a spike in August 2017 and September 2017 due to the impact of Hurricane Harvey. **Figure 8** compares actual monthly transactions from December 2016 through January 2018 with the 2017

Traffic and Revenue Study estimates. The actual transactions are higher than the forecasted transactions with the difference in actual and forecast transactions increasing following Hurricane Harvey. Segment G forecasts are closer to the actual forecasts in January 2018 compared to the previous months.

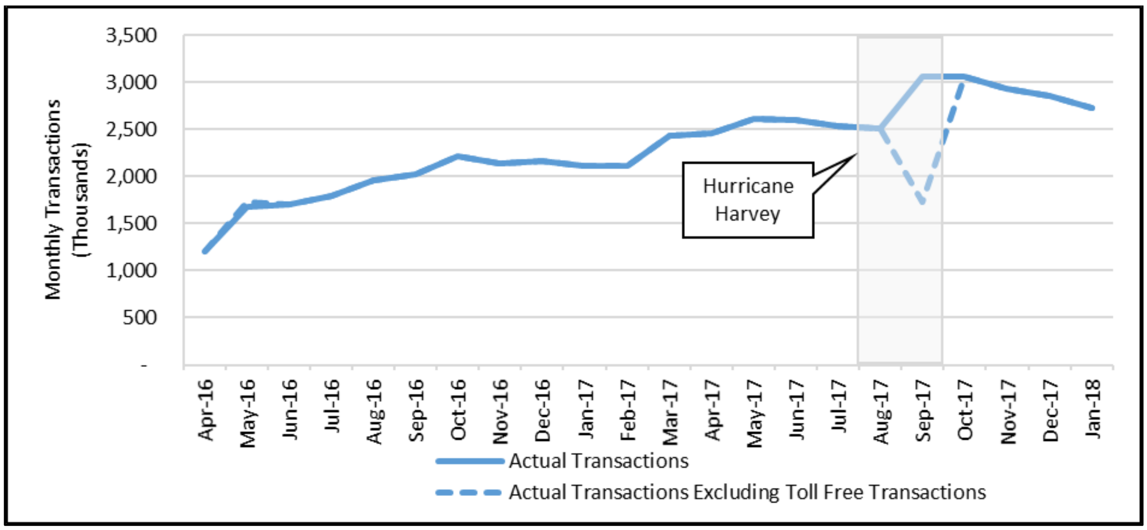


Figure 7: Grand Parkway System Segment G: Actual Monthly Transactions

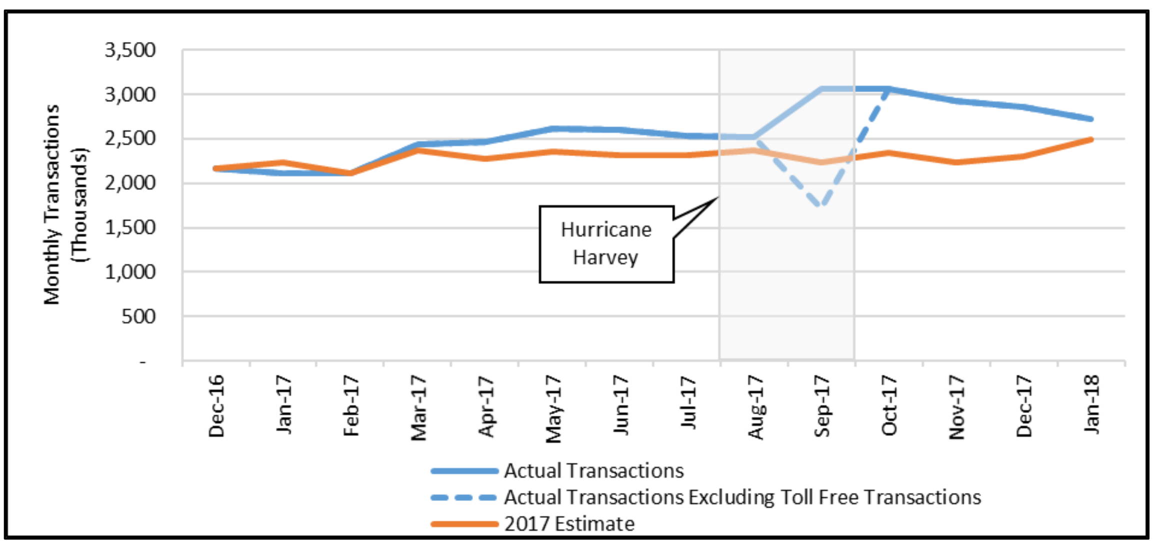


Figure 8: Grand Parkway System Segment G: Actual Transactions versus 2017 Traffic and Revenue Study Estimates

The actual transactions for the fiscal year 2017 (excluding August 2017 due to the closures associated with Hurricane Harvey) were compared with the 2017 Traffic and Revenue Study estimates, as shown in **Table 1**. Actual transactions on Segment D and E were approximately 0.4 percent lower compared to the 2017 Traffic and Revenue study estimates, 1.9 percent and 3.9 percent higher along Segment F-1 and F-2 respectively, and 3.6 percent higher for Segment G. Overall the actual transactions for this period (excluding August 2017) for Segments D (Harris County), E, F-1, F-2 and G combined were 2.2 percent higher than the 2017 Traffic and Revenue Study estimate levels. As shown in **Table 2**, actual transactions from September 1, 2016 through January 31, 2018 for Segments D (Harris County), E, F-1, F-2 and G combined (including August 2017) were 6.9 percent higher than 2017 Traffic and Revenue Study estimate levels. As shown in **Table 3**, actual toll revenue from September 1, 2016 through January 31, 2018 for Segments D (Harris County), E, F-1, F-2 and G combined (including August 2017) were 0.1 percent lower than 2017 Traffic and Revenue Study estimates. Because the 2017 Traffic and Revenue Study incorporated the actual Grand Parkway System trends only through November 2016, the forecasts in the 2017 Traffic and Revenue Study did not incorporate the impacts from Hurricane Harvey.

Table 1: Comparison of Actual Transactions from September 1, 2016 through July 31, 2017 with the 2017 Traffic and Revenue Study Estimates by Segment and Total

FY 2017*	Segments D and E	Segment F-1	Segment F-2	Segment G	Total
2017 Estimate	36,011,000	24,492,000	34,674,000	24,523,000	119,700,000
2017 Actual	35,868,540	24,963,103	36,030,966	25,416,850	122,279,459
Difference	-142,460	471,103	1,356,966	893,850	2,579,459
% Difference	-0.4%	1.9%	3.9%	3.6%	2.2%

*FY 2017 excluding August 2017 due to Hurricane Harvey

Table 2: Comparison of Actual Transactions from September 1, 2016 through January 31, 2018 with the 2017 Traffic and Revenue Study Estimates for Grand Parkway System

	FY 2017*				FY 2018	Total (Sep 1, 2016 through Jan 31, 2018)
	Quarter 1 Sep - Nov	Quarter 2 Dec-Feb	Quarter 3 Mar-May	Quarter 4 Jun-Aug	Quarter 1 Sep - Nov	
2017 Estimate	31,904,000	31,711,000	33,786,000	33,693,000	32,860,000	**186,576,000**
2017 Actual	31,857,714	30,728,614	35,831,238	34,962,387	41,231,228	**199,524,044**
Difference	-46,286	-982,386	2,045,238	1,266,239	8,371,228	**12,948,044**
% Difference	-0.1%	-3.1%	6.1%	3.8%	25.5%	**6.9%**

*FY 2017 including August 2017

Table 3: Comparison of Actual Toll Revenue from September 1, 2016 through January 31, 2018 with the 2017 Traffic and Revenue Study Estimates for Grand Parkway System

	FY 2017*				FY 2018	Total (Sep 1, 2016 through Jan 31, 2018)
	Quarter 1[1] Sep - Nov	Quarter 2 Dec-Feb	Quarter 3 Mar-May	Quarter 4 Jun-Aug	Quarter 1 Sep - Nov	
2017 Estimate	$35,151,000	$35,422,000	$37,957,000	$37,848,000	$36,872,000	**$208,786,000**
2017 Actual[2]	$31,250,901	$36,429,641	$39,508,554	$37,663,722	$36,966,555	**$208,582,430**
Difference	-$3,900,099	$1,007,641	$1,551,554	-$184,278	$94,555	**-$203,570**
% Difference	-11.1%	2.8%	4.1%	-0.5%	0.3%	**-0.1%**

Notes:
*FY 2017 including August 2017
1. The differential between the actual toll revenue realized and the revenue estimate for Quarter 1 FY 2017 was mainly due to delays in processing of interoperability related revenues in that quarter.
2. Actual toll revenues associated with Electronic Toll Collection (ETC) transactions are recognized when they are earned, which is at the time the transaction occurs. Non-ETC toll revenues are recognized when cash payment is received. For example, a non-ETC toll transaction may be reported in one month, but revenue for that transaction may not be received until a later month. The actual toll revenues shown are unaudited revenues, and do not reflect any fiscal year-end adjustments.

CDM Smith incorporated the actual traffic and revenue trends from December 2016 through January 2018 as part of this 2018 T&R Letter. The transactions were observed to not follow the previous trend after Hurricane Harvey due to the toll-free operation of the Grand Parkway System Segments D through G during late August through mid-September, and due to the temporary closure of several of the arterial roadways due to flooding, and additional traffic due to hurricane recovery efforts. Even though there was a short-term spike in transactions after Hurricane Harvey, transactions in recent months have returned back to our original forecasts from the 2017 Traffic and Revenue Study by January 2018. This led us to make no further adjustments as part of the current 2018 T&R Letter forecasts for subsequent months to account for Hurricane Harvey impacts.

Grand Parkway System Demographic Trends

CDM Smith analyzed key economic indicators such as population, employment, unemployment rates, and housing sales as part of this update. Each indicator demonstrated that the Houston economy continues to remain robust and strong. The employment growth in Houston region has remained steady and as forecasted. The total payroll employment was higher for almost every month compared to the prior year month, as shown in **Figure 9**. The Houston unemployment rate in 2016 and 2017 was higher than Texas and United States but more recently has been trending lower, as shown in **Figure 10**. The housing sales in 2017 were higher than both 2015 and 2016, as shown in **Figure 11**.

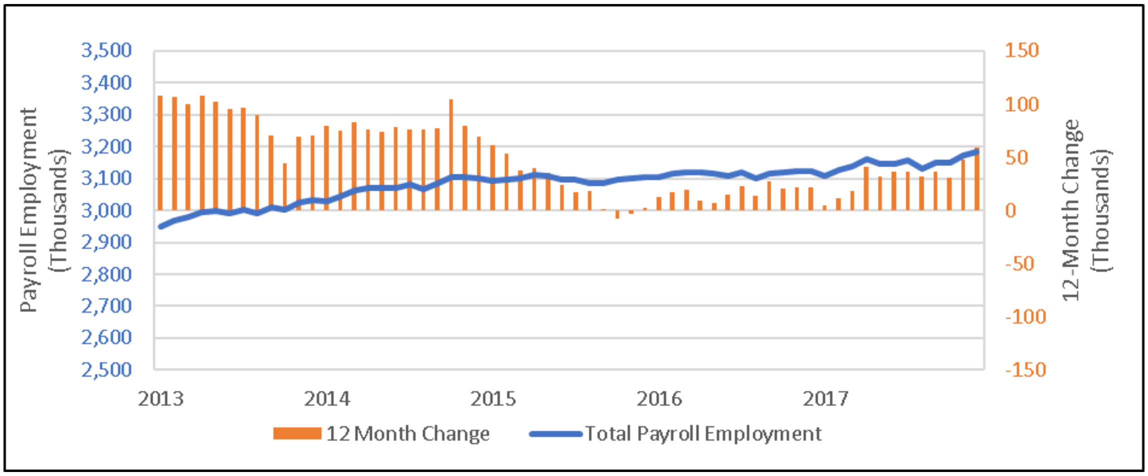


Figure 9: Houston Region Historical Employment Trends
Source: Texas Workforce Commission, Access Date March 8, 2017

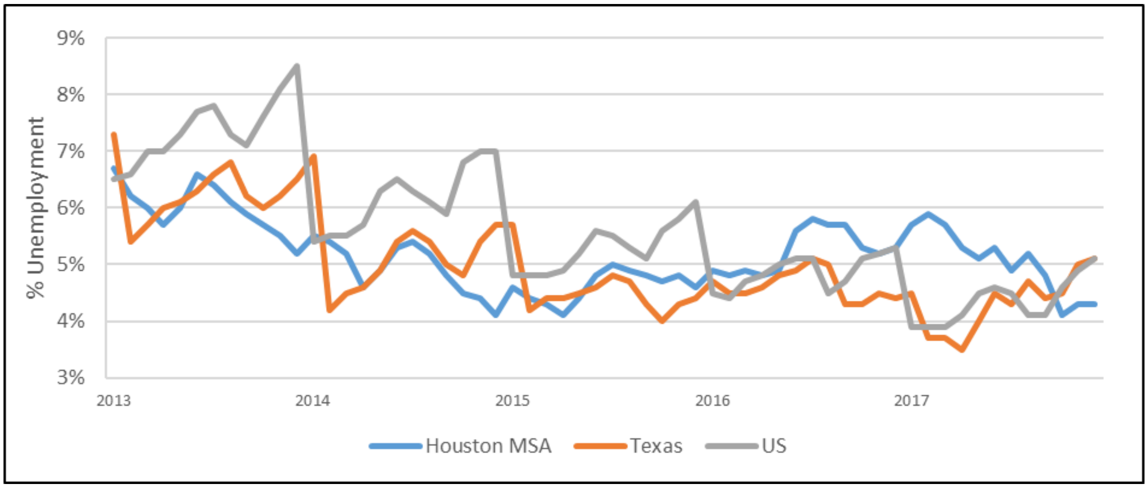


Figure 10: Historical Unemployment Trend
Source: Texas Workforce Commission, Access Date March 8, 2017

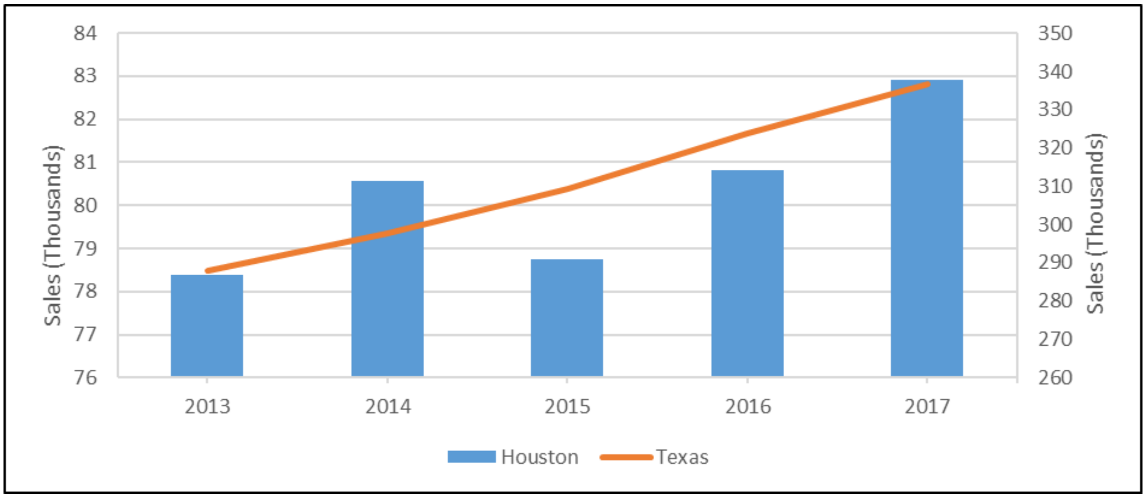


Figure 11: Historical Housing Sales Trend
Source: Real Estate Center – Texas A&M University, Access Date March 15th, 2017

CDM Smith compared Houston-Galveston Area Council (H-GAC) demographic forecasts released on November 8, 2017 (referred to as "2017 H-GAC Forecast") for years 2020 through 2035, with 2016 demographic forecasts of the H-GAC (referred to as "2016 H-GAC Forecast") and the CDS forecasts used in the 2017 Traffic and Revenue Study (referred to as "CDS 2016"), as shown in **Table 4** for population and **Table 5** for employment. CDS was retained as part of the 2017 Traffic and Revenue Study to conduct an independent economic analysis of the validity of the H-GAC Regional Planning model socioeconomic data used to forecast future travel demand in the Houston-Galveston area. The 2017 H-GAC forecasts were shown to have higher 2035 total population and employment forecast for the eight counties – Brazoria, Chambers, Ft. Bend, Galveston, Harris, Liberty, Montgomery, and Waller compared to 2016 CDS forecasts. The regional population forecast in the H-GAC region for year 2035 is projected to be higher by 4.6 percent compared to previous 2016 CDS forecasts and the regional employment forecast is projected to be higher by 8.5 percent. The distribution and share of population and employment growth projections however was shown to have changed among the respective counties.

For illustrative purposes, the combined Chambers and Liberty county population and employment is provided in **Figure 12** and **Figure 13** respectively to provide a comparison of the two H-GAC forecasts and the 2016 CDS forecasts used in the 2017 Traffic and Revenue Study. The total combined population included in 2017 H-GAC Forecasts for Liberty and Chambers counties are shown to be lower than the CDS 2016 population forecast for these two counties, while the employment forecasts are higher.

A comprehensive assessment of the new H-GAC 2017 Forecasts was not performed or incorporated into the T&R models utilized as part of this 2018 T&R Letter; however, to be conservative from a T&R standpoint, CDM Smith applied a one year lag until year 2030 and a two year lag for year 2035 and beyond to the expected traffic and revenue from Segments H and I due to the observed differences in socioeconomic growth within Liberty and Chambers counties.

Table 4: Population (in thousands) Forecast Comparison

Population	H-GAC 2016		H-GAC 2017		CDS 2016		% Difference*	
	2020	2035	2020	2035	2020	2035	2020	2035
Brazoria	388.7	513.8	394.1	522.3	358.3	575.7	10.0%	-9.3%
Chambers	**44.3**	**55.5**	**38.7**	**65.1**	**43.5**	**75.4**	**-11.0%**	**-13.6%**
Ft. Bend	864.9	1,155.1	821.2	1,103.8	768.8	1,169.7	6.8%	-5.6%
Galveston	358.2	440.0	338.5	425.7	331.7	463.2	2.1%	-8.1%
Harris	**4,708.8**	**5,861.2**	**4,835.8**	**6,002.9**	**4,654.4**	**5,403.0**	**3.9%**	**11.1%**
Liberty	**81.6**	**128.2**	**84.3**	**123.6**	**81.1**	**171.1**	**4.0%**	**-27.8%**
Montgomery	**728.9**	**1,073.4**	**688.5**	**1,068.9**	**583.3**	**1,004.9**	**18.0%**	**6.4%**
Waller	46.1	98.5	52.8	80.9	48.2	116.4	9.6%	-30.5%
Total	7,221.6	9,325.7	7,253.9	9,393.3	6,869.2	8,979.5	5.6%	4.6%
* H-GAC 2017 Forecast versus CDS 2016 Forecast								

Table 5: Employment (in thousands) Forecast Comparison

Employment	H-GAC 2016		H-GAC 2017		CDS 2016		% Difference*	
	2020	2035	2020	2035	2020	2035	2020	2035
Brazoria	97.4	128.8	121.0	172.4	111.3	160.7	8.7%	7.3%
Chambers	**15.6**	**18.7**	**21.7**	**31.3**	**14.0**	**24.5**	**55.0%**	**27.7%**
Ft. Bend	229.1	271.4	241.0	283.7	183.3	364.6	31.5%	-22.2%
Galveston	109.7	151.4	134.3	145.0	108.8	153.5	23.5%	-5.5%
Harris	**2,712.4**	**3,348.4**	**2,665.6**	**3,257.1**	**2,360.7**	**2,828.3**	**12.9%**	**15.2%**
Liberty	**14.5**	**18.7**	**19.3**	**30.7**	**17.1**	**37.4**	**13.0%**	**-17.8%**
Montgomery	**202.5**	**233.1**	**232.1**	**290.7**	**178.3**	**307.3**	**30.2%**	**-5.4%**
Waller	15.6	25.1	22.4	27.2	17.2	31.7	30.3%	-14.2%
Total	3,396.8	4,195.5	3,457.4	4,238.2	2,990.7	3,908.0	15.6%	8.5%
* H-GAC 2017 Forecast versus CDS 2016 Forecast								

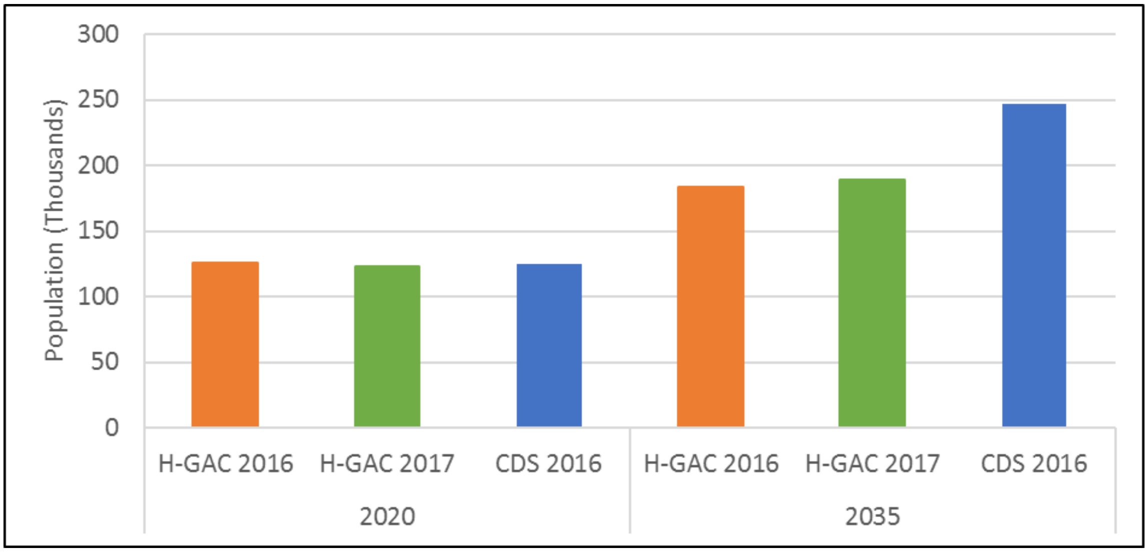


Figure 12: Combined Chambers and Liberty Population Comparison

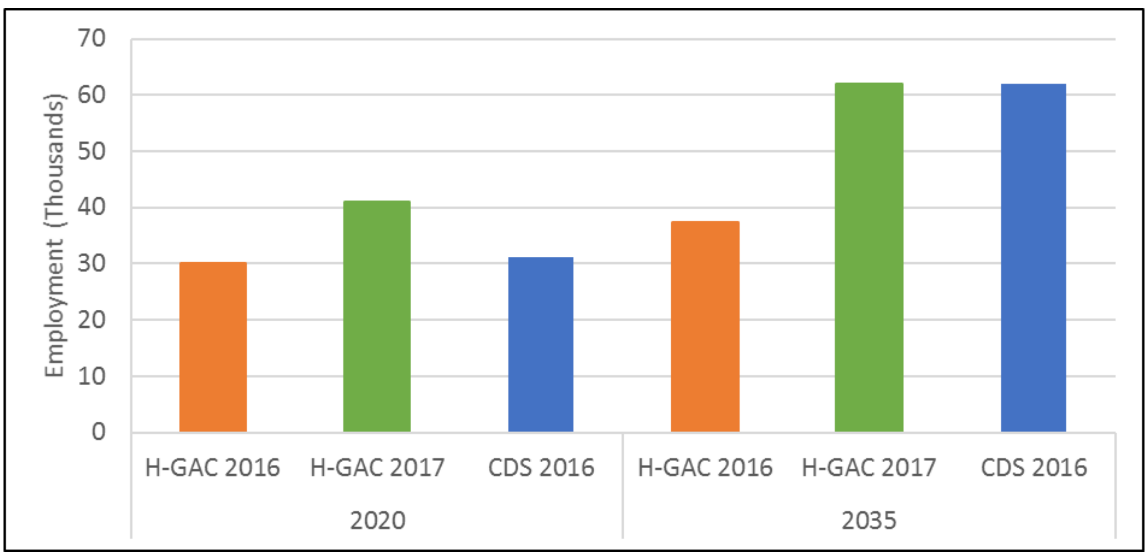


Figure 13: Combined Chambers and Liberty Employment Comparison

Grand Parkway System T&R Assumptions

The Base Case traffic and toll revenue estimates contained within the 2017 Traffic and Revenue Study for the entire Grand Parkway System Segments D through I were predicated on reasonable assumptions confirmed with TxDOT. As part of the current 2018 T&R Letter, these assumptions were revisited and revised as warranted, as summarized in **Table 6**. The PBM option was at the time being contemplated for possible implementation along the Grand Parkway System Segments D through I and was thus included in the 2017 Traffic and Revenue Study as a sensitivity test. The H-West option assumption was also previously tested as a sensitivity scenario. Both the PBM option and the H-West option are now confirmed to be part of the Base Case. The H-West option will be built as four total lanes with an expected opening date of May 22, 2022. All the other T&R assumptions other than as described in this 2018 T&R Letter are consistent with the 2017 Traffic and Revenue Study.

Table 6: Grand Parkway System 2018 T&R Letter Additional T&R Assumption Changes

Opening Date:	Segments H and I tolling starts on May 22, 2022
Toll Collection:	AVI (or ETC) and PBM with no cash option
Video Toll/Video billing	Pay by Mail (PBM) tolling will be used along the Segments D through I, starting from May 22, 2022
Video Toll Surcharge:	No Surcharge
Toll Rate Adjustment:	2012-2014: 2.00 percent per year (implemented) 2014-2015: 2.22 percent per year (implemented) 2015-2017: 2.00 percent per year (implemented) 2017-2018: 2.01 percent per year (implemented) 2018 onwards: 2.20 percent per year
Toll Violation (Leakage) %:	AVI (or ETC) transactions based leakage is assumed to be 0.5% in all years, Veterans Discounts are assumed to decrease from 1.8% of total transactions in 2017 to 0.8% in 2036 and beyond, total non-AVI (or non-ETC) leakage is assumed to be 61.0% of non-AVI (or non-ETC)/violations transactions

Under the PBM option, travelers without a valid and sufficiently funded transponder account are allowed to use the Grand Parkway System Segments D through I and are billed through the use of high-speed cameras that take digital images of the license plate which are then traced back to the registered owner of the vehicle. It was assumed that there will be appropriate signage along the Grand Parkway System to let users know that PBM option is being implemented. The PBM toll was assumed to be same as the AVI (or ETC) toll (i.e. no additional toll surcharge was assumed for the PBM option). CDM Smith analyzed the revenue leakage information using data from September 2014 through mid-2017 regarding observed share of valid ETC transactions, ETC mis-reads (which are eventually categorized as ETC transactions), non-ETC transactions billed, and total non-ETC transactions collected. Based on the observed revenue leakage trends and assumed implementation of the PBM option, CDM Smith revised the leakage shares to reflect higher levels to account for the PBM option and lack of toll surcharge. The leakage assumptions were updated to reflect this new toll policy consideration as summarized in **Table 7**. In addition, no additional fee-based revenue was contemplated in the development of the net leakage revenues summarized therein. The current 2018 T&R Letter assumes the PBM option as the Base Case starting May 22, 2022. Revenue estimates in this 2018 T&R Letter include only toll revenues and accordingly do not account for any additional fee revenue or investment income.

Table 7: ETC transactions, misreads, and leakage information comparison between 2017 Traffic and Revenue Study and 2018 T&R Letter

Year	Valid ETC Transactions		ETC Misreads		Violations, Tag Rejects and Misc.		Leakage		Difference Leakage
	2017 Traffic and Revenue Study	2018 T&R Letter	2017 Traffic and Revenue Study	2018 T&R Letter	2017 Traffic and Revenue Study	2018 T&R Letter	2017 Traffic and Revenue Study	2018 T&R Letter	
2018	86.6%	85.3%	6.0%	7.0%	6.9%	7.7%	5.2%	6.4%	1.3%
2019	86.9%	85.7%	6.0%	6.5%	6.5%	7.8%	4.8%	6.5%	1.6%
2020	87.1%	86.1%	6.0%	6.3%	6.1%	7.7%	4.5%	6.3%	1.8%
2021	87.4%	86.4%	6.0%	6.2%	5.7%	7.4%	4.2%	6.1%	1.8%
2022	87.7%	86.7%	6.0%	6.2%	5.4%	7.1%	4.0%	5.9%	1.8%
2023	88.0%	86.1%	6.0%	6.2%	5.1%	7.7%	3.8%	6.7%	2.9%
2024	88.2%	85.4%	6.1%	6.2%	4.7%	8.4%	3.7%	7.0%	3.4%
2025	88.5%	84.8%	6.1%	6.2%	4.5%	9.0%	3.5%	7.4%	3.9%
2030	89.9%	84.9%	6.2%	6.1%	3.3%	9.0%	2.8%	7.1%	4.4%
2035	91.3%	84.9%	6.3%	6.1%	2.4%	9.0%	2.2%	6.9%	4.7%
2036 and Beyond	91.3%	84.9%	6.3%	6.1%	2.4%	9.0%	2.2%	6.8%	4.6%

The opening dates of several roads such as N. Bridgeland Lake Parkway previously assumed to open by January 2018 in the 2017 Traffic and Revenue Study were revised to now reflect an assumed January 2019 opening date. Other facilities such as the Kingwood Drive interchange previously assumed to open in July 2021 in the 2017 Traffic and Revenue Study was revised to now open in December 2028. The Miller-Wilson extension interchange, Community Drive interchange, and Wolf Trot Road interchange were assumed to open in July 2021 in the 2017 Traffic and Revenue Study and are now assumed to open by the time Segments H and I open to traffic by May 2022. The revised Grand Parkway System configuration assumed for the existing Segments D (Harris County) through G is shown in **Figure 14** and the future Segments H and I are shown in **Figure 15**.

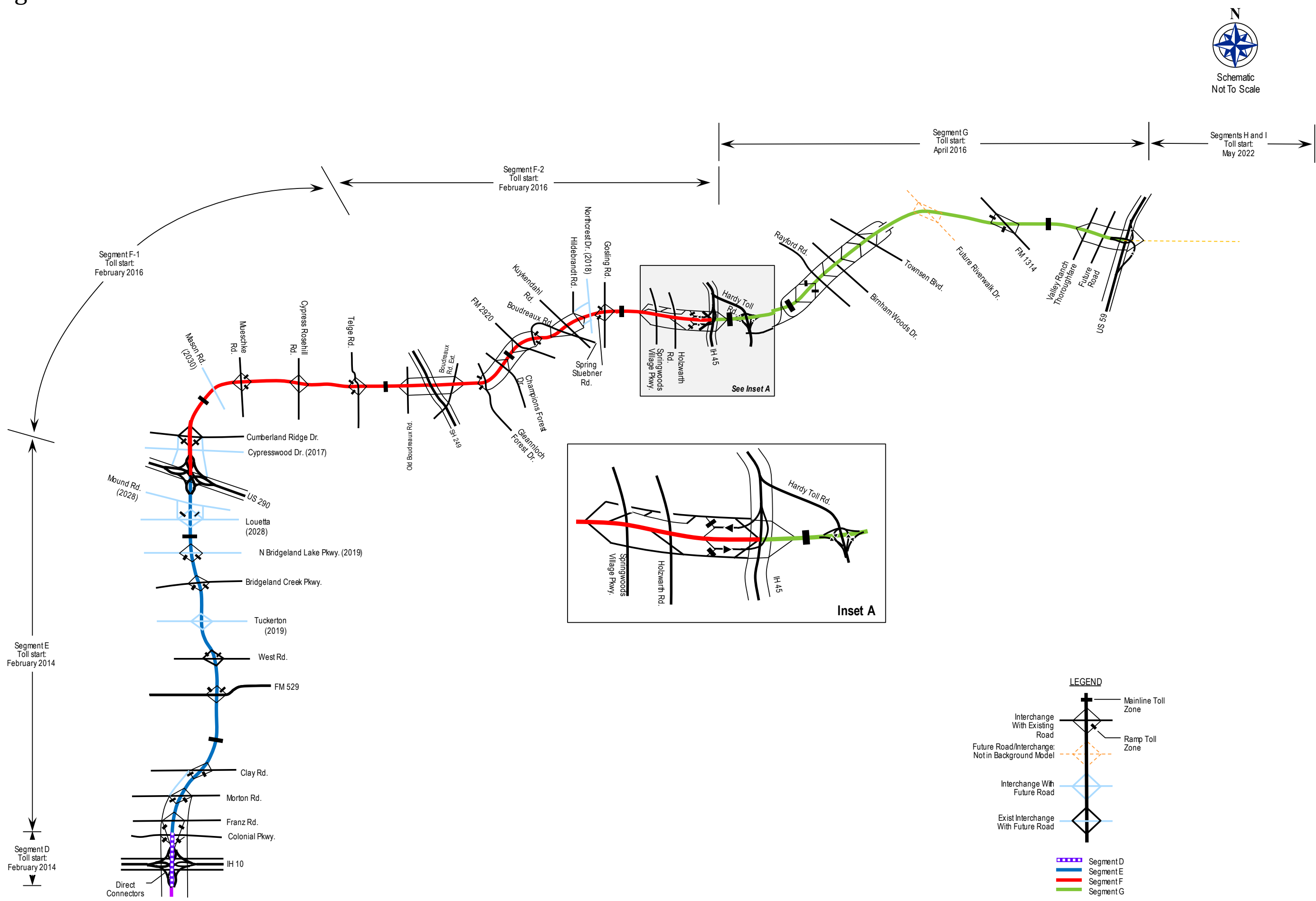


Figure 14: Grand Parkway System Segments D through G: Existing Configuration

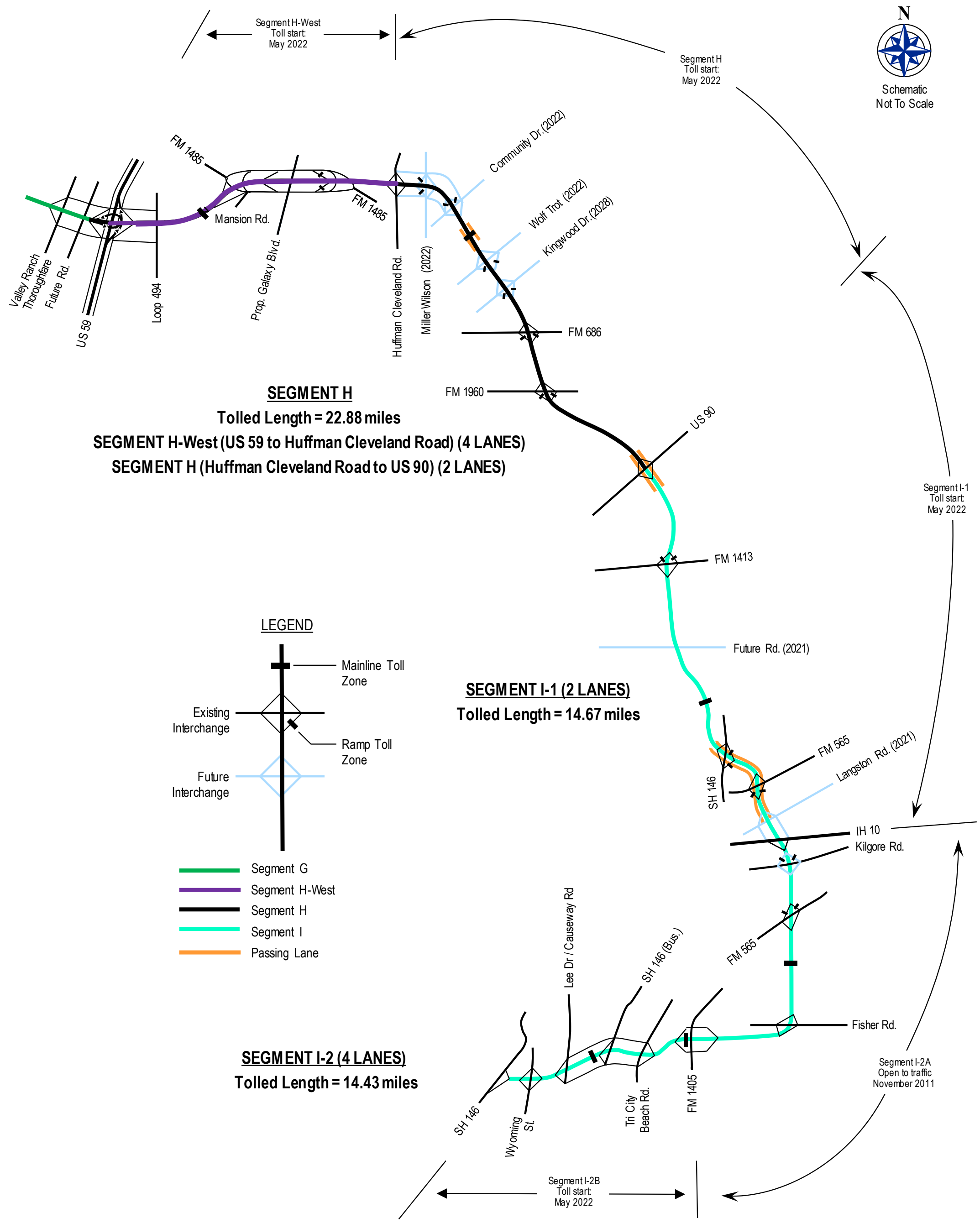


Figure 15: Grand Parkway System Segments H and I: Future Configuration

Grand Parkway System T&R Estimates

CDM Smith updated the 2017 Traffic and Revenue Study Base Case T&R to reflect the latest assumptions as discussed in the prior sections and to account for the recent observed T&R captured along the operational segments of the Grand Parkway System, the inclusion of the H-West option, and the implementation of the PBM option. **Table 8** shows the gross and net annual transactions for Segments D through I for fiscal years 2018 through 2058. **Table 9** shows the gross and net annual revenues for Segments D through I for fiscal years 2018 through 2058. **Table 10** shows the net (gross minus leakage) annual transactions and revenues for Segments D through I for fiscal years 2018 through 2058. **Figure 16** and **Figure 17** provide a graphical comparison of the gross transactions and net revenues respectively from the 2017 Traffic and Revenue Study and the updated T&R generated from the efforts undertaken as part of this 2018 T&R Letter for fiscal years 2018 through 2058. The Base Case T&R estimates for the Grand Parkway System in this 2018 T&R Letter supersede such estimates in the 2017 Traffic and Revenue Study.

Table 8: Estimated Fiscal Year Annual Transactions for Segments D through I (in thousands)

FYE 31-Aug	Gross Annual Transactions ('000s) Segment D(Harris County)	Segment E	Segment F-1	Segment F-2	Segment G	Segment H	Segment I-1	Segment I-2A	Segment I-2B	Total Gross Transactions	Less Non-Collectible Transactions	Total Net Transactions
2018 (1)	1,394	40,475	30,578	43,792	32,797	-	-	-	-	149,036	9,608	139,428
2019 (2)(3)	1,486	41,972	32,867	45,094	35,439	-	-	-	-	156,858	10,130	146,728
2020	1,563	43,244	34,306	46,200	39,387	-	-	-	-	164,700	10,403	154,297
2021	1,622	44,428	35,224	47,034	42,182	-	-	-	-	170,490	10,385	160,105
2022 (4)	1,678	46,106	36,318	48,017	45,052	1,110	555	1,210	874	180,920	10,612	170,308
2023	1,783	49,323	38,237	49,851	49,934	5,533	2,669	4,589	4,222	206,141	13,826	192,315
2024	1,845	50,805	39,222	50,783	53,045	7,393	3,452	4,948	5,456	216,949	15,292	201,657
2025	1,899	52,001	40,048	51,573	55,782	9,082	4,120	5,343	6,505	226,353	16,727	209,626
2026	1,940	53,544	40,934	52,491	58,567	10,046	4,524	5,652	7,049	234,747	17,230	217,517
2027	1,975	55,210	41,862	53,487	61,508	10,714	4,817	5,925	7,416	242,914	17,708	225,206
2028 (5)	2,011	57,277	42,808	54,503	64,594	11,422	5,119	6,211	7,817	251,762	18,228	233,534
2029	2,047	59,443	43,784	55,539	67,836	12,218	5,435	6,511	8,251	261,064	18,771	242,293
2030 (6)	2,083	61,445	44,779	56,599	71,244	13,014	5,774	6,833	8,730	270,501	19,314	251,187
2031	2,121	63,487	45,798	57,677	74,829	13,849	6,133	7,175	9,251	280,320	19,875	260,445
2032	2,158	65,528	46,840	58,775	78,592	14,752	6,525	7,539	9,769	290,478	20,450	270,028
2033	2,201	67,639	47,907	59,898	82,545	15,714	6,941	7,919	10,307	301,071	21,045	280,026
2034	2,242	69,829	49,001	61,041	86,696	16,775	7,400	8,336	10,863	312,183	21,666	290,517
2035	2,282	72,101	50,123	62,197	91,027	17,888	7,913	8,771	11,440	323,742	22,306	301,436
2036	2,333	74,152	51,339	63,628	94,031	18,627	8,248	9,064	11,828	333,250	22,794	310,456
2037	2,392	76,043	52,624	65,219	96,386	19,185	8,499	9,289	12,123	341,760	23,069	318,691
2038	2,452	77,942	53,938	66,853	98,802	19,761	8,751	9,522	12,428	350,449	23,655	326,794
2039	2,512	79,892	55,287	68,525	101,274	20,354	9,014	9,761	12,738	359,357	24,257	335,100
2040	2,565	81,642	56,481	70,006	103,465	20,825	9,225	9,970	13,013	367,192	24,785	342,407
2041	2,619	83,287	57,613	71,405	105,536	21,244	9,409	10,170	13,274	374,557	25,283	349,274
2042	2,670	84,952	58,764	72,836	107,647	21,667	9,596	10,375	13,537	382,044	25,788	356,256
2043	2,722	86,652	59,939	74,292	109,797	22,100	9,791	10,581	13,809	389,683	26,304	363,379
2044	2,777	88,383	61,140	75,777	111,996	22,542	9,983	10,793	14,087	397,478	26,830	370,648
2045	2,826	89,880	62,157	76,657	113,857	22,917	10,151	10,972	14,318	403,735	27,252	376,483
2046	2,866	91,240	63,088	77,235	115,567	23,260	10,304	11,138	14,535	409,233	27,623	381,610
2047	2,910	92,607	64,034	77,814	117,299	23,609	10,456	11,305	14,753	414,787	27,998	386,789
2048	2,955	93,998	64,996	78,402	118,473	23,965	10,613	11,474	14,974	419,850	28,340	391,510
2049	2,998	95,406	65,970	78,991	119,369	24,325	10,775	11,644	15,199	424,677	28,666	396,011
2050	3,031	96,544	66,738	79,454	120,069	24,606	10,899	11,781	15,375	428,497	28,924	399,573
2051	3,062	97,526	67,405	79,853	120,676	24,855	11,009	11,897	15,528	431,811	29,147	402,664
2052	3,095	98,498	68,080	80,253	121,287	25,104	11,118	12,019	15,686	435,140	29,372	405,768
2053	3,123	99,484	68,760	80,657	121,898	25,352	11,230	12,139	15,841	438,484	29,598	408,886
2054	3,156	100,478	69,448	81,061	122,514	25,609	11,341	12,258	15,998	441,863	29,826	412,037
2055	3,177	101,023	69,909	81,334	122,926	25,777	11,415	12,343	16,105	444,009	29,971	414,038
2056	3,192	101,293	70,258	81,537	123,234	25,909	11,474	12,404	16,188	445,489	30,071	415,418
2057	3,207	101,547	70,611	81,742	123,545	26,035	11,533	12,465	16,268	446,953	30,169	416,784
2058	3,225	101,801	70,962	81,947	123,858	26,165	11,588	12,527	16,349	448,422	30,268	418,154
	100,195	**3,088,127**	**2,190,177**	**2,700,029**	**3,704,562**	**693,303**	**307,799**	**342,853**	**441,904**	**13,568,949**	**923,564**	**12,645,385**

Notes:
Source: CDM Smith Estimates, March 19, 2018
(1) Southbound frontage road between Morton Road and Clay Road (Segment E) is open from January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) is open from January 1, 2018.
(2) N Bridgeland Lake Parkway (Segment E) would have a connectivity to the rest of that road by January 1, 2019.
(3) Tuckerton Road (Segment E) interchange is assumed to be open from July 1, 2019.
(4) May 22, 2022 tolling start date of Segments H and I. From May 22, 2022 Segment I-2A is assumed to be a part of Grand Parkway System and Segments D through I will have Pay by Mail (PBM).
(5) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.
(6) No interchanges are assumed for Mason Road (Segment F-1).

Table 9: Estimated Fiscal Year Annual Revenue for Segments D through I (in thousands in nominal dollars)

FYE 31-Aug	Gross Annual Revenue in Nominal Dollars ($'000s)										Less Non-Collectible Revenue	Total Net Toll Revenue
	Segment D(Harris County)	Segment E	Segment F-1	Segment F-2	Segment G	Segment H	Segment I-1	Segment I-2A	Segment I-2B	Total Gross Toll Revenue		
2018 (1)	7,375	52,600	36,474	50,743	29,837	-	-	-	-	177,029	11,413	165,616
2019 (2)(3)	7,594	54,940	39,778	53,321	32,975	-	-	-	-	188,608	12,180	176,428
2020	7,936	57,388	42,096	55,912	37,324	-	-	-	-	200,656	12,674	187,982
2021	8,333	60,033	44,098	58,274	40,837	-	-	-	-	211,575	12,887	198,688
2022 (4)	8,815	63,435	46,490	60,845	44,813	2,479	1,071	2,150	608	230,706	13,533	217,173
2023	9,586	68,948	49,772	64,301	50,845	12,458	5,232	8,065	2,990	272,197	18,257	253,940
2024	10,061	72,239	52,146	66,852	55,285	16,887	6,959	8,674	3,955	293,058	20,656	272,402
2025	10,519	75,408	54,478	69,399	59,893	21,123	8,599	9,382	4,797	313,598	23,175	290,423
2026	11,011	79,155	57,011	72,129	64,508	23,644	9,574	10,010	5,311	332,353	24,395	307,958
2027	11,532	83,301	59,426	74,997	68,985	25,465	10,298	10,654	5,712	350,370	25,542	324,828
2028 (5)	12,073	87,775	62,067	78,092	73,895	27,510	11,123	11,323	6,160	370,018	26,789	343,229
2029	12,635	92,533	64,927	81,191	79,239	29,837	12,047	12,080	6,641	391,130	28,122	363,008
2030 (6)	13,259	97,483	67,912	84,688	85,132	32,303	13,111	12,943	7,177	414,008	29,560	384,448
2031	13,878	102,469	70,832	88,098	91,323	35,032	14,322	13,907	7,764	437,625	31,028	406,597
2032	14,547	107,819	73,923	91,566	97,960	37,924	15,562	14,894	8,369	462,564	32,565	429,999
2033	15,263	113,450	77,224	95,451	105,175	41,052	16,942	15,945	9,002	489,504	34,216	455,288
2034	15,980	119,225	80,609	99,168	112,849	44,441	18,433	17,086	9,677	517,468	35,912	481,556
2035	16,656	124,856	84,253	103,150	120,826	47,995	19,975	18,271	10,434	546,416	37,648	508,768
2036	17,443	130,817	88,299	107,761	127,552	50,929	21,226	19,241	11,063	574,331	39,284	535,047
2037	18,284	137,184	92,554	112,847	133,543	53,632	22,347	20,148	11,530	602,069	40,640	561,429
2038	19,128	143,527	96,975	118,445	140,133	56,443	23,531	21,111	12,065	631,358	42,617	588,741
2039	20,019	150,270	101,380	124,118	146,713	59,423	24,776	22,107	12,668	661,474	44,649	616,825
2040	20,936	156,973	105,875	129,518	153,015	62,147	25,917	23,110	13,249	690,740	46,625	644,115
2041	21,805	163,605	110,318	135,052	159,599	64,798	26,986	24,082	13,784	720,029	48,602	671,427
2042	22,712	170,474	115,025	140,669	166,301	67,566	28,138	25,109	14,357	750,351	50,649	699,702
2043	23,695	177,811	120,157	146,847	173,586	70,399	29,360	26,154	14,971	782,980	52,851	730,129
2044	24,689	185,368	125,117	152,925	180,752	73,336	30,578	27,242	15,603	815,610	55,054	760,556
2045	25,667	192,612	129,841	157,885	187,809	76,215	31,753	28,322	16,203	846,307	57,126	789,181
2046	26,648	199,980	134,783	162,676	195,034	79,039	32,956	29,425	16,790	877,331	59,220	818,111
2047	27,634	207,392	139,939	167,641	202,127	82,015	34,205	30,517	17,439	908,909	61,351	847,558
2048	28,671	215,050	145,005	172,634	208,699	85,095	35,487	31,611	18,148	940,400	63,477	876,923
2049	29,764	223,259	150,306	177,724	215,140	88,261	36,795	32,806	18,815	972,870	65,669	907,201
2050	30,788	230,833	155,532	182,602	221,085	91,211	38,065	33,931	19,398	1,003,445	67,733	935,712
2051	31,784	238,276	160,695	187,596	227,025	94,188	39,300	35,038	20,029	1,033,931	69,790	964,141
2052	32,789	245,953	165,948	192,541	233,299	97,199	40,550	36,171	20,689	1,065,139	71,897	993,242
2053	33,833	253,780	171,309	197,900	239,547	100,361	41,840	37,297	21,366	1,097,233	74,063	1,023,170
2054	34,896	261,924	176,753	203,273	245,768	103,610	43,177	38,515	22,050	1,129,966	76,273	1,053,693
2055	35,842	269,025	181,886	208,481	251,825	106,572	44,417	39,655	22,677	1,160,380	78,326	1,082,054
2056	36,722	275,529	186,660	213,411	258,131	109,456	45,623	40,717	23,265	1,189,514	80,292	1,109,222
2057	37,645	282,535	191,589	218,745	264,340	112,466	46,869	41,805	23,868	1,219,862	82,341	1,137,521
2058	38,594	289,419	196,975	224,182	271,241	115,489	48,164	42,924	24,540	1,251,528	84,478	1,167,050
	$ 847,041	**$ 6,314,653**	**$ 4,306,437**	**$ 5,183,650**	**$ 5,853,965**	**$ 2,298,000**	**$ 955,308**	**$ 872,422**	**$ 493,164**	**$ 27,124,640**	**$ 1,843,558**	**$ 25,281,082**

Notes:
Source: CDM Smith Estimates, March 19, 2018
(1) Southbound frontage road between Morton Road and Clay Road (Segment E) is open from January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) is open from January 1, 2018.
(2) N Bridgeland Lake Parkway (Segment E) would have a connectivity to the rest of that road by January 1, 2019
(3) Tuckerton Road (Segment E) interchange is assumed to be open from July 1, 2019.
(4) May 22, 2022 tolling start date of Segments H and I. From May 22, 2022 Segment I-2A is assumed to be a part of Grand Parkway System and Segments D through I will have Pay by Mail (PBM).
(5) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.
(6) No interchanges are assumed for Mason Road (Segment F-1).

Table 10: Estimated Fiscal Year Net Annual Transactions and Revenue for Segments D through I (in thousands)

Estimated Fiscal Year Net Annual Transactions and Toll Revenue (thousands) - Grand Parkway Segments D through I						
	Annual Transactions ('000s)			Net Revenues in Nominal Dollars ($'000s)		
Calendar Year	Total D through G	Total H and I	Total D through I	Total D through G	Total H and I	Total D through I
2018 (1)	139,428	-	**139,428**	165,616	-	**165,616**
2019 (2)(3)	146,728	-	**146,728**	176,428	-	**176,428**
2020	154,297	-	**154,297**	187,982	-	**187,982**
2021	160,105	-	**160,105**	198,688	-	**198,688**
2022 (4)	166,779	3,529	**170,308**	211,235	5,938	**217,173**
2023	176,443	15,872	**192,315**	227,123	26,817	**253,940**
2024	181,906	19,751	**201,657**	238,498	33,904	**272,402**
2025	186,427	23,199	**209,626**	249,766	40,657	**290,423**
2026	192,247	25,269	**217,517**	262,982	44,976	**307,958**
2027	198,438	26,767	**225,206**	276,499	48,329	**324,828**
2028 (5)	205,179	28,356	**233,534**	291,175	52,053	**343,229**
2029	212,209	30,084	**242,293**	306,760	56,248	**363,008**
2030 (6)	219,289	31,898	**251,187**	323,593	60,855	**384,448**
2031	226,619	33,827	**260,445**	340,608	65,989	**406,597**
2032	234,160	35,869	**270,028**	358,654	71,346	**429,999**
2033	242,003	38,023	**280,026**	378,144	77,143	**455,288**
2034	250,154	40,364	**290,517**	398,140	83,416	**481,556**
2035	258,594	42,842	**301,436**	418,754	90,014	**508,768**
2036	265,956	44,500	**310,456**	439,596	95,451	**535,047**
2037	272,909	45,782	**318,691**	461,039	100,390	**561,429**
2038	279,738	47,056	**326,794**	483,229	105,512	**588,741**
2039	286,734	48,366	**335,100**	505,881	110,943	**616,825**
2040	292,953	49,453	**342,407**	528,091	116,024	**644,115**
2041	298,829	50,445	**349,274**	550,528	120,899	**671,427**
2042	304,805	51,451	**356,256**	573,656	126,046	**699,702**
2043	310,897	52,482	**363,379**	598,755	131,374	**730,129**
2044	317,118	53,530	**370,648**	623,704	136,853	**760,556**
2045	322,064	54,419	**376,483**	646,982	142,200	**789,181**
2046	326,371	55,239	**381,610**	670,580	147,531	**818,111**
2047	330,724	56,065	**386,789**	694,464	153,094	**847,558**
2048	334,603	56,907	**391,510**	718,080	158,843	**876,923**
2049	338,249	57,762	**396,011**	742,450	164,751	**907,201**
2050	341,142	58,431	**399,573**	765,433	170,279	**935,712**
2051	343,647	59,017	**402,664**	788,313	175,828	**964,141**
2052	346,156	59,612	**405,768**	811,769	181,473	**993,242**
2053	348,682	60,204	**408,886**	835,864	187,306	**1,023,170**
2054	351,233	60,805	**412,037**	860,338	193,356	**1,053,693**
2055	352,829	61,209	**414,038**	883,133	198,922	**1,082,054**
2056	353,897	61,522	**415,418**	904,947	204,274	**1,109,222**
2057	354,958	61,826	**416,784**	927,701	209,820	**1,137,521**
2058	356,022	62,132	**418,154**	951,533	215,517	**1,167,050**
	10,981,522	**1,663,863**	**12,645,385**	**$ 20,976,711**	**$ 4,304,371**	**$ 25,281,082**

Notes:
Source: CDM Smith Estimates, March 19, 2018
(1) Southbound frontage road between Morton Road and Clay Road (Segment E) is open from January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) is open from January 1, 2018.
(2) N Bridgeland Lake Parkway (Segment E) would have a connectivity to the rest of that road by January 1, 2019
(3) Tuckerton Road (Segment E) interchange is assumed to be open from July 1, 2019.
(4) May 22, 2022 tolling start date of Segments H and I. From May 22, 2022 Segment I-2A is assumed to be a part of Grand Parkway System and Segments D through I will have Pay by Mail (PBM).
(5) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.
(6) No interchanges are assumed for Mason Road (Segment F-1).

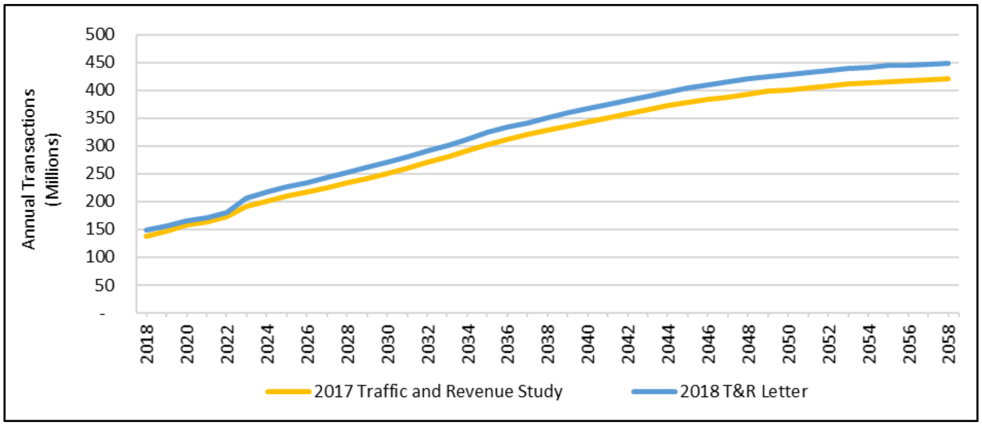


Figure 16: Comparison of Gross Transaction Estimates Between 2017 Traffic and Revenue Study and 2018 T&R Letter

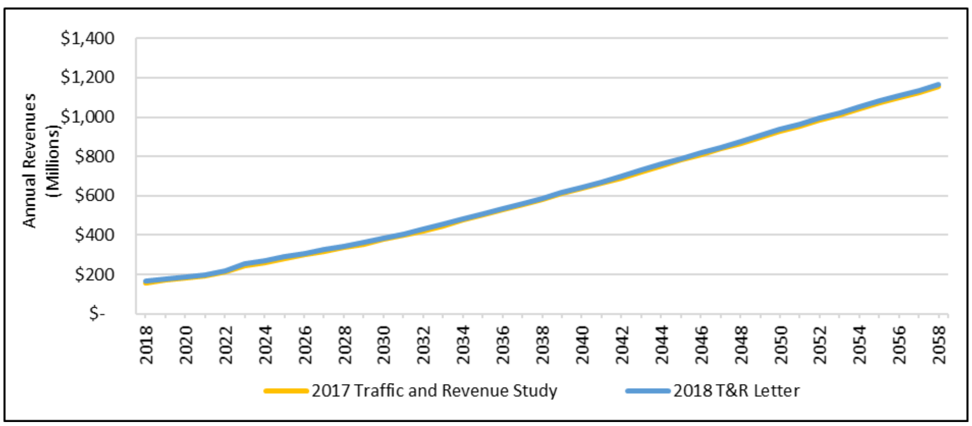


Figure 17: Comparison of Net Revenue Estimates Between 2017 Traffic and Revenue Study and 2018 T&R Letter

Appendix A shows average annual growth rates for all Grand Parkway System segments, share of 2035 revenues by each segment of the Grand Parkway System, and share of truck transactions as estimated in this 2018 T&R Letter.

Table 11 provides a summary of the observed T&R differences between the 2017 Traffic and Revenue Study and this 2018 T&R Letter for the model development years of 2025 and 2035. The total Segments D through I transactions in 2035 are shown to be 6.9 percent higher, despite the lower Segments H and I transactions. The overall increase in transactions for the existing Segments D through G is predominately a result of the re-benchmarking to the recent transactions and to account for the additional traffic usage expected as a result of the implementation of the PBM option. The lower Segments H and I transactions are mainly due to the expected one to two-year lag in the socioeconomic growth along Segments H and I. The annual net revenues for the Grand Parkway System as shown in this 2018 T&R Letter, after taking into consideration the lower net revenues expected from Segment H and I and higher leakage resulting from the implementation of PBM option, are 1.0 percent higher in comparison to the 2017 Traffic and Revenue Study's annual net revenues.

Table 11: Difference in T&R Projections (Gross and Net) Between 2017 Traffic and Revenue Study and 2018 T&R Letter

Grand Parkway System Segments	FY 2025			FY 2035		
	Transactions	Revenue		Transactions	Revenue	
		Gross	Net		Gross	Net
D through G	9.5%	9.1%	4.7%	8.6%	8.1%	3.0%
H and I	-2.5%	-3.0%	-7.0%	-2.3%	-2.5%	-7.2%
Total System (D through I)	8.1%	7.2%	2.9%	6.9%	6.1%	1.0%

Conclusions

The update undertaken in this 2018 T&R Letter predominately accounted for observed actual transactions along the existing Grand Parkway System facilities (Segments D through G) until January 2018 and incorporated several revisions to the underlying assumptions compared to previous forecasts summarized in the 2017 Traffic and Revenue Study. Many of the underlying models developed as part of the prior T&R study effort remain in place as described in the 2017 Traffic and Revenue Study, and revisions are limited to those described herein to include the Pay-By-Mail option, H-West option, certain changes to demographic forecasts, and changes in opening dates of certain network improvements close to and along the Grand Parkway System Segments D through I corridor. CDM Smith believes that the projections summarized herein reflect reasonable assumptions and trends that do not materially impact the previous model efforts and sensitivities described within the detailed 2017 Traffic and Revenue Study.

We hope this summary meets your needs. Please do not hesitate to contact us if you have any questions or if any additional information is required.

Sincerely,

Christopher E. Mwalwanda
Vice President
CDM Smith Inc.

DISCLAIMER

CDM Smith used currently accepted professional practices and procedures in the development of these traffic and revenue estimates. However, as with any forecast, it should be understood that differences between forecasted and actual results may occur, as caused by events and circumstances beyond the control of the forecasters. In formulating the estimates, CDM Smith reasonably relied upon the accuracy and completeness of information provided (both written and oral) by the Texas Department of Transportation (TxDOT). CDM Smith also relied upon the reasonable assurances of independent parties and is not aware of any material facts that would make such information misleading.

CDM Smith made qualitative judgments related to several key variables in the development and analysis of the traffic and revenue estimates that must be considered as a whole; therefore, selecting portions of any individual result without consideration of the intent of the whole may create a misleading or incomplete view of the results and the underlying methodologies used to obtain the results. CDM Smith gives no opinion as to the value or merit of partial information extracted from this report.

All estimates and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple agencies, including TxDOT. These estimates and projections may not be indicative of actual or future values and are therefore subject to substantial uncertainty. Future developments cannot be predicted with certainty, and may affect the estimates or projections expressed in this report, such that CDM Smith does not specifically guarantee or warrant any estimate or projection contained within this report.

While CDM Smith believes that the projections or other forward-looking statements contained within the report are based on reasonable assumptions as of the date of the report, such forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this report, CDM Smith will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to socioeconomic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transportation network.

CDM Smith is not, and has not been, a municipal advisor as defined in federal law (the Dodd Frank Bill) to TxDOT and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to TxDOT with respect to the information and material contained in this report. CDM Smith is not recommending and has not recommended any action to TxDOT. TxDOT should discuss the information and material contained in this report with any and all internal and external advisors that it deems appropriate before acting on this information.

Appendix A
Additional Information

This Appendix provides a summary of average annual growth rates, share of 2035 revenues from each of the Grand Parkway System segments, and share of truck transactions as estimated in this 2018 T&R Letter.

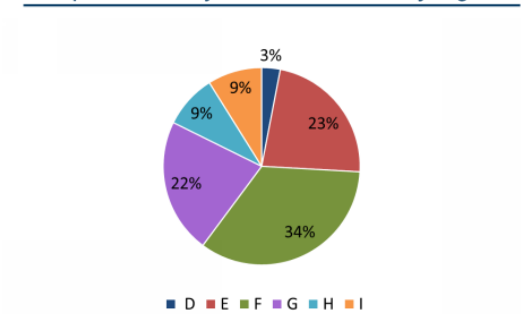
Projected Annual Net Transactions and Net Toll Revenue[1]

	Net Transactions ('000s)										Nominal Net Revenues ($'000s)									
FYE 8/31	D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total	D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total
2018 (2)	1,304	37,866	28,607	40,969	30,683	-	-	-	-	**139,428**	6,900	49,209	34,123	47,472	27,913	-	-	-	-	**165,616**
2020	1,464	40,512	32,139	43,282	36,899	-	-	-	-	**154,297**	7,435	53,763	39,437	52,380	34,966	-	-	-	-	**187,982**
2025	1,759	48,158	37,088	47,762	51,660	8,411	3,816	4,948	6,024	**209,626**	9,742	69,835	50,452	64,270	55,467	19,562	7,964	8,689	4,443	**290,423**
2035	2,125	67,133	46,670	57,912	84,755	16,656	7,368	8,167	10,652	**301,436**	15,508	116,253	78,448	96,043	112,501	44,688	18,599	17,012	9,715	**508,768**
2060	3,035	95,404	66,836	76,799	116,081	24,645	10,916	11,801	15,398	**420,916**	37,787	283,186	193,804	219,345	265,496	113,620	47,382	42,219	24,205	**1,227,044**

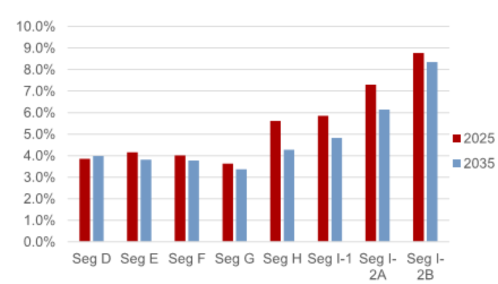
Projected Annual Net Transaction and Net Toll Revenue Growth[1]

	Net Transactions										Nominal Net Revenues									
FYE 8/31	D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total	D	E	F-1	F-2	G	H	I-1	I-2A	I-2B	Total
2018 - 2020	6.0%	3.4%	6.0%	2.8%	9.7%	-	-	-	-	**5.2%**	3.8%	4.5%	7.5%	5.0%	11.9%	-	-	-	-	**6.5%**
2020 - 2025	3.7%	3.5%	2.9%	2.0%	7.0%	-	-	-	-	**6.3%**	5.6%	5.4%	5.0%	4.2%	9.7%	-	-	-	-	**9.1%**
2025 - 2035	1.9%	3.4%	2.3%	1.9%	5.1%	7.1%	6.8%	5.1%	5.9%	**3.7%**	4.8%	5.2%	4.5%	4.1%	7.3%	8.6%	8.9%	6.9%	8.1%	**5.8%**
2035 - 2060	1.4%	1.4%	1.4%	1.1%	1.3%	1.6%	1.6%	1.5%	1.5%	**1.3%**	3.6%	3.6%	3.7%	3.4%	3.5%	3.8%	3.8%	3.7%	3.7%	**3.6%**

Composition of Projected 2035 Revenues by Segment



Truck Transaction Percentages



1 Net of leakage (violations and veterans discount)
2 Includes FY 2018 net revenues, which were estimated in the 2018 T & R Letter based on unaudited transactions, toll rates and the associated leakage assumptions for FY 2018, and are different from the unaudited actual net revenue collected from the Grand Parkway System Segments D through G

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APPENDIX H

2020 T&R RELIANCE LETTER

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9430 Research Blvd. 1-200
Austin, Texas 78759
Tel: (512) 346-1100
Fax: (512) 345-1483

January 24, 2020

Benjamin H. Asher
Secretary/Treasurer
Grand Parkway Transportation Corporation
125 E. 11th Street.
Austin, TX 78701

Subject: Grand Parkway Transportation Corporation's Grand Parkway System (SH 99) Segments D through I – Reliance Letter

Dear Mr. Asher:

Pursuant to your recent request, CDM Smith is pleased to provide the following reliance letter in support of the upcoming bond financing/refinancing of the Grand Parkway System. This reliance letter evaluates the underlying assumptions and information included in the Grand Parkway System Segments D through I Traffic and Revenue Bringdown Letter ("2018 T&R Letter"), dated March 19, 2018. Based on a general review of these assumptions, CDM Smith did not identify any significant changes that would adversely impact the current traffic and revenue forecasts included in the 2018 T&R Letter. The base case traffic and toll revenue estimates in the 2018 T&R Letter supersede such estimates in our prior "Grand Parkway Transportation Corporation's Grand Parkway System (SH 99) Segments D through I Comprehensive Traffic and Revenue Study" dated September 8, 2017 (referred to in this document as the "2017 Traffic and Revenue Study").

Project-specific toll sensitivities and estimated traffic and revenue impacts resulting from changes in future variables and key assumptions were evaluated and were summarized in the 2018 T&R Letter. The revisions undertaken as part of the 2018 T&R Letter included the re-benchmarking of the observed traffic from December 2016 to January 2018 (with appropriate adjustments regarding the effects of Hurricane Harvey, which impacted the Houston region in late August/early September 2017). The key influential changes in assumptions included, among others, the implementation of the changes to toll collection and billing procedures required by Senate Bill 312 ("SB 312"), which is referred to in this document as the Pay-By-Mail (PBM) option, and the assumption regarding the expansion of a portion of Segment H (between US 59N and Huffman/Cleveland Road) from two lanes to four lanes, which is referred to in this document as the "H-West option." Implementation of the PBM option and the H-West option were assumed as sensitivity tests in the 2017 Traffic and Revenue Study, which also assumed that Segments H, I-1 and I-2B will be substantially complete and open to tolled traffic on May 9, 2022, whereas the 2018 T&R Letter assumed that Segments H, I-1 and I-2B will be substantially complete and open to tolled traffic on May 22, 2022.

Grand Parkway System Existing Segments' Trends

CDM Smith mentioned in the 2018 T&R Letter that the transactions on the Grand Parkway System were affected by Hurricane Harvey but recovered to reflect a pre-hurricane trend by January 2018. More recent actual monthly transactions and revenue data, from December 2017 through November 2019, for the Grand Parkway System and by segment were compared with the 2018 T&R Letter estimates.

Figure 1 provides a comparison of actual monthly transactions through November 2019 for Segment D (Harris County) and Segment E and shows that since March 2018, the actual transactions have exceeded prior forecasts by approximately 450,000 additional monthly transactions on an average compared to the 2018 T&R Letter estimates. The total monthly transactions in Segments D and E during fiscal year 2019 averaged around 4.1 million vehicles per month.

Figure 1: Grand Parkway System Segments D (Harris County) and E – Actual versus Forecasted Monthly Transactions

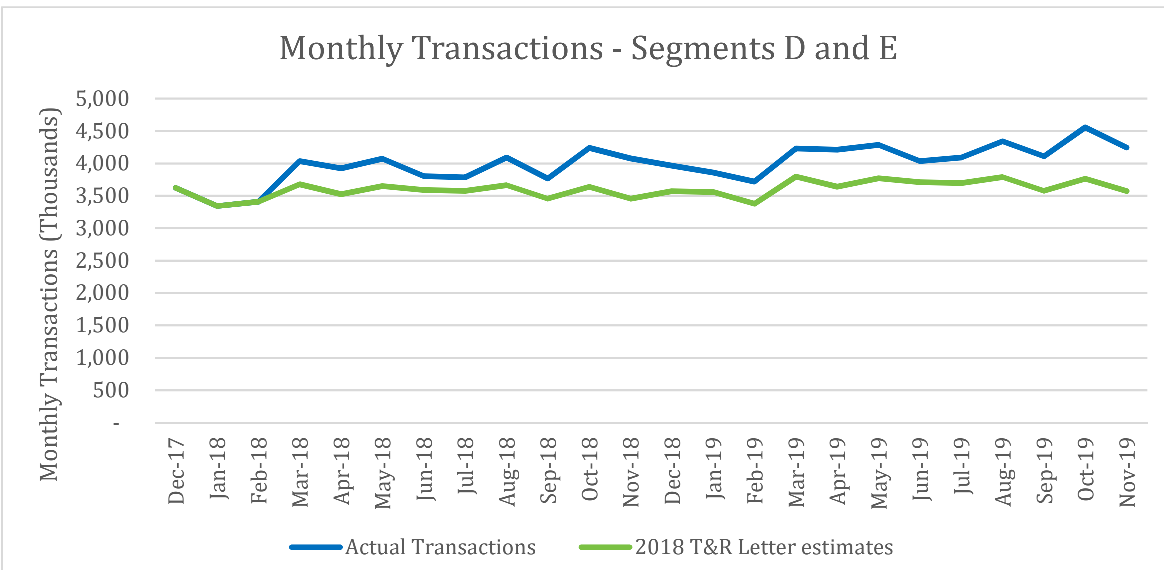


Figure 2 and **Figure 3** provide comparisons of actual monthly transactions through November 2019 for Segments F-1 and F-2 and show that since March 2018, the actual monthly transactions on Segments F-1 and F-2 have on an average exceeded the 2018 T&R Letter estimates by 230,000 and 530,000 per month, respectively. The total monthly transactions during fiscal year 2019 averaged approximately 3.0 and 4.3 million vehicles per month along Segments F-1 and F-2, respectively.

Figure 2: Grand Parkway System Segment F-1 – Actual versus Forecasted Monthly Transactions

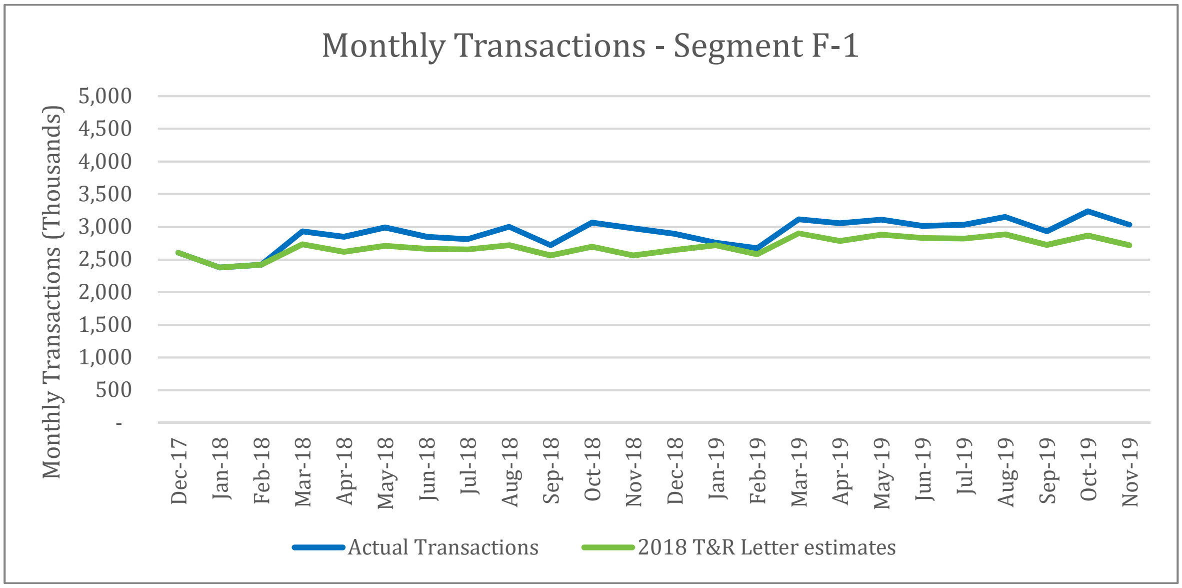


Figure 3: Grand Parkway System Segment F-2 – Actual versus Forecasted Monthly Transactions

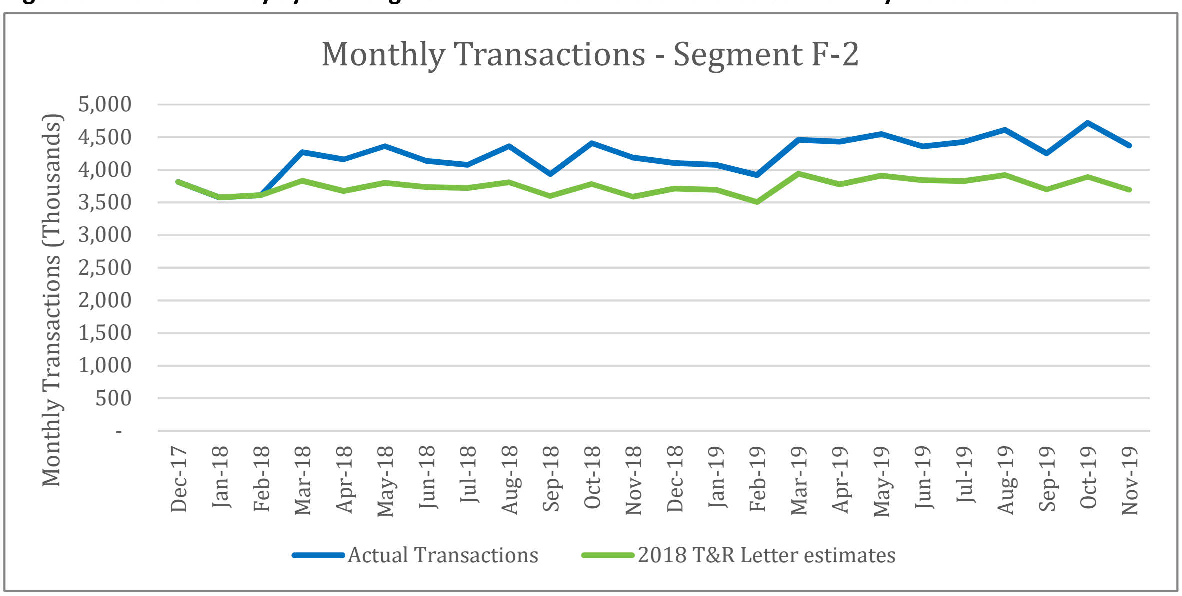
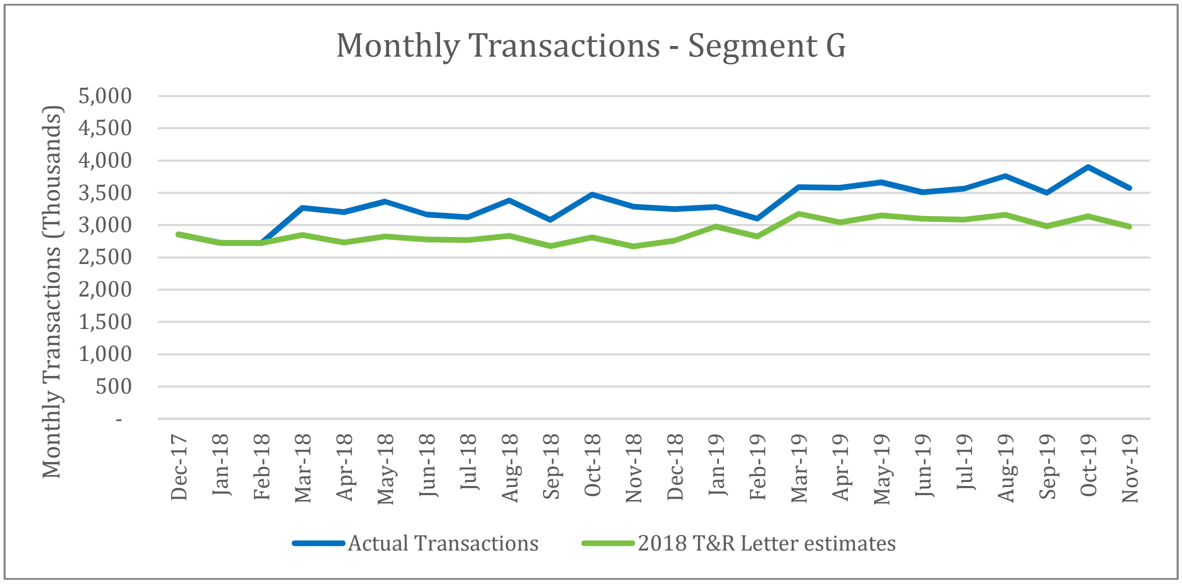


Figure 4 compares the actual to forecasted monthly transactions through November 2019 for Segment G and illustrates that since March 2018, the actual monthly transactions have exceeded the estimates in the 2018 T&R Letter on an average by 490,000 per month. The total monthly transactions during fiscal year 2019 averaged approximately 3.4 million vehicles per month along Segment G.

Figure 4: Grand Parkway System Segment G – Actual versus Forecasted Monthly Transactions



A comparison of the actual fiscal year 2019 transactions with the 2018 T&R Letter estimates is presented in **Table 1** and shows that the overall combined actual transactions for Segments D (Harris County), E, F-1, F-2 and G were 12.8 percent higher than the estimates (approximately 12.3 percent higher for Segments D and E, 8.2 percent and 14.1 percent higher along Segment F-1 and F-2 respectively, and 16.1 percent higher for Segment G).

Comparisons between the Grand Parkway System actual versus forecasted transactions and toll revenues from December 1, 2017 through November 30, 2019 are provided in **Table 2** and **Table 3**, respectively. The observed transactions along the Grand Parkway System were 11.5 percent higher and the toll revenues were 10.8 percent higher than the estimates in the 2018 T&R Letter. A detailed quantitative evaluation of the underlying reasons for this outperformance was not undertaken as part of this reliance letter effort, however, we believe that better than expected economic recovery experienced by the Houston region after Hurricane Harvey and better than expected increase in Grand Parkway System transactions after the implementation of the PBM tolling options may be contributing and influential factors.

Table 1: Comparison of Grand Parkway System Actual versus Forecasted Transactions for Fiscal Year 2019 (in Thousands from September 1, 2018 through August 31, 2019)

FY 2019	Segments D and E	Segment F-1	Segment F-2	Segment G	Total
2018 T&R Letter Estimate	43,458	32,867	45,094	35,439	**156,858**
Actual	48,824	35,563	51,461	41,141	**176,989**
Difference	5,366	2,696	6,367	5,702	**20,131**
% Difference	+12.3%	+8.2%	+14.1%	+16.1%	**+12.8%**

Table 2: Comparison of Grand Parkway System Actual versus Forecasted Transactions (in Thousands from December 1, 2017 through November 30, 2019)

	FY 2018			FY 2019				FY 2020	Total
	Quarter 2 Dec - Feb	Quarter 3 Mar - May	Quarter 4 Jun - Aug	Quarter 1 Sep - Nov	Quarter 2 Dec - Feb	Quarter 3 Mar - May	Quarter 4 Jun - Aug	Quarter 1 Sep - Nov	
2018 T&R Letter Estimate	37,070	38,625	38,515	37,491	37,932	40,772	40,663	39,592	**310,660**
Actual	37,070	43,426	42,592	43,206	41,601	46,279	45,903	46,428	**346,505**
Difference	0	4,801	4,077	5,715	3,669	5,507	5,240	6,836	**35,845**
% Difference	+0.0%	+12.4%	+10.6%	+15.2%	+9.7%	+13.5%	+12.9%	+17.3%	**+11.5%**

Table 3: Comparison of Grand Parkway System Actual versus Forecasted Toll Revenue (in Thousands from December 1, 2017 through November 30, 2019)

	FY 2018			FY 2019				FY 2020	Total
	Quarter 2 Dec - Feb	Quarter 3 Mar - May	Quarter 4 Jun - Aug	Quarter 1 Sep - Nov	Quarter 2 Dec - Feb	Quarter 3 Mar - May	Quarter 4 Jun - Aug	Quarter 1 Sep - Nov	
2018 T&R Letter Estimate	$40,996	$43,185	$43,061	$41,902	$42,665	$45,994	$45,866	$44,712	**$348,381**
Actual	$37,041	$48,598	$48,111	$47,679	$46,476	$54,089	$52,355	$51,825	**$386,174**
Difference	($3,955)	$5,413	$5,050	$5,777	$3,811	$8,095	$6,489	$7,113	**$37,793**
% Difference	-9.6%	+12.5%	+11.7%	+13.8%	+8.9%	+17.6%	+14.1%	+15.9%	**+10.8%**

Grand Parkway System Demographic Trends

No new detailed demographic assessment was undertaken as part of this reliance letter, however, *Community Development Strategies* (CDS) was retained as part of the 2017 Traffic and Revenue Study to conduct an independent economic analysis and develop forecasts for both population and employment (referred to as "CDS 2016") for the Houston 8-county region (Brazoria, Chambers, Ft. Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties). To reconfirm the validity of these forecasts, the CDS 2016 short-term 2018 population and employment forecasts were compared with the U.S Census Bureau and the Bureau of Labor Statistics (BLS) forecasts as another independent source for validation, as shown in **Table 4** and **Table 5**, respectively. The Census Bureau's estimates for the eight-county region's population was 2.4 percent higher than the CDS 2016 forecasts, and the regional employment estimates from BLS was 0.4 percent lower than the CDS 2016 forecasts.

Table 4: Comparison of 2018 Population

2018 Population	CDS 2016(1)	Census Bureau's Population Estimates(2)	Difference	% Difference
Brazoria	353,700	370,200	16,500	+4.7%
Chambers	42,500	42,500	-	+0.0%
Fort Bend	757,000	787,900	30,900	+4.1%
Galveston	328,500	337,900	9,400	+2.9%
Harris	4,621,400	4,698,600	77,200	+1.7%
Liberty	79,800	86,300	6,500	+8.1%
Montgomery	573,400	590,900	17,500	+3.1%
Waller	47,500	53,100	5,600	+11.8%
8-County Region	**6,803,800**	**6,967,400**	**163,600**	**+2.4%**

Sources: (1) Grand Parkway Segments D-I Economic and Demographic Forecast 2016 Update (CDS 2016 Forecast); (2) U.S. Census Bureau (July 2018)

Table 5: Comparison of 2018 Employment

2018 Employment	CDS 2016(1)	Bureau of Labor Statistics(2)	Difference	% Difference
Brazoria	109,700	112,600	2,900	+2.6%
Chambers	13,700	15,700	2,000	+14.6%
Fort Bend	180,700	189,300	8,600	+4.8%
Galveston	107,800	109,300	1,500	+1.4%
Harris	2,346,200	2,307,100	-39,100	-1.7%
Liberty	17,000	18,000	1,000	+5.9%
Montgomery	175,600	186,700	11,100	+6.3%
Waller	16,900	17,300	400	+2.4%
8-County Region	**2,967,600**	**2,956,000**	**-11,600**	**-0.4%**

Sources: (1) Grand Parkway Segments D-I Economic and Demographic Forecast 2016 Update (CDS 2016 Forecast); (2) Quarterly Census of Employment & Wages (BLS)

The differences between actuals from U.S. Census Bureau and BLS, and the CDS 2016 forecasts in population and employment were minor such that no adverse material changes to the T&R forecasts in the 2018 T&R Letter are expected as a result of these demographic differences.

Grand Parkway System – Changes in Roadway Opening Assumptions

The following changes in assumptions to the roadway opening dates were identified since the completion of the 2018 T&R Letter:

- Riverwalk Drive connection to Grand Parkway and additional toll gantries to the existing ramps at Riverwalk Drive
- Four southern direct connectors at the SH 249 and SH 99 interchange
- Delayed opening of N. Bridgeland Lake Parkway

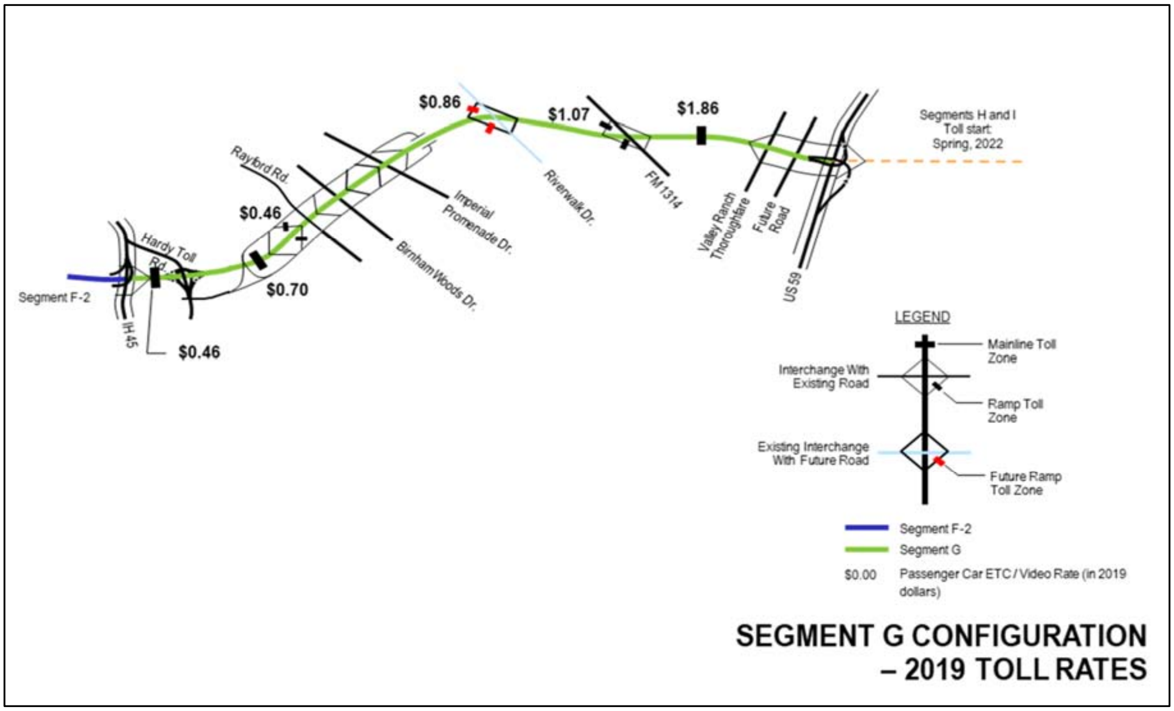
The following provides a brief summary of the aforementioned changes.

Riverwalk Drive connection to Grand Parkway and additional toll gantries to the existing ramps at Riverwalk Drive

The Riverwalk Drive connection to Grand Parkway was originally not assumed in the 2018 T&R Letter. The expected fiscal year 2019 net toll revenue impacts to the Grand Parkway System resulting from the opening of the proposed Riverwalk Drive connection and additional toll gantries to the existing ramps to and from the west of Riverwalk Drive along Segment G of Grand Parkway were evaluated.

A revised Toll Rate Schedule for the Grand Parkway System Segment G effective January 1, 2019, was developed to include the Riverwalk Drive toll ramp gantries for purposes of the assessment, as illustrated in **Figure 5**. Based on this general assessment assuming the toll ramps were operational in fiscal year 2019, it was concluded that these additional new toll ramps do not materially or negatively impact the Grand Parkway System net toll revenue forecasts in the 2018 T&R Letter.

Figure 5: 2019 Toll Rate Schedule for Grand Parkway Segment G



Four southern direct connectors at the SH 249 and SH 99 interchange

TxDOT, the Grand Parkway Transportation Corporation and Harris County are in the process of negotiating the terms of an agreement relating to the design, construction, maintenance and funding of four southern direct connectors at the SH 249 and SH 99 interchange (the "SH 249 Connectors"). The base case forecast in the 2018 T&R Letter did not assume construction of these SH 249 Connectors. Preliminary sensitivity analysis, included in the 2017 Traffic and Revenue Study, assuming that the SH 249 Connectors would be constructed, showed a slight increase in Grand Parkway System's toll revenues due to travel time savings provided by the SH 249 Connectors.

N. Bridgeland Lake Parkway delayed opening

The N. Bridgeland Lake Parkway is expected to connect to the Grand Parkway System and was previously assumed to open by January 2019 in the 2018 T&R Letter. The roadway is currently still in the design phase and is now anticipated to connect to Grand Parkway System by 2022. This delayed opening based on our general assessment was shown to have a very minor negative impact on the traffic and revenue forecast in the 2018 T&R Letter. The magnitude of this reduction is far less than the positive trends observed from the Grand Parkway System actual transactions and revenues that are currently exceeding the 2018 T&R Letter estimates as described and summarized previously.

Conclusions

CDM Smith re-evaluated the underlying assumptions included in the 2018 T&R Letter. Based on a general review of these assumptions, CDM Smith did not identify any significant changes that would adversely impact the current traffic and revenue forecasts included in the 2018 T&R Letter.

Our general assessment of the key influential factors described herein and the current strong performance of the Grand Parkway System transactions and revenues leads us to conclude that the fiscal years 2020 through 2058 traffic and revenue projections for Segments D through I and the conclusions summarized in the 2018 T&R Letter still remain valid, as summarized in **Table 6** for the gross and net annual transactions, **Table 7** for the gross and net annual toll revenues, and **Table 8** for the net (gross minus potential non-collectible) annual transactions and toll revenues.

Sincerely,

Christopher E. Mwalwanda
Vice President
CDM Smith Inc.

Table 6: Estimated Fiscal Year Annual Transactions for Segments D through I

Fiscal Year (End Aug 31)	Gross Annual Transactions (in thousands)										Less Non-Collectible Transactions	Total Net Transactions
	Segment D (Harris County)	Segment E	Segment F-1	Segment F-2	Segment G	Segment H	Segment I-1	Segment I-2A	Segment I-2B	Total Gross Transactions		
2020(1,2,3)	1,563	43,244	34,306	46,200	39,387	-	-	-	-	164,700	10,403	**154,297**
2021	1,622	44,428	35,224	47,034	42,182	-	-	-	-	170,490	10,385	**160,105**
2022(4)	1,678	46,106	36,318	48,017	45,052	1,110	555	1,210	874	180,920	10,612	**170,308**
2023	1,783	49,323	38,237	49,851	49,934	5,533	2,669	4,589	4,222	206,141	13,826	**192,315**
2024	1,845	50,805	39,222	50,783	53,045	7,393	3,452	4,948	5,456	216,949	15,292	**201,657**
2025	1,899	52,001	40,048	51,573	55,782	9,082	4,120	5,343	6,505	226,353	16,727	**209,626**
2026	1,940	53,544	40,934	52,491	58,567	10,046	4,524	5,652	7,049	234,747	17,230	**217,517**
2027	1,975	55,210	41,862	53,487	61,508	10,714	4,817	5,925	7,416	242,914	17,708	**225,206**
2028(5)	2,011	57,277	42,808	54,503	64,594	11,422	5,119	6,211	7,817	251,762	18,228	**233,534**
2029	2,047	59,443	43,784	55,539	67,836	12,218	5,435	6,511	8,251	261,064	18,771	**242,293**
2030(6)	2,083	61,445	44,779	56,599	71,244	13,014	5,774	6,833	8,730	270,501	19,314	**251,187**
2031	2,121	63,487	45,798	57,677	74,829	13,849	6,133	7,175	9,251	280,320	19,875	**260,445**
2032	2,158	65,528	46,840	58,775	78,592	14,752	6,525	7,539	9,769	290,478	20,450	**270,028**
2033	2,201	67,639	47,907	59,898	82,545	15,714	6,941	7,919	10,307	301,071	21,045	**280,026**
2034	2,242	69,829	49,001	61,041	86,696	16,775	7,400	8,336	10,863	312,183	21,666	**290,517**
2035	2,282	72,101	50,123	62,197	91,027	17,888	7,913	8,771	11,440	323,742	22,306	**301,436**
2036	2,333	74,152	51,339	63,628	94,031	18,627	8,248	9,064	11,828	333,250	22,794	**310,456**
2037	2,392	76,043	52,624	65,219	96,386	19,185	8,499	9,289	12,123	341,760	23,069	**318,691**
2038	2,452	77,942	53,938	66,853	98,802	19,761	8,751	9,522	12,428	350,449	23,655	**326,794**
2039	2,512	79,892	55,287	68,525	101,274	20,354	9,014	9,761	12,738	359,357	24,257	**335,100**
2040	2,565	81,642	56,481	70,006	103,465	20,825	9,225	9,970	13,013	367,192	24,785	**342,407**
2041	2,619	83,287	57,613	71,405	105,536	21,244	9,409	10,170	13,274	374,557	25,283	**349,274**
2042	2,670	84,952	58,764	72,836	107,647	21,667	9,596	10,375	13,537	382,044	25,788	**356,256**
2043	2,722	86,652	59,939	74,292	109,797	22,100	9,791	10,581	13,809	389,683	26,304	**363,379**
2044	2,777	88,383	61,140	75,777	111,996	22,542	9,983	10,793	14,087	397,478	26,830	**370,648**
2045	2,826	89,880	62,157	76,657	113,857	22,917	10,151	10,972	14,318	403,735	27,252	**376,483**
2046	2,866	91,240	63,088	77,235	115,567	23,260	10,304	11,138	14,535	409,233	27,623	**381,610**
2047	2,910	92,607	64,034	77,814	117,299	23,609	10,456	11,305	14,753	414,787	27,998	**386,789**
2048	2,955	93,998	64,996	78,402	118,473	23,965	10,613	11,474	14,974	419,850	28,340	**391,510**
2049	2,998	95,406	65,970	78,991	119,369	24,325	10,775	11,644	15,199	424,677	28,666	**396,011**
2050	3,031	96,544	66,738	79,454	120,069	24,606	10,899	11,781	15,375	428,497	28,924	**399,573**
2051	3,062	97,526	67,405	79,853	120,676	24,855	11,009	11,897	15,528	431,811	29,147	**402,664**
2052	3,095	98,498	68,080	80,253	121,287	25,104	11,118	12,019	15,686	435,140	29,372	**405,768**
2053	3,123	99,484	68,760	80,657	121,898	25,352	11,230	12,139	15,841	438,484	29,598	**408,886**
2054	3,156	100,478	69,448	81,061	122,514	25,609	11,341	12,258	15,998	441,863	29,826	**412,037**
2055	3,177	101,023	69,909	81,334	122,926	25,777	11,415	12,343	16,105	444,009	29,971	**414,038**
2056	3,192	101,293	70,258	81,537	123,234	25,909	11,474	12,404	16,188	445,489	30,071	**415,418**
2057	3,207	101,547	70,611	81,742	123,545	26,035	11,533	12,465	16,268	446,953	30,169	**416,784**
2058	3,225	101,801	70,962	81,947	123,858	26,165	11,588	12,527	16,349	448,422	30,268	**418,154**
	97,315	**3,005,680**	**2,126,732**	**2,611,143**	**3,636,326**	**693,303**	**307,799**	**342,853**	**441,904**	**13,263,055**	**903,826**	**12,359,229**

Source: 2018 T&R Letter, Table 8
(1) Southbound frontage road between Morton Road and Clay Road (Segment E) and Frontage road between Hildebrandt Road and Northcrest Drive (Segment F-2) are open from January 1, 2018.
(2) N Bridgeland Lake Parkway (Segment E) would have a connectivity to the rest of that road by January 1, 2019.
(3) Tuckerton Road (Segment E) interchange is assumed to be open from July 1, 2019.
(4) May 22, 2022 tolling start date of Segments H and I. From May 22, 2022 Segment I-2A is assumed to be a part of Grand Parkway System and Segments D through I will have Pay by Mail (PBM).
(5) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.
(6) No interchanges are assumed for Mason Road (Segment F-1).
Numbers may not add up due to rounding

Table 7: Estimated Fiscal Year Annual Toll Revenue for Segments D through I

Fiscal Year (End Aug 31)	Gross Annual Revenue (in thousands in nominal dollars)										Less Non-Collectible Revenue	Total Net Toll Revenue
	Segment D (Harris County)	Segment E	Segment F-1	Segment F-2	Segment G	Segment H	Segment I-1	Segment I-2A	Segment I-2B	Total Gross Toll Revenue		
2020[1,2,3]	7,936	57,388	42,096	55,912	37,324	-	-	-	-	200,656	12,674	**187,982**
2021	8,333	60,033	44,098	58,274	40,837	-	-	-	-	211,575	12,887	**198,688**
2022[4]	8,815	63,435	46,490	60,845	44,813	2,479	1,071	2,150	608	230,706	13,533	**217,173**
2023	9,586	68,948	49,772	64,301	50,845	12,458	5,232	8,065	2,990	272,197	18,257	**253,940**
2024	10,061	72,239	52,146	66,852	55,285	16,887	6,959	8,674	3,955	293,058	20,656	**272,402**
2025	10,519	75,408	54,478	69,399	59,893	21,123	8,599	9,382	4,797	313,598	23,175	**290,423**
2026	11,011	79,155	57,011	72,129	64,508	23,644	9,574	10,010	5,311	332,353	24,395	**307,958**
2027	11,532	83,301	59,426	74,997	68,985	25,465	10,298	10,654	5,712	350,370	25,542	**324,828**
2028[5]	12,073	87,775	62,067	78,092	73,895	27,510	11,123	11,323	6,160	370,018	26,789	**343,229**
2029	12,635	92,533	64,927	81,191	79,239	29,837	12,047	12,080	6,641	391,130	28,122	**363,008**
2030[6]	13,259	97,483	67,912	84,688	85,132	32,303	13,111	12,943	7,177	414,008	29,560	**384,448**
2031	13,878	102,469	70,832	88,098	91,323	35,032	14,322	13,907	7,764	437,625	31,028	**406,597**
2032	14,547	107,819	73,923	91,566	97,960	37,924	15,562	14,894	8,369	462,564	32,565	**429,999**
2033	15,263	113,450	77,224	95,451	105,175	41,052	16,942	15,945	9,002	489,504	34,216	**455,288**
2034	15,980	119,225	80,609	99,168	112,849	44,441	18,433	17,086	9,677	517,468	35,912	**481,556**
2035	16,656	124,856	84,253	103,150	120,826	47,995	19,975	18,271	10,434	546,416	37,648	**508,768**
2036	17,443	130,817	88,299	107,761	127,552	50,929	21,226	19,241	11,063	574,331	39,284	**535,047**
2037	18,284	137,184	92,554	112,847	133,543	53,632	22,347	20,148	11,530	602,069	40,640	**561,429**
2038	19,128	143,527	96,975	118,445	140,133	56,443	23,531	21,111	12,065	631,358	42,617	**588,741**
2039	20,019	150,270	101,380	124,118	146,713	59,423	24,776	22,107	12,668	661,474	44,649	**616,825**
2040	20,936	156,973	105,875	129,518	153,015	62,147	25,917	23,110	13,249	690,740	46,625	**644,115**
2041	21,805	163,605	110,318	135,052	159,599	64,798	26,986	24,082	13,784	720,029	48,602	**671,427**
2042	22,712	170,474	115,025	140,669	166,301	67,566	28,138	25,109	14,357	750,351	50,649	**699,702**
2043	23,695	177,811	120,157	146,847	173,586	70,399	29,360	26,154	14,971	782,980	52,851	**730,129**
2044	24,689	185,368	125,117	152,925	180,752	73,336	30,578	27,242	15,603	815,610	55,054	**760,556**
2045	25,667	192,612	129,841	157,885	187,809	76,215	31,753	28,322	16,203	846,307	57,126	**789,181**
2046	26,648	199,980	134,783	162,676	195,034	79,039	32,956	29,425	16,790	877,331	59,220	**818,111**
2047	27,634	207,392	139,939	167,641	202,127	82,015	34,205	30,517	17,439	908,909	61,351	**847,558**
2048	28,671	215,050	145,005	172,634	208,699	85,095	35,487	31,611	18,148	940,400	63,477	**876,923**
2049	29,764	223,259	150,306	177,724	215,140	88,261	36,795	32,806	18,815	972,870	65,669	**907,201**
2050	30,788	230,833	155,532	182,602	221,085	91,211	38,065	33,931	19,398	1,003,445	67,733	**935,712**
2051	31,784	238,276	160,695	187,596	227,025	94,188	39,300	35,038	20,029	1,033,931	69,790	**964,141**
2052	32,789	245,953	165,948	192,541	233,299	97,199	40,550	36,171	20,689	1,065,139	71,897	**993,242**
2053	33,833	253,780	171,309	197,900	239,547	100,361	41,840	37,297	21,366	1,097,233	74,063	**1,023,170**
2054	34,896	261,924	176,753	203,273	245,768	103,610	43,177	38,515	22,050	1,129,966	76,273	**1,053,693**
2055	35,842	269,025	181,886	208,481	251,825	106,572	44,417	39,655	22,677	1,160,380	78,326	**1,082,054**
2056	36,722	275,529	186,660	213,411	258,131	109,456	45,623	40,717	23,265	1,189,514	80,292	**1,109,222**
2057	37,645	282,535	191,589	218,745	264,340	112,466	46,869	41,805	23,868	1,219,862	82,341	**1,137,521**
2058	38,594	289,419	196,975	224,182	271,241	115,489	48,164	42,924	24,540	1,251,528	84,478	**1,167,050**
	$832,072	**$6,207,113**	**$4,230,185**	**$5,079,586**	**$5,791,153**	**$2,298,000**	**$955,308**	**$872,422**	**$493,164**	**$26,759,003**	**$1,819,965**	**$24,939,038**

Source: 2018 T&R Letter, Table 9

(1) Southbound frontage road between Morton Road and Clay Road (Segment E) and Frontage road between Hildebrandt Road and Northcrest Drive (Segment F-2) are open from January 1, 2018.

(2) N Bridgeland Lake Parkway (Segment E) would have a connectivity to the rest of that road by January 1, 2019.

(3) Tuckerton Road (Segment E) interchange is assumed to be open from July 1, 2019.

(4) May 22, 2022 tolling start date of Segments H and I. From May 22, 2022 Segment I-2A is assumed to be a part of Grand Parkway System and Segments D through I will have Pay by Mail (PBM).

(5) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.

(6) No interchanges are assumed for Mason Road (Segment F-1).

Numbers may not add up due to rounding

Table 8: Estimated Fiscal Year Net Annual Transactions and Toll Revenue for Segments D through I

Fiscal Year (End Aug 31)	Annual Net Transactions (in thousands)			Net Revenue (in thousands in nominal dollars)		
	Total D through G	Total H and I	Total D through I	Total D through G	Total H and I	Total D through I
2020(1,2,3)	154,297	-	**154,297**	187,982	-	**187,982**
2021	160,105	-	**160,105**	198,688	-	**198,688**
2022(4)	166,779	3,529	**170,308**	211,235	5,938	**217,173**
2023	176,443	15,872	**192,315**	227,123	26,817	**253,940**
2024	181,906	19,751	**201,657**	238,498	33,904	**272,402**
2025	186,427	23,199	**209,626**	249,766	40,657	**290,423**
2026	192,247	25,269	**217,517**	262,982	44,976	**307,958**
2027	198,438	26,767	**225,206**	276,499	48,329	**324,828**
2028(5)	205,179	28,356	**233,534**	291,175	52,053	**343,229**
2029	212,209	30,084	**242,293**	306,760	56,248	**363,008**
2030(6)	219,289	31,898	**251,187**	323,593	60,855	**384,448**
2031	226,619	33,827	**260,445**	340,608	65,989	**406,597**
2032	234,160	35,869	**270,028**	358,654	71,346	**429,999**
2033	242,003	38,023	**280,026**	378,144	77,143	**455,288**
2034	250,154	40,364	**290,517**	398,140	83,416	**481,556**
2035	258,594	42,842	**301,436**	418,754	90,014	**508,768**
2036	265,956	44,500	**310,456**	439,596	95,451	**535,047**
2037	272,909	45,782	**318,691**	461,039	100,390	**561,429**
2038	279,738	47,056	**326,794**	483,229	105,512	**588,741**
2039	286,734	48,366	**335,100**	505,881	110,943	**616,825**
2040	292,953	49,453	**342,407**	528,091	116,024	**644,115**
2041	298,829	50,445	**349,274**	550,528	120,899	**671,427**
2042	304,805	51,451	**356,256**	573,656	126,046	**699,702**
2043	310,897	52,482	**363,379**	598,755	131,374	**730,129**
2044	317,118	53,530	**370,648**	623,704	136,853	**760,556**
2045	322,064	54,419	**376,483**	646,982	142,200	**789,181**
2046	326,371	55,239	**381,610**	670,580	147,531	**818,111**
2047	330,724	56,065	**386,789**	694,464	153,094	**847,558**
2048	334,603	56,907	**391,510**	718,080	158,843	**876,923**
2049	338,249	57,762	**396,011**	742,450	164,751	**907,201**
2050	341,142	58,431	**399,573**	765,433	170,279	**935,712**
2051	343,647	59,017	**402,664**	788,313	175,828	**964,141**
2052	346,156	59,612	**405,768**	811,769	181,473	**993,242**
2053	348,682	60,204	**408,886**	835,864	187,306	**1,023,170**
2054	351,233	60,805	**412,037**	860,338	193,356	**1,053,693**
2055	352,829	61,209	**414,038**	883,133	198,922	**1,082,054**
2056	353,897	61,522	**415,418**	904,947	204,274	**1,109,222**
2057	354,958	61,826	**416,784**	927,701	209,820	**1,137,521**
2058	356,022	62,132	**418,154**	951,533	215,517	**1,167,050**
	10,695,366	**1,663,863**	**12,359,229**	**$20,634,667**	**$4,304,371**	**$24,939,038**

Source: 2018 T&R Letter, Table 10
(1) Southbound frontage road between Morton Road and Clay Road (Segment E) is open from January 1, 2018. Frontage road pair between Hildebrandt Road and Northcrest Drive (Segment F-2) is open from January 1, 2018.
(2) N Bridgeland Lake Parkway (Segment E) would have a connectivity to the rest of that road by January 1, 2019.
(3) Tuckerton Road (Segment E) interchange is assumed to be open from July 1, 2019.
(4) May 22, 2022 tolling start date of Segments H and I. From May 22, 2022 Segment I-2A is assumed to be a part of Grand Parkway System and Segments D through I will have Pay by Mail (PBM).
(5) Louetta Road and Mound Road (Segment E) interchanges to be open to traffic on January 1, 2028.
(6) No interchanges are assumed for Mason Road (Segment F-1).
Numbers may not add up due to rounding

DISCLAIMER

CDM Smith used currently-accepted professional practices and procedures in the development of the traffic and revenue estimates in this report. However, as with any forecast, it should be understood that differences between forecasted and actual results may occur, as caused by events and circumstances beyond the control of the forecasters. In formulating the estimates, CDM Smith reasonably relied upon the accuracy and completeness of information provided (both written and oral) by the Texas Department of Transportation (TxDOT). CDM Smith also relied upon the reasonable assurances of independent parties and is not aware of any material facts that would make such information misleading.

CDM Smith made qualitative judgments related to several key variables in the development and analysis of the traffic and revenue estimates that must be considered as a whole; therefore, selecting portions of any individual result without consideration of the intent of the whole may create a misleading or incomplete view of the results and the underlying methodologies used to obtain the results. CDM Smith gives no opinion as to the value or merit of partial information extracted from this report.

All estimates and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple agencies, including TxDOT. These estimates and projections may not be indicative of actual or future values and are therefore subject to substantial uncertainty. Future developments and economic conditions cannot be predicted with certainty and may affect the estimates or projections expressed in this report, such that CDM Smith does not specifically guarantee or warrant any estimate or projection contained within this report.

While CDM Smith believes that the projections and other forward-looking statements contained within the report are based on reasonable assumptions as of the date of the report, such forward- looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this report, CDM Smith will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to socioeconomic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transportation network.

CDM Smith is not, and has not been, a municipal advisor as defined in Federal law (the Dodd Frank Bill) to TxDOT and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to TxDOT with respect to the information and material contained in this report. CDM Smith is not recommending and has not recommended any action to TxDOT. TxDOT should discuss the information and material contained in this report with any and all internal and external advisors that it deems appropriate before acting on this information.

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APPENDIX I

DTC BOOK-ENTRY-ONLY SYSTEM

DTC will act as securities depository for the 2020 Bonds. The 2020 Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered certificate will be issued for each maturity of each series of the 2020 Bonds, each in the aggregate principal amount of such maturity, and will be deposited with DTC. If, however, the aggregate principal amount of an issue exceeds $500 million of principal amount, one certificate will be issued with respect to each $500 million of principal amount of such issue, and an additional certificate will be issued with respect to any remaining principal amount of such issue.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC's participants ("*Direct Participants*") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("*DTCC*"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("*Indirect Participants*"). DTC has a S&P Global Ratings rating of AA+. The DTC Rules applicable to its Participants are on file with the United States Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchases of 2020 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 2020 Bonds on DTC's records. The ownership interest of each actual purchaser of each 2020 Bond ("*Beneficial Owner*") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the 2020 Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in 2020 Bonds, except in the event that use of the book-entry system for the 2020 Bonds is discontinued.

To facilitate subsequent transfers, all 2020 Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of 2020 Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 2020 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such 2020 Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers. Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of 2020 Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the 2020 Bonds, such as redemptions, tenders, defaults, and proposed amendments to the bond documents. For example, Beneficial Owners of 2020 Bonds may wish to ascertain that the nominee holding the 2020 Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the registrar and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the 2020 Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed, unless other arrangements are made between DTC and the Corporation.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to 2020 Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Trustee as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts 2020 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

All payments on the 2020 Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the Corporation or the Trustee, on payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with 2020 Bonds held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Trustee, or the Corporation, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest and redemption proceeds to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Corporation or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the 2020 Bonds at any time by giving reasonable notice to the Corporation or the Trustee. Under such circumstances, in the event that a successor depository is not obtained, certificates are required to be printed and delivered.

The Corporation may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, certificates will be printed and delivered to DTC.

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APPENDIX J

FORMS OF BOND COUNSEL OPINIONS

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[*An opinion in substantially the following form will be delivered by McCall, Parkhurst & Horton L.L.P., Bond Counsel, upon the delivery of the Taxable Series 2020A Bonds, assuming no material changes in facts or law*.]

$220,415,000
GRAND PARKWAY TRANSPORTATION CORPORATION
GRAND PARKWAY SYSTEM
FIRST TIER TOLL REVENUE REFUNDING BONDS,
TAXABLE SERIES 2020A

AS BOND COUNSEL for the Grand Parkway Transportation Corporation (the "Corporation"), we have examined into the legality and validity of the issue of bonds described above (the "Bonds"), which bear interest from the dates and mature on the dates specified in the Bonds, all in accordance with the resolution of the Corporation authorizing the issuance of such Bonds adopted on December 19, 2019 (the "Authorizing Resolution"), the Trust Agreement dated as of August 1, 2013, as amended by the Supplemental Agreement Amendment No. 1 dated as of October 7, 2013, and the Sixth Supplemental Agreement dated as of May 1, 2018 (collectively, the "Master Trust Agreement"), between the Corporation and U.S. Bank National Association, as Trustee (the "Trustee"), the Eighth Supplemental Agreement dated as of February 1, 2020 between the Corporation and the Trustee (the "Eighth Supplemental Agreement") and the Pricing Officer's Award Certificate establishing the pricing terms of the Bonds. The Authorizing Resolution, the Master Trust Agreement, the Eighth Supplemental Agreement and the Pricing Officer's Award Certificate are collectively referenced as the "Trust Agreement." Capitalized terms used herein and not otherwise defined shall have the meaning given in the Trust Agreement.

WE HAVE EXAMINED the applicable and pertinent provisions of the Constitution and laws of the State of Texas, a transcript of certified proceedings of the Corporation, including the executed Trust Agreement and other pertinent instruments relating to the authorization, issuance, and delivery of the Bonds; and we have examined various certificates and documents executed by officers and officials of the Corporation upon which certificates and documents we rely as to certain matters stated below. We have also examined one of the executed Bonds which we found to be in proper form and duly executed.

BASED ON SAID EXAMINATION, IT IS OUR OPINION that the Corporation is a validly operating and existing corporation under Chapter 431, Texas Transportation Code, as amended ("Chapter 431"), and is authorized to issue the Bonds under Chapter 431, the Texas Business Organizations Code, including Chapter 22, as amended, Section 228.053, Texas Transportation Code, as amended, and Chapter 1371, Texas Government Code, as amended. It is further our opinion that (i) the Bonds have been duly authorized; (ii) all conditions precedent to the delivery of the Bonds have been fulfilled; and (iii) the Bonds have been duly issued and delivered, all in accordance with law. Except as the enforceability may be limited by sovereign immunity, bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws now or hereafter enacted relating to creditors' rights generally or by principles of equity which permit the exercise of judicial discretion, (i) the Bonds constitute valid and legally binding obligations of the Corporation which are secured as First Tier Obligations under the Trust Agreement and are payable as to principal and interest in accordance with the priorities established in the Trust Agreement solely from the sources provided therein, including the Revenues of the System; and (ii) the Trust Agreement is authorized by law, has been duly executed and delivered, and is valid and legally binding upon and enforceable by the parties thereto in accordance with its terms and provisions.

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THE CORPORATION has reserved the right, subject to the restrictions stated in the Trust Agreement, to issue Additional First Tier Obligations secured by the Trust Agreement on parity with the Bonds. Additionally, the Corporation has reserved the right, subject to the restrictions stated in the Trust Agreement, to issue obligations secured by the Trust Agreement as Second Tier Obligations as well as Subordinate Tier Obligations. The Corporation has also reserved the right to establish a priority of payment between the respective Series of Subordinate Tier Obligations. The Corporation also has reserved the right to amend the Trust Agreement in the manner provided therein and under some (but not all) circumstances amendments thereto must be approved by the Owners of a majority of all Outstanding Obligations secured by the Trust Agreement.

THE REGISTERED OWNERS of the Bonds shall never have the right to demand payment of the principal thereof or interest thereon out of any funds raised or to be raised by taxation or from any source whatsoever other than as described in the Trust Agreement.

WE EXPRESS NO OPINION as to any federal, state or local tax consequences of acquiring, carrying, owning or disposing of the Bonds. In particular, but not by way of limitation, we express no opinion with respect to the federal, state or local tax consequences arising from the enactment of any pending or future legislation.

THE FOREGOING OPINIONS represent our legal judgment based upon a review of existing legal authorities that we deem relevant to render such opinions and are not a guarantee of a result.

Respectfully,

[*An opinion in substantially the following form will be delivered by McCall, Parkhurst & Horton L.L.P., Bond Counsel, upon the delivery of the Taxable Series 2020B Bonds, assuming no material changes in facts or law*.]

$1,293,260,000
GRAND PARKWAY TRANSPORTATION CORPORATION
GRAND PARKWAY SYSTEM
SUBORDINATE TIER TOLL REVENUE REFUNDING BONDS,
TAXABLE SERIES 2020B
(TELA SUPPORTED)

AS BOND COUNSEL for the Grand Parkway Transportation Corporation (the "Corporation"), we have examined into the legality and validity of the issue of bonds described above (the "Bonds"), which bear interest from the dates and mature on the dates specified in the Bonds, all in accordance with the resolution of the Corporation authorizing the issuance of such Bonds adopted on December 19, 2019 (the "Authorizing Resolution"), the Trust Agreement dated as of August 1, 2013, as amended by the Supplemental Agreement Amendment No. 1 dated as of October 7, 2013, and the Sixth Supplemental Agreement dated as of May 1, 2018 (collectively, the "Master Trust Agreement"), between the Corporation and U.S. Bank National Association, as Trustee (the "Trustee"), the Eighth Supplemental Agreement dated as of February 1, 2020 between the Corporation and the Trustee (the "Eighth Supplemental Agreement") and the Pricing Officer's Award Certificate establishing the pricing terms of the Bonds. The Authorizing Resolution, the Master Trust Agreement, the Eighth Supplemental Agreement and the Pricing Officer's Award Certificate are collectively referenced as the "Trust Agreement." Capitalized terms used herein and not otherwise defined shall have the meaning given in the Trust Agreement.

WE HAVE EXAMINED the applicable and pertinent provisions of the Constitution and laws of the State of Texas, a transcript of certified proceedings of the Corporation, including the executed Trust Agreement and other pertinent instruments relating to the authorization, issuance, and delivery of the Bonds; and we have examined various certificates and documents executed by officers and officials of the Corporation upon which certificates and documents we rely as to certain matters stated below. We have also examined one of the executed Bonds which we found to be in proper form and duly executed.

BASED ON SAID EXAMINATION, IT IS OUR OPINION that the Corporation is a validly operating and existing corporation under Chapter 431, Texas Transportation Code, as amended ("Chapter 431"), and is authorized to issue the Bonds under Chapter 431, the Texas Business Organizations Code, including Chapter 22, as amended, Section 228.053, Texas Transportation Code, as amended, and Chapter 1371, Texas Government Code, as amended. It is further our opinion that (i) the Bonds have been duly authorized; (ii) all conditions precedent to the delivery of the Bonds have been fulfilled; and (iii) the Bonds have been duly issued and delivered, all in accordance with law. Except as the enforceability may be limited by sovereign immunity, bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws now or hereafter enacted relating to creditors' rights generally or by principles of equity which permit the exercise of judicial discretion, (i) the Bonds constitute valid and legally binding obligations of the Corporation which are secured as Subordinate Tier Obligations under the Trust Agreement and are payable as to principal and interest in accordance with the priorities established in the Trust Agreement solely from the sources provided therein, including the Revenues of the System, and constitute a senior Series of Subordinate Tier Obligations in terms of priority of payment among Subordinate Tier Obligations

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and (ii) the Trust Agreement is authorized by law, has been duly executed and delivered, and is valid and legally binding upon and enforceable by the parties thereto in accordance with its terms and provisions.

THE CORPORATION has reserved the right, subject to the restrictions stated in the Trust Agreement, to issue Additional Subordinate Tier Obligations secured by the Trust Agreement on parity with the Bonds. Additionally, the Corporation has reserved the right, subject to the restrictions stated in the Trust Agreement, to issue obligations secured by the Trust Agreement senior to the Subordinate Tier Obligations as well as junior and subordinate to the Subordinate Tier Obligations. The Corporation has also reserved the right to establish a priority of payment between the respective Series of Subordinate Tier Obligations. The Corporation also has reserved the right to amend the Trust Agreement in the manner provided therein and under some (but not all) circumstances amendments thereto must be approved by the Owners of a majority of all Outstanding Obligations secured by the Trust Agreement.

THE REGISTERED OWNERS of the Bonds shall never have the right to demand payment of the principal thereof or interest thereon out of any funds raised or to be raised by taxation or from any source whatsoever other than as described in the Trust Agreement.

WE EXPRESS NO OPINION as to any federal, state or local tax consequences of acquiring, carrying, owning or disposing of the Bonds. In particular, but not by way of limitation, we express no opinion with respect to the federal, state or local tax consequences arising from the enactment of any pending or future legislation.

THE FOREGOING OPINIONS represent our legal judgment based upon a review of existing legal authorities that we deem relevant to render such opinions and are not a guarantee of a result.

Respectfully,

[*An opinion in substantially the following form will be delivered by McCall, Parkhurst & Horton L.L.P., Bond Counsel, upon the delivery of the Series 2020C Bonds, assuming no material changes in facts or law*.]

$793,385,000
GRAND PARKWAY TRANSPORTATION CORPORATION
GRAND PARKWAY SYSTEM
FIRST TIER TOLL REVENUE REFUNDING BONDS,
SERIES 2020C

AS BOND COUNSEL for the Grand Parkway Transportation Corporation (the "Corporation"), we have examined into the legality and validity of the issue of bonds described above (the "Bonds"), which bear interest from the dates and mature on the dates specified in the Bonds, all in accordance with the resolution of the Corporation authorizing the issuance of such Bonds adopted on December 19, 2019 (the "Authorizing Resolution"), the Trust Agreement dated as of August 1, 2013, as amended by the Supplemental Agreement Amendment No. 1 dated as of October 7, 2013, and the Sixth Supplemental Agreement dated as of May 1, 2018 (collectively, the "Master Trust Agreement"), between the Corporation and U.S. Bank National Association, as Trustee (the "Trustee"), the Eighth Supplemental Agreement dated as of February 1, 2020 between the Corporation and the Trustee (the "Eighth Supplemental Agreement") and the Pricing Officer's Award Certificate establishing the pricing terms of the Bonds. The Authorizing Resolution, the Master Trust Agreement, the Eighth Supplemental Agreement and the Pricing Officer's Award Certificate are collectively referenced as the "Trust Agreement." Capitalized terms used herein and not otherwise defined shall have the meaning given in the Trust Agreement.

WE HAVE EXAMINED the applicable and pertinent provisions of the Constitution and laws of the State of Texas, a transcript of certified proceedings of the Corporation, including the executed Trust Agreement and other pertinent instruments relating to the authorization, issuance, and delivery of the Bonds; and we have examined various certificates and documents executed by officers and officials of the Corporation upon which certificates and documents we rely as to certain matters stated below. We have also examined one of the executed Bonds which we found to be in proper form and duly executed.

BASED ON SAID EXAMINATION, IT IS OUR OPINION that the Corporation is a validly operating and existing corporation under Chapter 431, Texas Transportation Code, as amended ("Chapter 431"), and is authorized to issue the Bonds under Chapter 431, the Texas Business Organizations Code, including Chapter 22, as amended, Section 228.053, Texas Transportation Code, as amended, and Chapter 1371, Texas Government Code, as amended. It is further our opinion that (i) the Bonds have been duly authorized; (ii) all conditions precedent to the delivery of the Bonds have been fulfilled; and (iii) the Bonds have been duly issued and delivered, all in accordance with law. Except as the enforceability may be limited by sovereign immunity, bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws now or hereafter enacted relating to creditors' rights generally or by principles of equity which permit the exercise of judicial discretion, (i) the Bonds constitute valid and legally binding obligations of the Corporation which are secured as First Tier Obligations under the Trust Agreement and are payable as to principal and interest in accordance with the priorities established in the Trust Agreement solely from the sources provided therein, including the Revenues of the System; and (ii) the Trust Agreement is authorized by law, has been duly executed and delivered, and is valid and legally binding upon and enforceable by the parties thereto in accordance with its terms and provisions.

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THE CORPORATION has reserved the right, subject to the restrictions stated in the Trust Agreement, to issue Additional First Tier Obligations secured by the Trust Agreement on parity with the Bonds. Additionally, the Corporation has reserved the right, subject to the restrictions stated in the Trust Agreement, to issue obligations secured by the Trust Agreement as Second Tier Obligations as well as Subordinate Tier Obligations. The Corporation has also reserved the right to establish a priority of payment between the respective Series of Subordinate Tier Obligations. The Corporation also has reserved the right to amend the Trust Agreement in the manner provided therein and under some (but not all) circumstances amendments thereto must be approved by the Owners of a majority of all Outstanding Obligations secured by the Trust Agreement.

THE REGISTERED OWNERS of the Bonds shall never have the right to demand payment of the principal thereof or interest thereon out of any funds raised or to be raised by taxation or from any source whatsoever other than as described in the Trust Agreement.

IT IS FURTHER OUR OPINION, that except as discussed below, under the statutes, regulations, published rulings, and court decisions existing on the date of this opinion, for federal income tax purposes, the interest on the Bonds (i) is excludable from the gross income of the owners thereof and (ii) the Bonds are not "specified private activity bonds" the interest on which would be included as an individual alternative minimum tax preference item under section 57(a)(5) of the Internal Revenue Code of 1986 (the "Code"). In expressing the aforementioned opinions, we have relied on the Verification report of Amtec Corp. and certain representations, the accuracy of which we have not independently verified, and assume compliance by the Corporation with certain representations and covenants regarding the use and investment of the proceeds of the Bonds and the use of the property financed therewith. We call your attention to the fact that if such representations are determined to be inaccurate or if the Corporation fails to comply with such covenants, interest on the Bonds may become includable in gross income retroactively to the date of issuance of the Bonds.

EXCEPT AS STATED ABOVE, we express no opinion as to any other federal, state or local tax consequences of acquiring, carrying, owning or disposing of the Bonds, including the amount, accrual or receipt of interest on, the Bonds. In particular, but not by way of limitation, we express no opinion with respect to the federal, state or local tax consequences arising from the enactment of any pending or future legislation. Owners of the Bonds should consult their tax advisors regarding the applicability of any collateral tax consequences of owning the Bonds.

OUR OPINIONS ARE BASED ON EXISTING LAW, which is subject to change. Such opinions are further based on our knowledge of facts as of the date hereof. We assume no duty to update or supplement our opinions to reflect any facts or circumstances that may thereafter come to our attention or to reflect any changes in any law that may thereafter occur or become effective. Moreover, our opinions are not a guarantee of result and are not binding on the Internal Revenue Service (the "Service"); rather, such opinions represent our legal judgment based upon our review of existing law and in reliance upon the representations and covenants referenced above that we deem relevant to such opinions. The Service has an ongoing audit program to determine compliance with rules that relate to whether interest on state or local obligations is includable in gross income for federal income tax purposes. No assurance can be given whether or not the Service will commence an audit of the Bonds. If an audit is commenced, in accordance with its current published procedures the Service is likely to treat the Corporation as the taxpayer. We observe that the Corporation has covenanted not to take any action, or omit to take any action within its control, that if taken or omitted, respectively, may result in the treatment of interest on the Bonds as includable in gross income for federal income tax purposes.

WE EXPRESS NO OPINION as to any insurance policies issued with respect to the payments due for the principal of and interest on the Bonds nor as to any such insurance policies issued in the future.

WE HAVE ACTED AS BOND COUNSEL for the Corporation for the purpose of rendering an opinion with respect to the legality and validity of the Bonds under the Constitution and laws of the State of Texas and with respect to the exclusion from gross income of the interest on the Bonds for federal income tax purposes. We have not been requested to investigate or verify, and have not investigated or verified, any records, data, or other material relating to the financial condition or capabilities of the Corporation and have not assumed any responsibility with respect thereto. We express no opinion and make no comment with respect to the marketability of the Bonds. Our role in connection with the Corporation's Official Statement prepared for use in connection with the Bonds has been limited as described therein.

THE FOREGOING OPINIONS represent our legal judgment based upon a review of existing legal authorities that we deem relevant to render such opinions and are not a guarantee of a result.

Respectfully,

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APPENDIX K

INVESTMENT AUTHORITY AND INVESTMENT PRACTICES OF THE CORPORATION

The Corporation invests its investable funds (e.g. funds held by the Trustee related to the Grand Parkway System) in investments in accordance with authorizing federal and State laws, bond documents and appropriate approved collateral provisions, subject to the investment policies approved by the Corporation. Both federal and State law and the Corporation's investment policies are subject to change.

The Corporation utilizes the following investments for the investment of Corporation funds: (i) direct obligations of, or obligations on which the timely payment of principal and interest are fully and unconditionally guaranteed by, the United States; (ii) bonds, debentures or notes issued by the Federal Home Loan Banks or the Government National Mortgage Association; (iii) obligations issued or guaranteed by a person controlled or supervised by and acting as an instrumentality of the United States pursuant to the authority granted by Congress; (iv) certificates of deposit or share certificates issued by a depository institution that has its main office or a branch in the State that is (1) guaranteed or insured by the Federal Deposit Insurance Corporation ("*FDIC*") or its successor, the National Credit Union Share Insurance Fund, or its successor, or (2) secured in accordance with the Corporation's Investment Policy; (v) certificates of deposit (not in excess of 80% of the total of each investment portfolio under the Investment Policy) that are (1) invested through a broker that has its main office or a branch office in the State and is selected from a list of approved broker/dealers that has been approved by the Corporation (however, the Corporation will appoint the depository institution for purposes of clause (v)(1) with respect to certificates of deposit issued for the account of the Corporation or a clearing broker/dealer registered with the United States Securities and Exchange Commission ("*SEC*") and operating pursuant to SEC Rule 15c3-3 (17 C.F.R. Section 240.15c3-3) to act as custodian for the Corporation), (2) invested by the Corporation through a depository institution or broker that has its main office or a branch office in the State and that is selected by the Corporation, (3) directed by a broker or depository institution selected by the Corporation under clause (v)(2) above that arranges for the deposit of the funds in the certificate of deposit in one or more federally insured depository institutions wherever located, for the account of the Corporation, and (4) insured by the United States or an instrumentality of the United States as to the full amount of principal and accrued interest of each of the certificates of deposit; (vi) fully collateralized repurchase agreements that (1) have a defined termination date, (2) are secured by a combination of cash and/or obligations described in clause (i) above, (3) requires the securities being purchased by the Corporation or cash held by the entity to be pledged to the Corporation, held in the Corporation's name and deposited at the time the investment is made with the Corporation or with a third party selected and approved by the Corporation, (4) are placed through a primary government securities dealer (as defined by the Federal Reserve) or a financial institution doing business in the State, and (5) collateralized in accordance with the Corporation's Investment Policy; (vii) no-load money market mutual funds that (1) invest solely in obligations of the United States, its agencies and instrumentalities, (2) are registered with and regulated by the SEC, (3) provide the Corporation with a prospectus and other information required by the Securities Exchange Act of 1934 or the Investment Company Act of 1940 (the "*Investment Company Act*") and complies with SEC Rule 2a-7 (17 C.F.R. Section 270.2a-7) promulgated under the Investment Company Act; (viii) investment pools described in Section 2256.016 of the Texas Government Code if (1) the investment pool maintains a rating no lower than "AAA" or "AAA-m" or at an equivalent rating of at least one nationally recognized rating service and such investment pool complies with certain reporting requirements imposed by the Corporation's Investment Policy, (2) the Corporation by official action authorizes investment in the particular pool, (3) the investment pool invests the funds it receives in authorized investments under Public Funds Investment Act, (4) the investment pool provides the investment officers, at minimum, with the required offering circular or other disclosures required by the Corporation's Investment Policy, and (5) for investment pools that uses amortized cost or fair value accounting, such investment pool (a) must mark its portfolio to market daily and (b) stabilize at $1.00 net asset value (to the extent reasonably possible) when rounded and expressed to two decimal places subject to additional requirements described in the Corporation's Investment Policy; (ix) guaranteed investment contracts that (1) have a defined termination date, (2) are secured by obligations described in clause (i) above in an amount at least equal to the amount of bond proceeds invested under the guaranteed investment contract, (3) are pledged to the Corporation and deposited with the Corporation or with a third party selected an approved by the Corporation, (4) are with a financial institution whose senior long-term debt obligations are rated, or guaranteed by a financial institution whose senior long-term debt obligations are rated, at the time such guaranteed investment contract or agreement is entered into, in one of the two highest rating categories for comparable types of obligations by any nationally recognized rating agency, and (5) the conditions precedent to the entering into a guaranteed investment contract required by the Corporation's Investment Policy are satisfied.

Bond proceeds may be invested in accordance with the provisions of the applicable bond documents. To the extent of any inconsistency between the provisions of the Investment Policy and such bond documents, the investment terms contained in the bond documents shall control. However, no such investment of bond proceeds shall be made in the non-authorized investments described in the paragraph below.

The Corporation is specifically prohibited from investing in: (i) obligations whose payment represents the coupon payments on the outstanding principal balance of the underlying mortgage-backed security collateral and pays no principal (interest only bonds); (ii) obligations whose payment represents the principal stream of cash flow from the underlying mortgage-backed security collateral and bears no interest (principal only bonds); (iii) collateralized mortgage obligations that have a stated final maturity date of greater than ten (10) years; (iv) collateralized mortgage obligations the interest rate of which is determined by an index that adjusts opposite to the changes in a market index (inverse floaters); (v) investments of any type which are denominated in a foreign currency; (vi) long term investment agreements or other non-DVP investment transactions with a final maturity or termination date of longer than six months with any financial institution or broker/dealer that initially has a long-term rating category of less than “A” and that does not have at least one long-term rating of at least “AA” by a nationally recognized investment rating firm; (vii) reverse security repurchase agreements in excess of 90 days after the date the reverse security repurchase agreement is delivered or authorized; (viii) authorized investments acquired with money received under the terms of a reverse security repurchase agreement for a term longer than the term stated in the reverse security repurchase agreement; and (ix) investments in guaranteed investment contracts with bond proceeds (other than bond proceeds representing reserves and funds maintained for debt service purposes) that have a term longer than five (5) years from the date of the bonds.

Under State law, the Corporation is required to invest its funds under written investment policies that primarily emphasize safety of principal and liquidity; that address investment diversification, yield, maturity, and the quality and capability of investment management; and that include a list of authorized investments for Corporation funds, the maximum allowable stated maturity of any individual investment, and the maximum average dollar-weighted maturity allowed for pooled fund groups. All Corporation funds must be invested consistent with a formally adopted “Investment Strategy” that specifically addresses each fund's investment. Each Investment Strategy will describe its objectives concerning: (i) suitability of the investment to the financial requirements of the Corporation, (ii) preservation and safety of principal, (iii) liquidity, (iv) marketability of each investment if the need arises to liquidate prior to maturity, (v) diversification of the portfolio, and (vi) yield.

Under State law, the Corporation’s investments must be made “with judgment and care, under prevailing circumstances, that a person of prudence, discretion, and intelligence would exercise in the management of the person’s own affairs, not for speculation, but for investment considering the probable safety of capital and the probable income to be derived.” At least quarterly, the Corporation’s investment officers must submit an investment report to the Corporation including: (i) the book value and market value for each investment at the beginning and end of the reporting period; (ii) if the funds are pooled and invested, a summary statement, prepared in accordance with generally accepted accounting principles, presenting the beginning market value of the pool portfolio, changes in market value during the reporting periods, the ending market value of the portfolio, and fully accrued interest for the reporting period; (iii) the maturity date of each investment, if applicable; (iv) a statement of intent if some or all securities are intended to be held to maturity; (v) any variations from the investment strategy of the Corporation; (vi) recommended amendments to current specific investment strategies; and (vii) an analysis of current market conditions.

Under State law, the Corporation is additionally required to: (i) annually review its adopted policies and strategies, (ii) adopt a rule, order, ordinance or resolution stating that it has reviewed its investment policy and investment strategies and record any changes made to either its investment policy or investment strategy in the respective rule, order, ordinance or resolution, (iii) require any investment officers with personal business relationships or relatives with firms seeking to sell securities to the Corporation to disclose the relationship and file a statement with the Texas Ethics Commission and the Corporation; (iv) require the qualified representative of firms offering to engage in an investment transaction with the Corporation to: (a) receive and review the Corporation’s investment policy, (b) acknowledge that reasonable controls and procedures have been implemented to preclude investment transactions conducted between the Corporation and the business organization that are not authorized by the Corporation's investment policy (except to the extent that this authorization is dependent on an analysis of the makeup of the Corporation’s entire portfolio or requires an interpretation of subjective investment standards), and (c) deliver a written statement in a form acceptable to the Corporation and the business organization attesting to these requirements; (v) perform a biennial audit of the management controls on investments and adherence to the Corporation’s investment policy; (vi) provide specific investment training for each member of the Board and the investment officers of the Corporation; (vii) require local government investment pools to conform to the disclosure, rating, net asset value, yield calculation, and advisory board requirements; and (viii) at least annually review, revise, and adopt a list of qualified brokers that are authorized to engage in investment transactions with the Corporation.

See the definition of “Permitted Investments” and related provisions in the 2014 TIFIA Loan Agreement and the 2019 TIFIA Loan Agreement regarding additional limitations with respect to the investment of certain funds of the Corporation. See “2014 TIFIA LOAN AGREEMENT” and “2019 TIFIA LOAN AGREEMENT.” As described in “PLAN OF FINANCE – General,” a portion of the proceeds of the 2020 First Tier Bonds will be used to prepay the 2014 TIFIA Note in full.

GRAND PARKWAY TRANSPORTATION CORPORATION • Grand Parkway System First Tier Toll Revenue Refunding Bonds, Taxable Series 2020A, Grand Parkway System Subordinate Tier Toll Revenue Refunding Bonds, Taxable Series 2020B (TELA Supported) and Grand Parkway System First Tier Toll Revenue Refunding Bonds, Series 2020C

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