DRAFT EIS COMMENTS

Public Meeting Comments (Comment Forms)

COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Aiza Garcia-Berno
Address (Dirección) [redacted]
Telephone (Teléfono)_____

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓ **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) ✓ **Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ✓ **No** (No) ___ **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): We Really Do not need more Traffic/Smog/Pollution on this city
We need pasajeroive/Mass transportation – We are the 4th largest City – We need to come up to Tirdes – Utilize our Railroads as Buses (monorailes)
* Highways that were Widened are already congested – How Many lanes can be squeezed on a highway.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
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Email: HOU-PIOWebMail@txdot.gov

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Greer Goodloe c/o Transwestern
Address (Dirección) [redacted]
Telephone (Teléfono [redacted]

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__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ✓**Undecided** (Indeciso)

COMMENTS (COMMENTARIOS): I represent the owner, St. Paul Fire & Marine Insurance Co. of 4645 Airline Drive. This building is currently in the proposed right-of-way expansion at I45 and Airline. We need more information on how the building will be affected and timing of this project. All of the fire equipment comes into the building on this side and will greatly affect all tenants and operations. Other major building

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Systems may be affected as well depending upon the square footage required to complete this project. Removing a portion or all of the building will also result in a loss of income, among other issues, for the current owner. Lease renewals, new leases, etc. will be affected as well.

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Sylvia Kovacs
Address (Dirección) [redacted]
Telephone (Teléfono)_____

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓ **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓ **Other** (Please explain) (Otro [Favor de explicar]) News

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) ✓ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Do not Need more freeways. We Need Better public transportation; More rails, etc. where people can leave vehicles at home or close to home. Houston has crappy public transportation. Use existing railroads, have metro rail go further in its transportation.

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Monte Large
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial)
X **Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Greater Northside Management District

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) X **No** (No) ___ **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): I strongly do not support the relocation to the north of I-10 between I-45 and US59 and the addition of freeways to stack several on top of each other creating a super freeway as tall as 60' in some areas. In 2017, it is a shame that we are adding freeways through the middle of our city through our residential neighborhood. If the Near Northside were wealthier or more white, I have no doubt the design would be much different - perhaps similar to the plan for the Pierce Elevated. Please reconsider and treat the Near Northside equally. Thank you.

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Jon R Lowe
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
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__**Newspaper** (Periódico) _V_**Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) _V_**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): I am worried Tex DOT will take my union building
I. A. T. S. E. Local 51

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) PAUL LUCCIA
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

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X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

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__**Newspaper** (Periódico) X **Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) X **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): GREAT WORK!

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Kathleen O'Reilly
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

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✓ **Other (Please explain)** (Otro [Favor de explicar]) Museum Park Super Neighborhood

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How did you learn about this hearing? (¿Como se enteró de esta reunión?) Public notice

__**Newspaper** (Periódico) ✓ **Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ✓ **Yes** (Sí) __ **No** (No) __ **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): * We so appreciate the cap feature from Fannin – Cardiff → La Branch
We would greatly appreciate the left hand turn lanes @ Carolina and Wheeler not be added. It doesn't appear that the traffic volumes warrant this: it will require removing esplanade segments N & S of Wheeler. We really want to keep the esplanades intact for green space. Thank you for your hard work!

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre)__Brian Ray
Address (Dirección)__[redacted]
Telephone (Teléfono)__[redacted]

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X **Other** (Please explain) (Otro [Favor de explicar]) __website

Do you support the proposed project? (¿Apoya el proyecto propuesto?) X **Yes** (Sí) __ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): why are there toll lanes being added to the freeway for bus service when there is already a tolled alternative (Hardy toll rd) in place that is clear of traffic? I don't want to have to pay extra to drive on 45. I can't afford $300 plus per month in tolls to avoid traffic for work. Why are no general purpose lanes being added? The current four general purpose lanes

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are already at full capacity. I think we need to add more general purpose lanes capacity for those who can't afford tolls. If you look at the Katy freeway, the areas with only 4 General purpose lanes are always gridlocked. The areas of the Katy freeway with 5 plus lanes always flow better.

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre)__~~NELLY QUIJANO~~ Luis Acevedo
Address (Dirección)_[redacted]
Telephone (Teléfono)_[redacted]

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__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Traveling South ~~on~~ I-45 the exit on W. CAVALCADE ST must Read (W CAVALCADE ST / N. Main ST.) Need more exits.

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Merriann Bidwood
Address (Dirección) [redacted]
Telephone (Teléfono)_____

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__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Social media/Facebook

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) X **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Personally I think the proposed project only benefits people that live outside of the Loop. The disregard and blatant segregation of residents on the East side of downtown is offensive! This is another wall to keep people out! all of our local connector streets, such as Runnels, keep getting closed off in the name of progress without a second thought for the people that live nearby.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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Director of Project Development
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P.O. Box 1386
Houston, Texas 77251-1386
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COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Scott Carpenter
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial) ✓ **Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

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How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) ✓ **Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ✓ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): The money devoted to this project should be diverted to a subway, train or similar mass transit program.

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) AMY DINN
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)
X **Other (Please explain)** (Otro [Favor de explicar]) Environmental Justice Attorney

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

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__**Newspaper** (Periódico) X **Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Facebook

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) X **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): There seems to be insufficient replacement for current downtown destinations exit off I-45S (Pease / St. Joseph Parkway). These exits are now combined & stay with I-45 main lanes which are completely congested. Travel times increase greatly if you have to stay in the main lanes only.

Where is the environmental justice analysis? Is there anything

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→ in writing that analyzes displacement or makes allowances for comparable affordable housing in the same general area for these populations?

→ Why is the I-45S approach not video modeled from Scott Street into Downtown? There are significant changes happening here that are not being adequately communicated to the affected communities.

- I like the open space development on East Side of Downtown as long as it does not interfere with existing light rail lanes. The sketches do not show how green line is integrated into these plans. I depend on green line to commute to downtown.

- Why aren't civic clubs included as part of your stakeholders? Have you reached out to impacted Super Neighborhoods?

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Christopher Smulsen
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓ **Residential property owner or renter** (Propietario o inquilino residencial)
__**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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✓ **Other** (Please explain) (Otro [Favor de explicar]) Next door

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Very happy with current plans
I would like to see only 2 lanes @ Caroline & Wheeler
a 3rd left lane isn't needed

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Candelaria R. Hernandez
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

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__**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ✓ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): As a homeowner TxDot will be taking our 10 park spots and Garbage including our only Entrance way to our Condos. I feel we are impact if this project is pass. The ~~not~~ traffic construction and Speed of others will Damage all resudent (27). As a Realtor of Paralage the Value will depreciate every 27 Resident. There will be Attorney for our Small Community

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Jacqueline Hurgoiv
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

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__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) X **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): We are very concerned w/ the proposed plans. DOT is taking our only entrance to our complex and taking residential spots who have purchased these spots w/ their condo. They are also affecting our only garbage area, with no solution of where to put it. The residents are concerned for their safety as there will be no parking on the street now and the on/off ramps will be right against our only entrance. As a complex we will be losing value →

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parking, garbage access, and safety. We would rather negotiate a whole buy out than destroying our property values and parking. If these plans continue we will have no choice but to sue due to massive effects on our complex's value, safety, and parking.

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Laura Manion
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial)
__**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Internet

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Please Keep access from Downtown to the East End, otherwise the segment 3 will separate the East side worse than the Pierce currently does for midtown. Please keep local traffic + commuters in mind. Please keep Leeland or Polk a through street into downtown.

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Yuhayna McCoy
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
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✓**Other (Please explain)** (Otro [Favor de explicar]) Work for METRO

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

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✓**Other** (Please explain) (Otro [Favor de explicar]) Work

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): (1) The elevations show a 15' lane shared between vehicles and bicycles. This creates a safety concern for bicyclists given the speeds on the frontage road. As a bicyclist I would prefer a narrower, but dedicated bike lane - there is no need for a 15' wide dedicated bike lane. If it is not shared, it could be 10'. (2) Halls Bayou is one of the bayous ~~that~~ where the Bayou Greenways project is planned to construct 10' trails. Space and sufficient clearance and flat surface is needed under this segment of I-45 to allow for future construction for 10' trails.

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- 15' Shared frontage bike facility – safety concern.
- Halls Bayou Trail – Bayou Greenways – allow space for trail to go under.

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) BARBARA & PATRICK MCGUFFEY
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

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How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) MUSEUM PARK NEIGHBORHOOD ASSN.

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ✓ **Yes** (Sí) __ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): IN OUR NEIGHBORHOOD OF MUSEUM PARK, I WOULD LIKE THE ESPLANADES ON THE CAP OVER CAROLINE & WHEELER N & S NOT TO BE NARROWED FOR LEFT TURN LANES. TRAFFIC VOLUMES DO NOT WARRANT NEED FOR LEFT TURN LANES ON A 4 LANE STREET. THE ~~ESPLAN~~ ESPLANADES NEED TO BE ~~RE~~ KEPT @ THE SAME WIDTH IN KEEPING WITH OUR LIVABLE CENTER STUDY FOR GREEN SPACE & PEDESTRIAN COMFORT.

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Thomas McWhorter
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
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__**Other (Please explain)** (Otro [Favor de explicar]) _____

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How did you learn about this hearing? (¿Como se enteró de esta reunión?)

X **Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) X **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): The project, while thoughtfully planned in some ways, will destroy several historic buildings in its path, which could be ellgible for listing on the National Register of Historic Places. Additionally, the project destroys an entire swath of new restaurants + places of entertainment, which have, after many years of economic downturn in the project area, developed into a vibrant entertainment district. Chenevert, St Emanuel area

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

Version 2

COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Jacob Nolan
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial)
X **Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Online notice

Do you support the proposed project? (¿Apoya el proyecto propuesto?) X **Yes** (Sí) __ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Please add an elevated bridge crossing in Segment 3 to connect Canal Street in the East End, with Ruiz Street in downtown. Currently the last crossing is at Commerce Street, however Commerce St. is an inferior collector to Canal St, which is a major collector (5+ miles) for the greater East End, ~~that~~ and would afford better access to the new on/off ramps for the 5th ward, 2nd ward, East End, and all neighborhoods there in.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Romero Peña
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
☑ **Residential property owner or renter** (Propietario o inquilino residencial)
__**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
☒ **Other** (Please explain) (Otro [Favor de explicar]) my children are interested in this project

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ☒ **Yes** (Sí) __ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): All of the roads that are street level or under the overpasses that have a tendency to flood.

How will we be guaranteed that flooding will not be a problem? What remedial methods will be in place

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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I have seen those problems in my native city of Monterrey, Mx.

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Nelly Quiñano (McDonald's franchisee)
Address (Dirección) [redacted]
Telephone (Teléfono [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial) √ **Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) √ **Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___ **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Traveling South on I-45, the exit on Cavalcade must read (Cavalcade/N. Main)
NOT ENOUGH EXITS on Freeways, Not conducive for businesses in the area.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Edgar A. Smith Jr
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

X**Other (Please explain)** (Otro [Favor de explicar]) Commuter

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X**Other** (Please explain) (Otro [Favor de explicar]) website

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) X **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): I am glad that more lanes have been added to I-45 as it goes around downtown. I am concerned about the possible removal of the Pierce Elevated. It provides northbound access to Memorial Drive, Houston Avenue, and Allen Parkway. Also, with the city's population growing, I think removal of any capacity or access is short sighted and a mistake.
Perhaps the Pierce Elevated section could remain as tolled →

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access lanes. This could provide continued revenue in the long term, unlike selling the right-of-way.

Thanks.

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KL: CSJ No. 0912-00-146

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9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Keagan Vidal
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial)
X **Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) TxDOT email

Do you support the proposed project? (¿Apoya el proyecto propuesto?) X **Yes** (Sí) __ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): I have property in Segment 1. When can I reasonable expect ROW acquisition to begin? Will TxDOT consider voluntary acquisition or early acquisition?

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May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre)__Felix Wang_____
Address (Dirección)_[redacted]_____
Telephone (Teléfono[redacted]_____

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓**Residential property owner or renter** (Propietario o inquilino residencial) ✓**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) ✓**Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ✓ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): _____

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COMMENT FORM
(FORMA DE COMENTARIOS)

North Houston Highway Improvement Project – Additional Opportunity for Review and Comment
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Proyecto de Mejoras de la sistema de carreteras de Norte Houston – Oportunidad Adicional para Revisión y Comentario
Desde la US 59/I-69 y Spur 527 hasta la I-45 y Beltway 8 Norte
KL: CSJ No. 0912-00-146

May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Laura Bard
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Email + Neighbor

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) X **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Would favor public rail for expansion before increase in car traffic. Like current pattern at our house much better than last pass. Please put sound walls @ Alma. Noise is so loud already and elevation of road is rising with respect to current so it would increase volume. Also would sound walls deflect any particulate matter pollution? Thank you!!

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) EBONY RASSET
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) NEXTDOOR WEBSITE

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) X **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): WITH THE ADDITION OF THIS NEW HIGHWAY CONSTRUCTION / BUILD IT WILL VERY MUCH NEGATIVELY AFFECT ACCESS TO MY HOME.
I USE EXIT 770 B EVERYDAY, AS WELL AS TAKING SAN JACINTO TO I-10., BOTH PEASE & JEFFERSON TO GAIN ACCESS TO I-45.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)
THIS WILL NEGATIVELY IMPACT THE EADO NEIGHBORHOOD

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KL: CSJ No. 0912-00-146

May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Adam Brackman
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial)
__**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) X **Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) X **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Why not depress the northern portion of downtown freeways the way that the east (between GRB and EaDo), south (Pierce Elevated removal), and west (over Buffalo Bayou)? Lower the freeways below grade and add possible cap on top. It is ludicrous to add such a tall above-ground freeway in an historic neighborhood that will adversely affect the Near Northside. This is modern day racism. No doubt plans would be different if the Near Northside were whiter and wealthier. Shame on TXDOT.

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Director of Project Development
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P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

COMMENT FORM
(FORMA DE COMENTARIOS)

North Houston Highway Improvement Project – Additional Opportunity for Review and Comment
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Proyecto de Mejoras de la sistema de carreteras de Norte Houston – Oportunidad Adicional para Revisión y Comentario
Desde la US 59/I-69 y Spur 527 hasta la I-45 y Beltway 8 Norte
KL: CSJ No. 0912-00-146

May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Matt Broussard
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) email

Do you support the proposed project? (¿Apoya el proyecto propuesto?) X **Yes** (Sí) __ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Please post the additional cost of adding structural cap to the sections with potential for parkland in sections 2 and 3. Residents would be more likely to be interested in raising money for landscaping. Cement structural caps would be a harder sell to raise locally. What is the cost of structural caps?
Also, what changes are being made to Spur 529 if any?

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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15 de mayo de 2017

✓ **I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición): DCT. 543

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) CARLOS de HOYOS
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

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✓ **Residential property owner or renter** (Propietario o inquilino residencial)
✓ **Business property owner or lessee** (Propietario o inquilino del negocio)

__ **Other (Please explain)** (Otro [Favor de explicar]) _____

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__ **Newspaper** (Periódico) __ **Notice in the Mail** (Aviso por Correo)
✓ **Other** (Please explain) (Otro [Favor de explicar]) E-MAIL FROM STATE REP. JESSICA FERRER

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) X **No** (No) __ **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): (AGAINST) CLOSURE OF FRUINSTON ON RAMP & OFF RAMP.
- NEIGHBORHOODS OF LINDALE PARK, NORTHLINDE & MAL ROSE WILL BE CHOCKED & FORCED EXITS (GOING NORTH ON 45) CALUDCADE & CROSSTIMBERS - ALREADY HIGH TRAFFIC AREAS & METRO RAIL
- FULTON STREET & METRO RAIL UNDER 610 IS HEAVILY TRAVELED NOW NOT TRAFFIC FRIENDLY NOW. - (SEE BACK)

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Version 2

- Those Businesses & Homeowners currently exiting Irvington would have to exit Cavalcade (North) & taking off ramp prior to Fulton & metro bottle neck and horrid traffic -

- Closure of Irvington ~~St~~ Blvd. off ramp would force not only residents of mentioned neighborhoods but businesses to travel through neighborhoods & sidetracks

- Large trucking company (Southeastern Freight) would have to travel through mentioned neighborhoods (residential)

- Off ramps or on ~~[illegible]~~ ramps which include Fulton St. would be detrimental to residential neighborhoods & businesses.

- Repeat — ~~[illegible]~~ any traffic deviated toward Fulton & 610 will be the death of neighborhoods & businesses

(— Keep Irvington off ramps & on ramps)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) VIRGINIA DUKE
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

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✓ **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) I-45 COALITION EMAIL

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ✓ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): NEED TO KEEP EXISTING IRVINGTON BLVD EXIT & ENTRY RAMPS. NEED RAMPS OVER METRO RAIL AT FULTON CROSSINGS.
HOW WILL OVERFLOW OF DETENTION PONDS EFFECT CURRENT STREETS AND NEIGHBORHOODS?
BUILD "URBAN SPACE" DURING CONSTRUCTION (ie "CAP") IN ~~SECTION~~ SEGMENT 2
IF REMOVING NORTH ST. OVERPASS – CONNECT NEIGHBORHOODS

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)
TO AVOID CONSTRUCTION DELAYS LATER

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) JASON GARCIA
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

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__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) NEXT DOOR

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) X **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): KEEP JENSON/MEADOW/GREGY OPEN, AND/OR build over RAILROAD TRACKS ON MCKEE/NANCE. WE NEED to consider all the Residential Development & the MIDWAY property that is supposed to be the NEXT town & country PLAZA. This will increase traffic & we can't be caught by trains or close another exit. I'D rather make Houston more WALKABLE; that will take cars off road. Invest in Expanding metro Rail out to Suburbs..

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Version 2 Build metro RAIL ON top OF HOV LANES. to PARK N RIDE.

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Jan Handfelt
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

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✓**Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓**Other** (Please explain) (Otro [Favor de explicar]) TxDOT website

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ✓**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Please include MetroRail into the design or at least the option to ~~increase rail~~ extend rail along I-45. Not doing so would be a major missed opportunity

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Mary Hausler
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

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__**Newspaper** (Periódico) ✓ __**Notice in the Mail** (Aviso por Correo) email
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): concerned about the noise... its already to loud. Please put up a sound wall to help with the noise and pollution. plus it would be really nice if you did it before construction.

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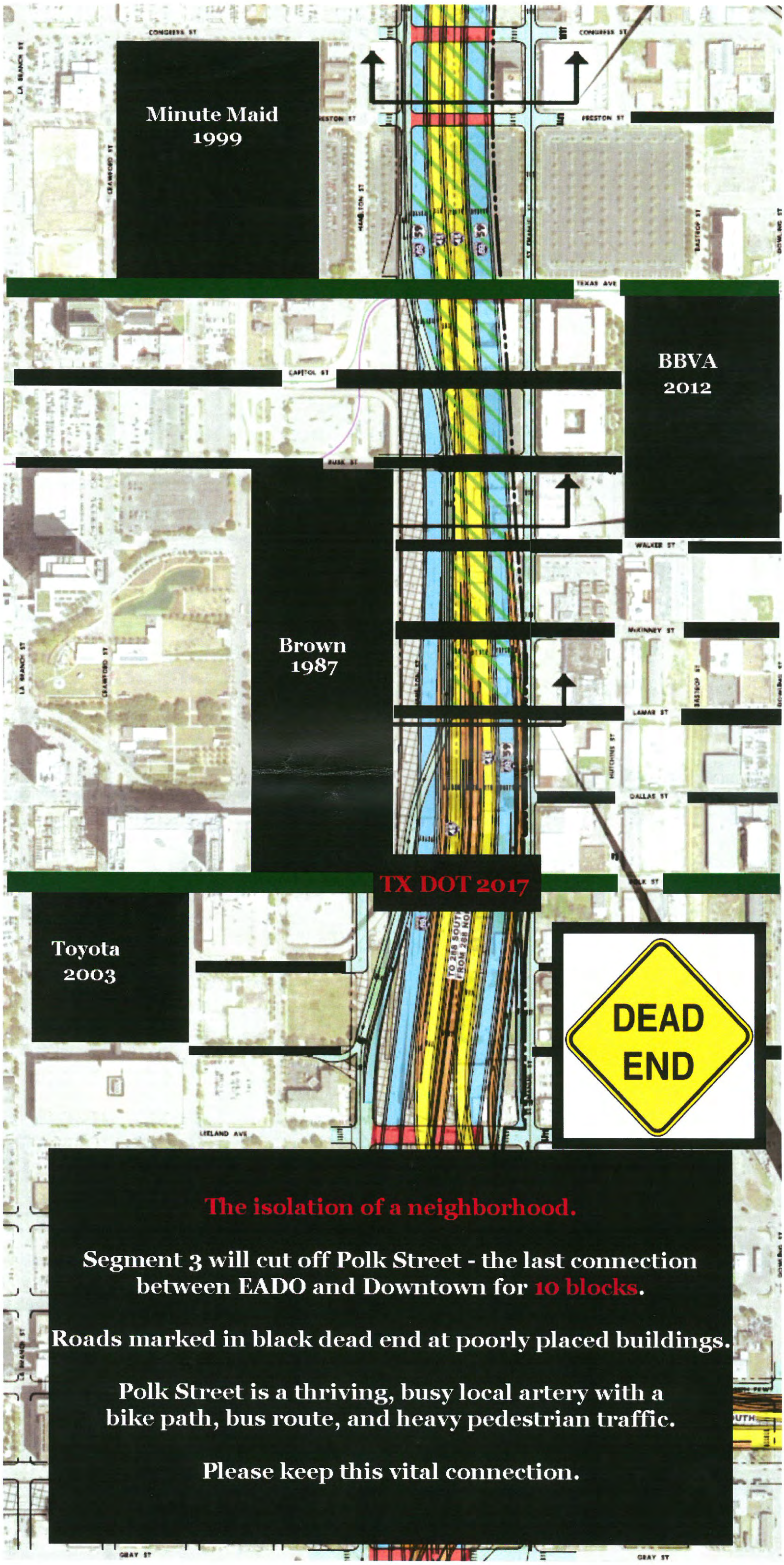

Seth Hopkins

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) ANNE LE
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
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✓**Other** (Please explain) (Otro [Favor de explicar]) WORD OF MOUTH FROM FRIEND

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) ✓ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): TOUT SUITE / THE ANNEX HTX HAS WORKED SO HARD TO CONTRIBUTE TO THE CITY & BUILD UP NOT ONLY EAST DOWNTOWN, BUT TO THE ENTIRE MINUTE MAID DISTRICT, BBVA, GEORGE R BROWN, TOYOTA CENTER VISITORS AS WELL AS ALL OF DOWNTOWN. OUR BUILDING HAS SO MUCH HISTORY & HAS SERVED THE POSITIVE GROWTH OF EADO'S RESIDENTIAL & BUSINESS COMMUNITY. PLEASE CONSIDER & EXPLORE OTHER OPTIONS.

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Laura Marion
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

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X**Other** (Please explain) (Otro [Favor de explicar]) website

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) X**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Please improve access from east end to downtown + allen parkway / memorial area. We are losing too many Through ways

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Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Laura Manion
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) website

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Please keep Pierce elevated to serve local traffic from the East / Southeast to the West & vice versa. East & south residents need better access to Allen Parkway / Memorial than in this current proposal

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

COMMENT FORM
(FORMA DE COMENTARIOS)

North Houston Highway Improvement Project – Additional Opportunity for Review and Comment
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Proyecto de Mejoras de la sistema de carreteras de Norte Houston – Oportunidad Adicional para Revisión y Comentario
Desde la US 59/I-69 y Spur 527 hasta la I-45 y Beltway 8 Norte
KL: CSJ No. 0912-00-146

May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) SANDRA MARTINEZ
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓ **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
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How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓ **Other** (Please explain) (Otro [Favor de explicar]) NEIGHBORHOOD ASSOCIATION

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ✓ **Yes** (Sí) __ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): ADD AS MUCH GREEN SPACE AND PARKLAND ASAP AROUND THE AFFECTED AREAS. ADDING MORE USABLE SPACE FOR PARKS WOULD MAKE NEIGHBORS MORE AVAILABE TO SUPPORT YOUR PROJECT.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Isaac Muniz
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓ **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓ **Other** (Please explain) (Otro [Favor de explicar]) Next Door

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ✓ **Yes** (Sí) __ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): I would like for the Jensen exit to be further studied. Currently we can access Jensen through Jensen exit without encountering railroad tracks. Per design, exit would be pushed further west and an at grade railcrossing would be encountered which would make access to our neighborhood miserable. Can below grade crossing be accomplished? Also, heading westbound, will at grade crossings be designed to pump > 2 yr event, < 100 yr event. Existing underpass usually floods, with removal of Monee at grade crossing only one alternate would remain which is through Lyons, and area would bottleneck. Please advise on design of storm sewer in this area.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Luther Jerkins
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Neighbor APP

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ✓ **Yes** (Sí) __ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): We need more Exits and Entry way for our Subdivisions. We have to go thru some bad areas to get to our houses with this project. We need a direct exit to get Clinton St or of Jensen.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) PATRICK PETERS
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓ **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)
✓ **Other (Please explain)** (Otro [Favor de explicar]) MASTER PLANNER FOR UHD

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) EMAIL

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___ **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): I AGREE WITH COUNCILMEMBER CISNEROS THAT THE MAX LINE SHOULD BE DESIGNED FOR FUTURE INTEGRATION OF METRORAIL AND A BETTER INTEGRATION OF SAFER BICYCLE LANES.

I AM VERY ANXIOUS TO SEE HOW THIS TRAFFIC IMPROVEMENT PROJECT CAN BE THE CATALYST TO ENHANCED PARKSPACE AT UHD'S BAYOU FRONTAGE!

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) REID RUPLE
Address (Dirección) [redacted]
Telephone (Teléfono)_____

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓ **Residential property owner or renter** (Propietario o inquilino residencial) ✓ **Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar])_____

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How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) INTERNET Notice

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) __ **No** (No) X **Undecided** (Indeciso)
LEANING TOWARD NO

COMMENTS (COMENTARIOS): Seems like a huge waste of money to add toll lanes. Where are the added free lanes? TXDOT already has right of way for Pierce elevated. Double deck that & double capacity without buying so much additional land.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) David Shotwell
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Neighborhood Group

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Need to maintain or add exits for all areas and also plan how much traffic will use Ramps and how all traffic in neighborhoods will get to Ramps and traffic will be handled

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) ESMAR SULLIVAN
Address (Dirección) [redacted]
Telephone (Teléfono)_____

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar])_____

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__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar])_____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___ **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Please lower the proposed freeways between I-45 and US59 on the north side of downtown (I-10 and 45). The noise and pollution will adversely affect the Near Northside. You are moving the freeway, which is already loud, closer to my house. At the very least, install sound and odor mitigating elements.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) SANDY TRAN
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial) ✓ **Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) ✓ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS):
WE ARE ON THE EDGE OF THE EXPANSION NEAR EADO IS ALL FOUR OF MY BUSINESSES. at 2001 COMMERCE ST. ADDING OVER 2.5 MILLION DOLLARS OF IMPROVEMENTS IN THE LAST 3 YEARS DEDICATED TO BRING PEOPLE TOGETHER THROUGH FOOD & VENUE & CO-SHARED WORKSPACE. MY PARTNER & I ARE NATIVE HOUSTONIANS & HAVE WORKED HARD TO MAKE THESE PROJECTS COME TO LIFE. THIS PROJECT WILL DEVASTATE OUR NEIGHBORHOOD & OUR LOYAL CUSTOMERS WHO TRAVEL FAR TO DINE W/ US.

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15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) ANDREA VALENZUELA
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial)
__**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) NEXTDOOR

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): LOOSING 3 access points is unacceptable especially given the growth in the area. I haven't heard or seen plans how metro/bike/parking are going to be taken into account or added to our neighborhood. Haven't heard anything about improving our area or way of life locally only for those who come into the city.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

This comment form may be turned in tonight, mailed, or emailed by June 27, 2017 to the address below:
(Esta formulario de comentarios puede ser entregado esta noche, por correo, o por correo electrónico a más tardar el 27 de junio de 2017 a la siguiente dirección:)

Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

COMMENT FORM
(FORMA DE COMENTARIOS)

North Houston Highway Improvement Project – Additional Opportunity for Review and Comment
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Proyecto de Mejoras de la sistema de carreteras de Norte Houston – Oportunidad Adicional para Revisión y Comentario
Desde la US 59/I-69 y Spur 527 hasta la I-45 y Beltway 8 Norte
KL: CSJ No. 0912-00-146

May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Theo Varagas
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)
✓**Other (Please explain)** (Otro [Favor de explicar]) General Manager at Toutsuite

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓**Other** (Please explain) (Otro [Favor de explicar]) Word of Mouth

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) ✓ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): As the Gill of a thriving local business I've truly been amazed on how much EaDo has truly flourish from other business and our own. This projected project will take away the heart of our community and will put EaDo at a disadvantage and will take away a sense of community, we've all worked so hard to build

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Kevin YaKubaitis
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)
__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

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__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about tonight? (¿Como se enteró de esta noche?)
__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Robert Meaney

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) X **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): The Segment 3 proposal is not favorable to residence who, like myself, need quick access onto I-10 + 45 + 69. I live in Lower 5th ward. The Jensen-Meadow-Gregg exit is a direct exit ramp into my community. This exit is being deleted. We NEED these exit, entrance ramps. This entire project is only favorable to ~~those~~ those people commuting out side the City, paying taxes Outside Houston! Please re-evaluate the local residence + local redevelopment, 5th ward, East Downtown, we are shut out.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre)_____
Address (Dirección)_____
Telephone (Teléfono)_____

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓**Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓**Other** (Please explain) (Otro [Favor de explicar]) Social Media

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Major Concern How Light Rail Will Be Impacted, Especially @ A Major Transit Center - Wheeler Station - Where Metro Passengers Transfer To/From Light Rail To Connecting Bus Routes. Many City Service Workers Use This Transit Center To Reach Places of Employment To Downtown Houston & The Texas Medical Center. They Do Not Have Alternative Modes of Transportation @ Their Disposal & Are Traditionally Faced With Limited Household Budgets. Even A 6 Month Disruption of Critical Routes To From Work Create Huge Burdens For Time Challenged, Fiscally Fragile Work Force.

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May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre)_____
Address (Dirección)_____
Telephone (Teléfono)_____

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓ **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

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How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓ **Other** (Please explain) (Otro [Favor de explicar]) Word of Mouth

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) __ **No** (No) ✓ **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Please provide translation (interpretation) to the invitation/announcement to request translation/interpretation services (the announcement, while greatly appreciated, was only made in English, which might go unheard or misunderstood by a non-English speaker). It would also be helpful to have signs in Spanish about language options. Thank you for having equipment for language accomodations. I hope more people are able to know that is available to them in order to remain engaged and informed.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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KL: CSJ No. 0912-00-146

May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición): Resident / Engineer

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre)_____
Address (Dirección)_____
Telephone (Teléfono)_____

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)
__**Other (Please explain)** (Otro [Favor de explicar])_____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

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How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Neighbor

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) X **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): A recently move in to the northeast downtown area for several reasons 1) ease of getting into the main highways from either side (N, S, E, W) 2) continuous growth. While I am excited about making the city more vibrant we ought to consider the flow and accessability for the residents inside the loop. We have very few entrances and blocking them could really detriment the commute of thousands of people additionally it may pose a risk for development and for others to come and to the area and grow. To or I-10 accessibility is already very congested. I contact persec how closing avenues would help.

Please also consider funding of public transportation rather than expansion of roads. As a younger generation we could have to commute from DT to the suburbs & vice versa.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

Review of TXDOT Plans in Houston's 5th Ward

Attendees:

State Senator Boris Miles
Vice Mayor Pro Tem Jerry Davis
Chief of Staff for TX DoT Director Jesus Gonzales
Director of District Operations Randy Hoffman
East Bayou District Civic Club

The East Bayou District Civic Association (EBD) is pleased to submit our input for TXDOT's I-45 Reroute project as described in our earlier email submittal on February 28th of 2017 to TXDOT and HNTB. These notes were developed after an initial public meeting held in August of 2016 with TXDOT and several community leaders from 5th Ward (District B).

About East Bayou District Civic Association

The East Bayou District Civic Association is located in the lower part of 5th Ward and has previously been called "The Bottom" and "Lower French Town". The EBD was formed in January of 2016 because residents in the area had a need for the focused attention of a Civic Association to work with the city to assist in the security, long term sustainability, and maintained value of the neighborhood. Our demographics are made up of mostly 25-35 or 55+ multiracial residents. The EBD is expanding rapidly with ~300 homes currently in the area and another 650 planned for the immediate future.

Our greatest potential for our neighborhood is the East River 190 acre property south of our boundaries in the below picture. The current philosophy is to make this site a residential and business hub for the east side of downtown that is heavily dependent on the freeway access to our community.

Opportunities for Improvement

By approaching TXDOT early in the design process, it is our hope that we can become a partner in the successful outcome of this work and affect change with minimal impact to cost.

Attached we have included a detailed overview of our suggested improvements to the project and provided a brief summary of these along with prioritization below:

Priority 1

- #1 – Maintain the Gregg I-10 East entrance ramp
- #2 – Keep Nance St. as a two-way frontage road between Jensen and Meadow (not one-way)
- #4 – Maintain Jensen exit on I-10 West

EAST BAYOU DISTRICT CIVIC ASSOCIATION – 5TH WARD HOUSTON, TX

Priority 2

- #3 – Clinton exit from 59 north
- #6 – Drainage improvement for rail underpasses

Priority 3

- #5 – Rail underpasses for all new and proposed frontage roads (no at grade intersections)
- #7 – US 59 South Exit Ramp to Lyons
- #8 – East/West Connection from Buck to Jensen to have a continuous E/W frontage road both sides of I-69

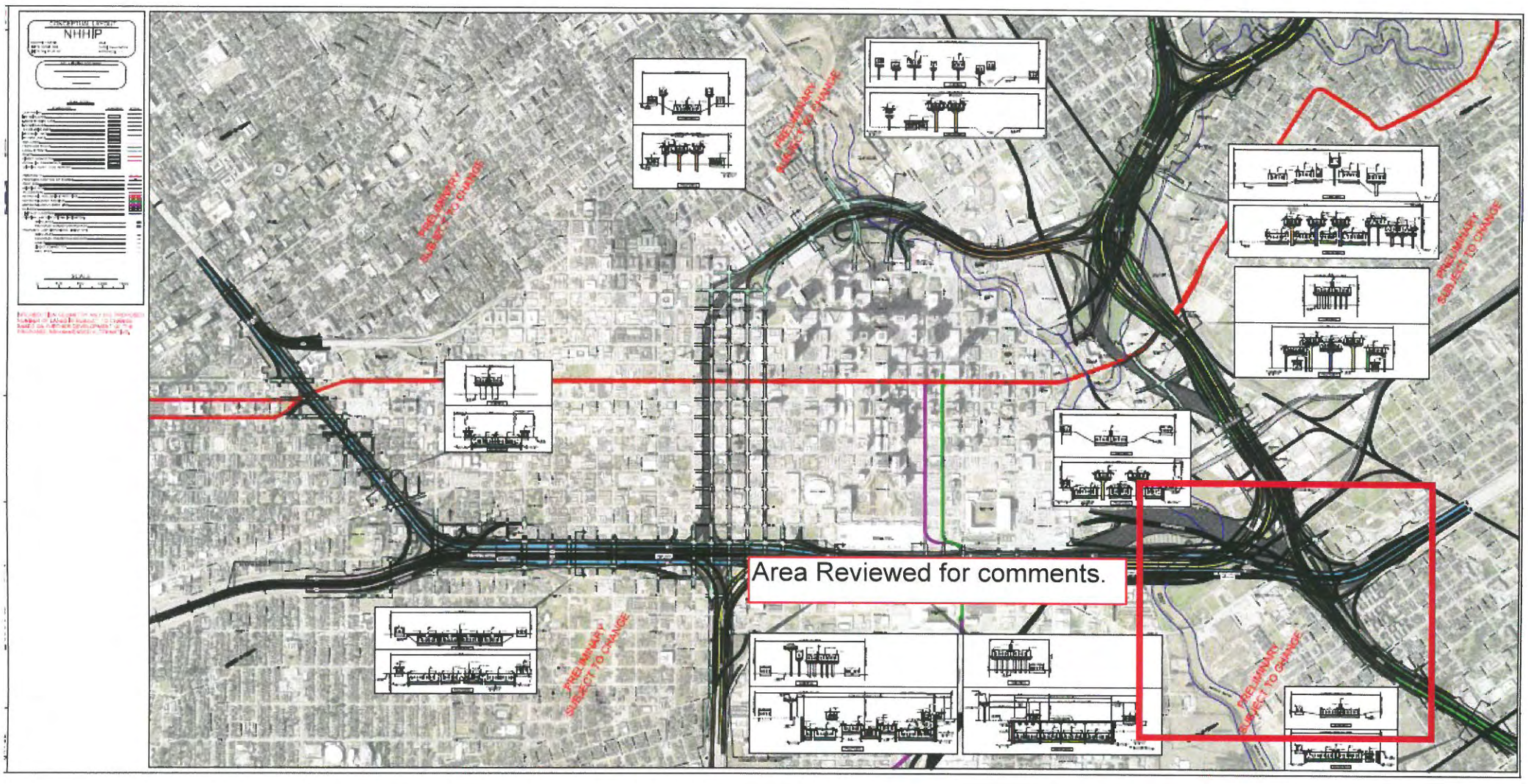
In addition to these comments we have included a sample of an art installation being looked at under a pedestrian crossing on the west side of town. We believe that with enough foresight, we can work with TXDOT, The City of Houston, and others to make this project into an improvement of the perception of 5th ward. If you have any questions about the attached documents or a need for further communication with EBD, please feel free to reach out to Robert Meaney or Albert Wittliff at the below email addresses.

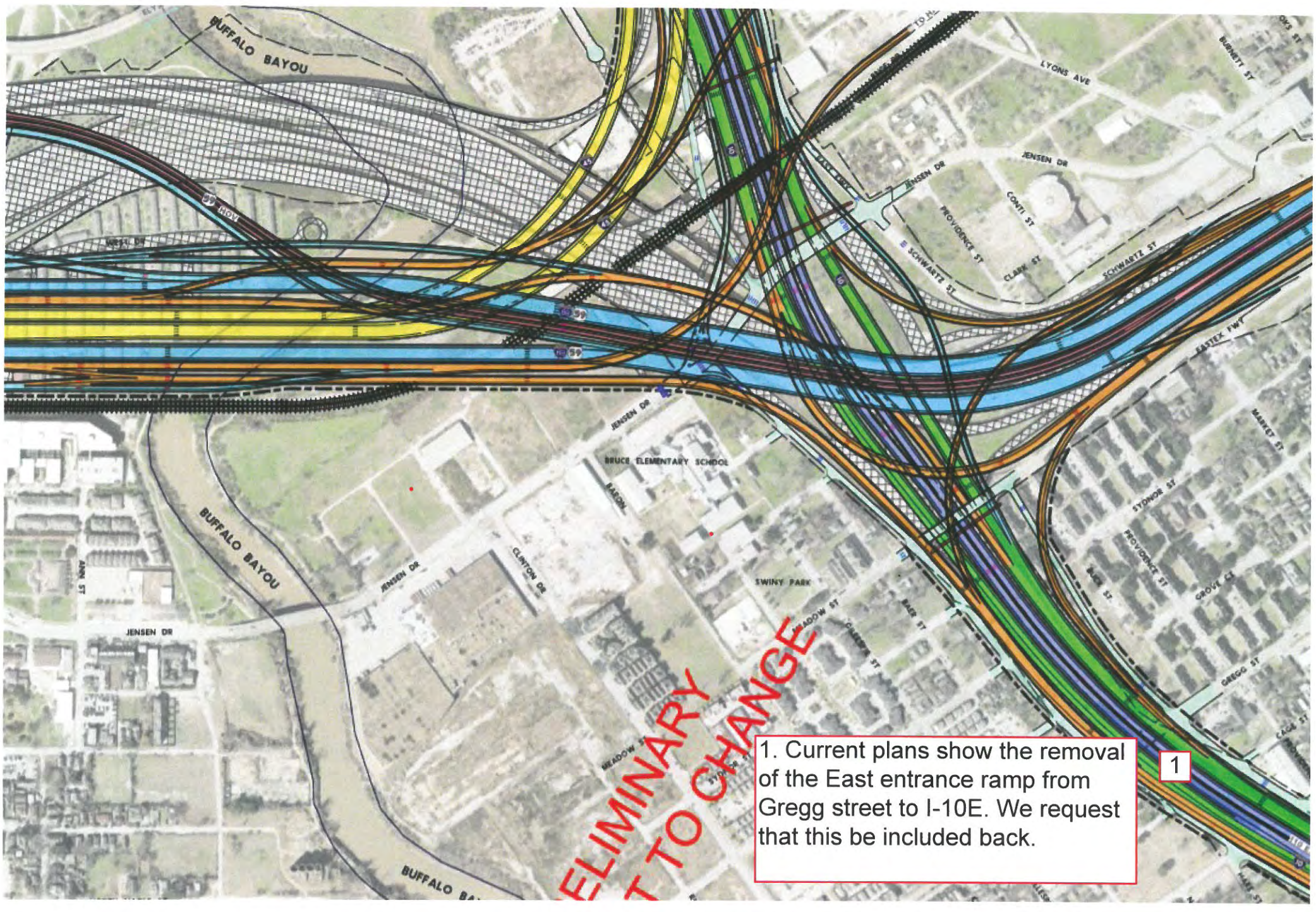
Robert Meaney
President EBD
[redacted]

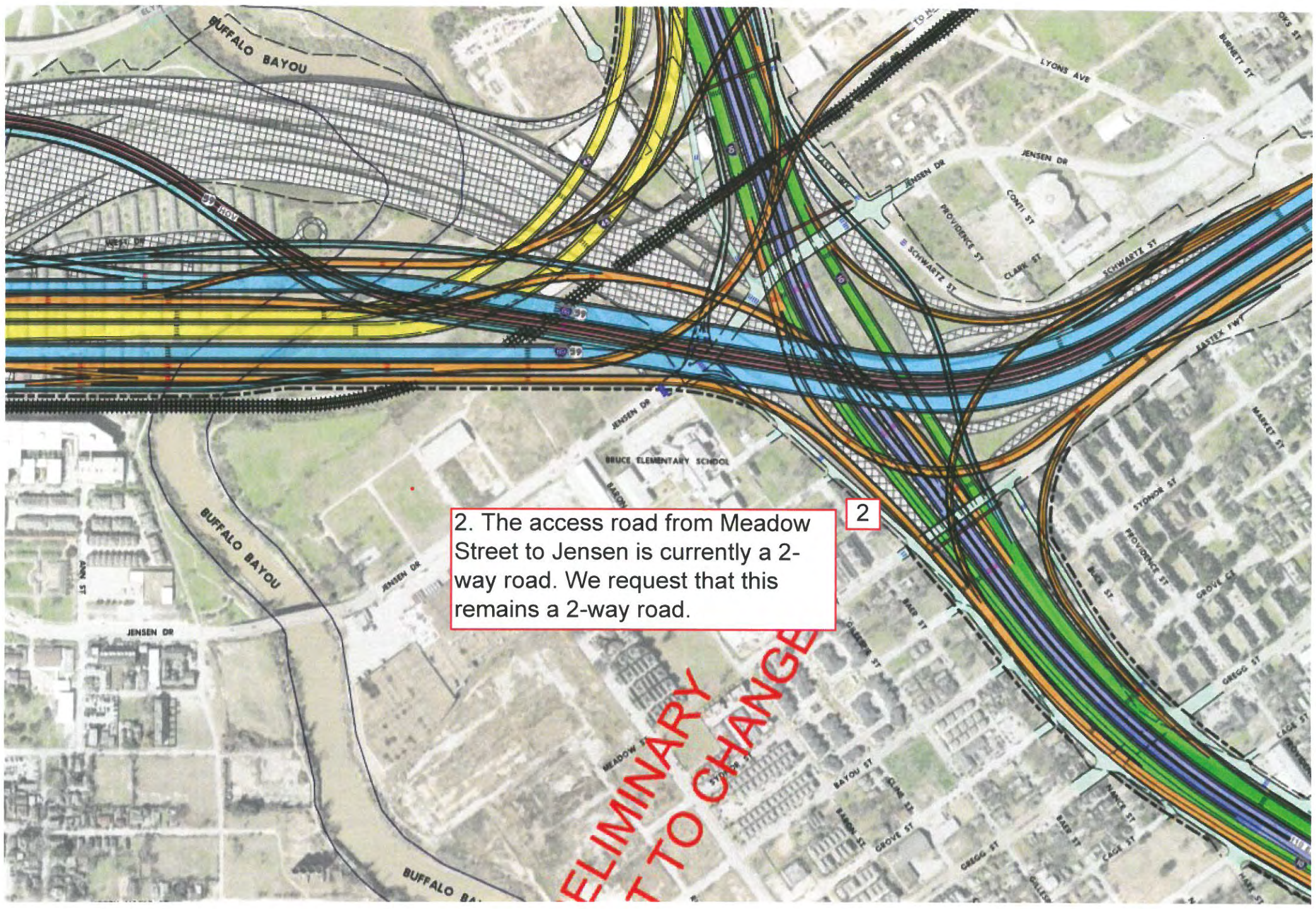
Albert Wittliff
Vice-President EBD
[redacted]

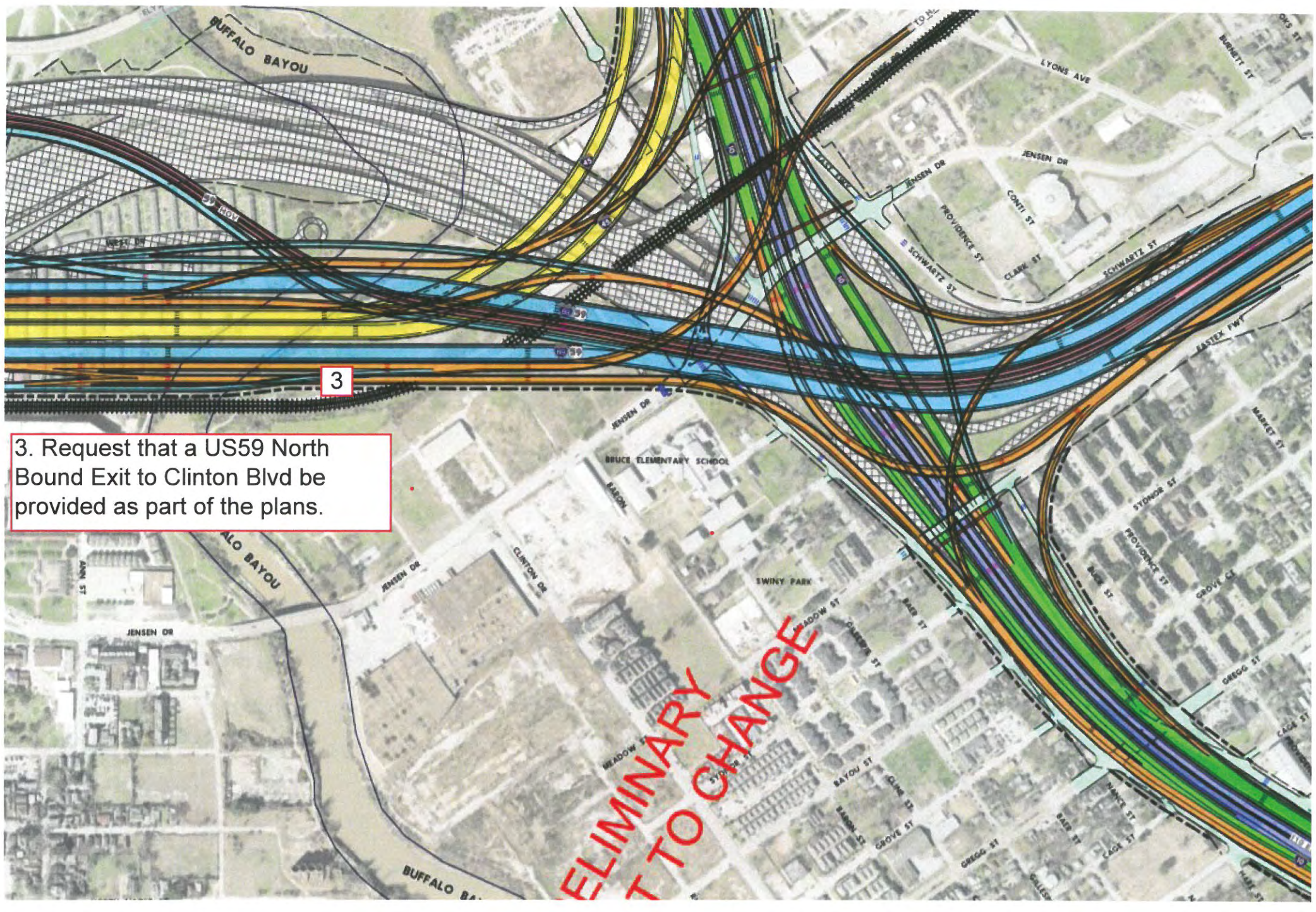
Regards,

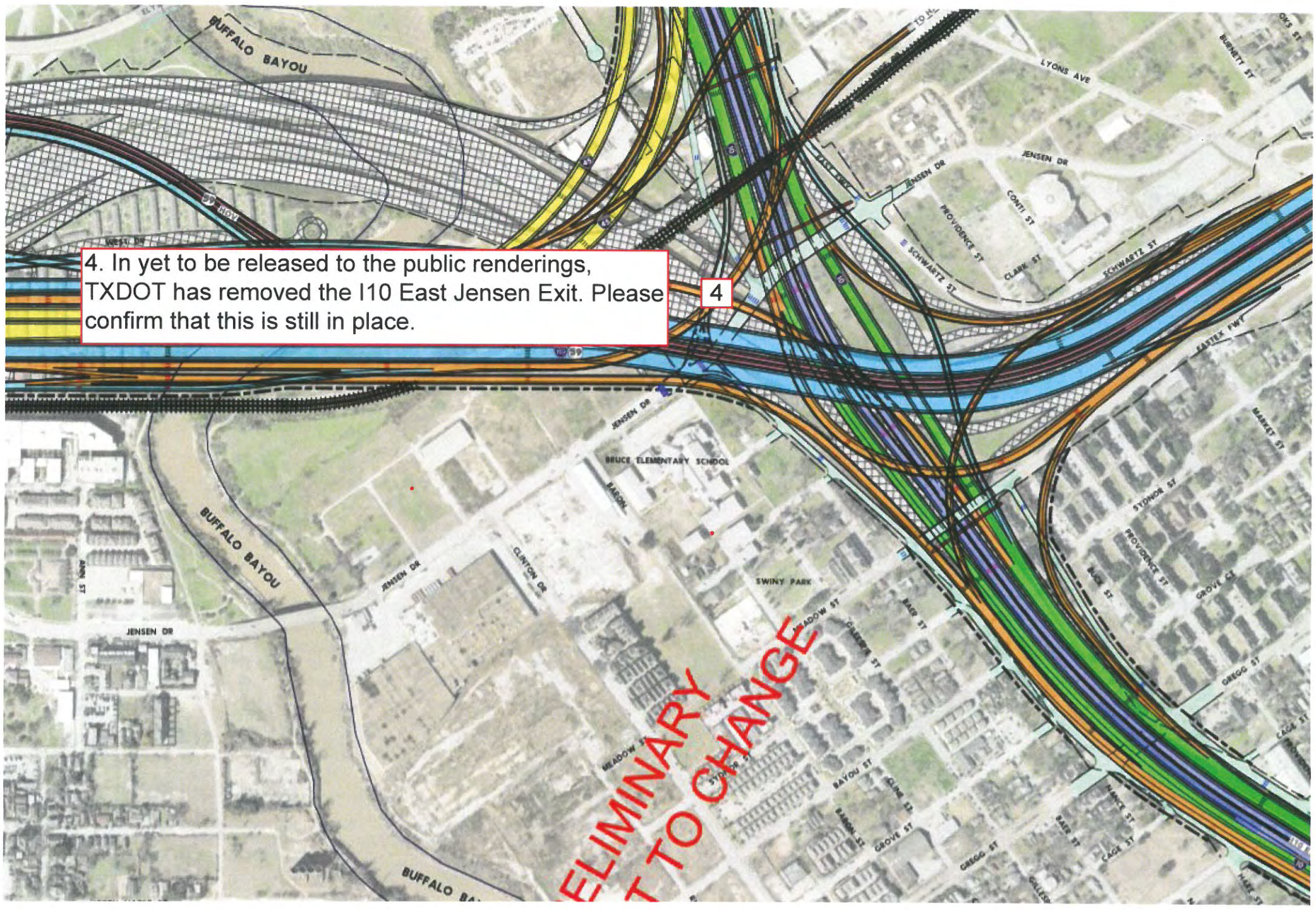
East Bayou District Civic Association

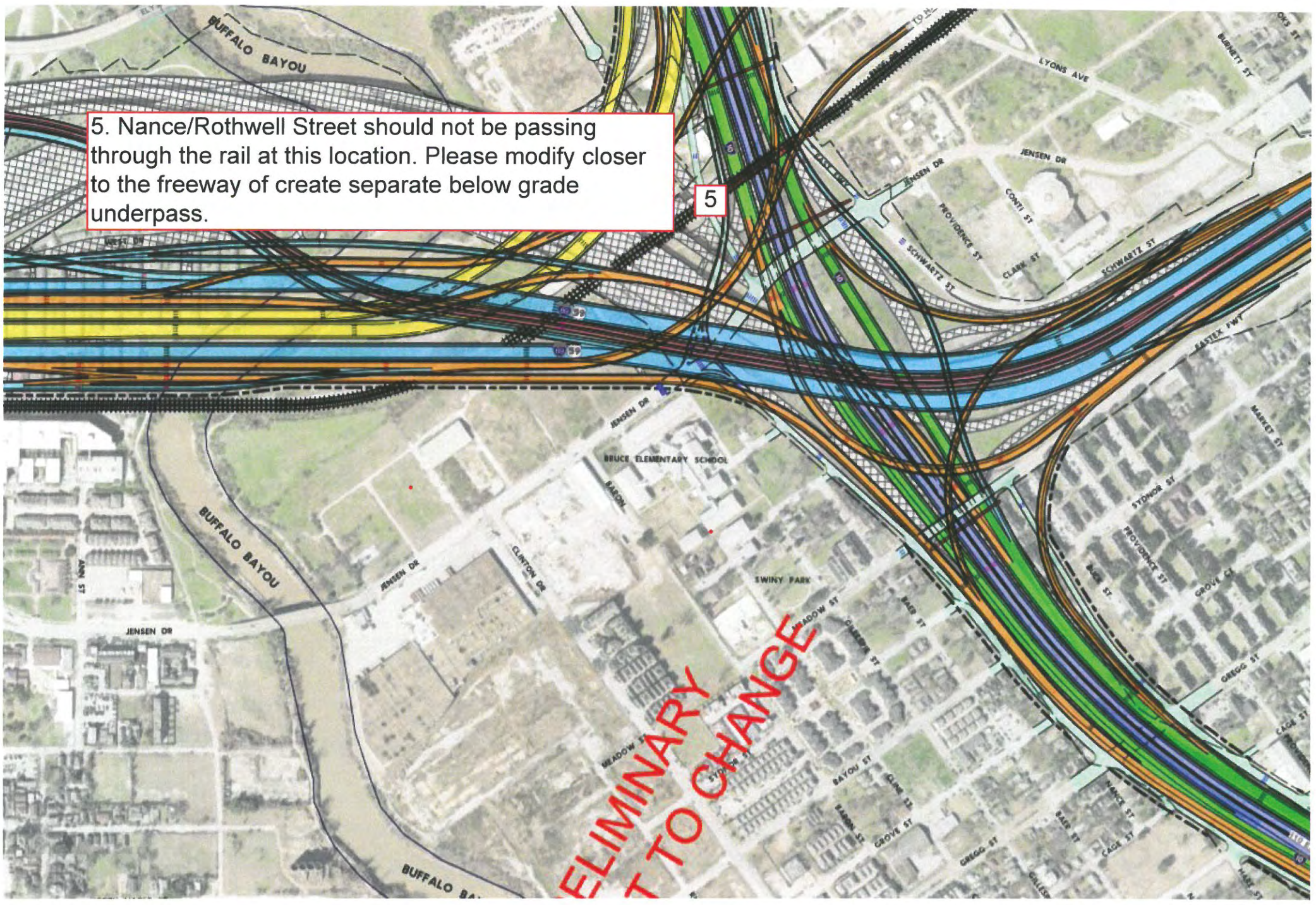

NHHIP
PRELIMINARY SUBJECT TO CHANGE
Area Reviewed for comments.


BUFFALO BAYOU
LYONS AVE
JENSEN DR
CONTI ST
PROVIDENCE ST
CLARK ST
SCHWARTZ ST
EASTEX FWY
BRUCE ELEMENTARY SCHOOL
SWINY PARK
CLINTON DR
MEADOW ST
GREGG ST
PRELIMINARY SUBJECT TO CHANGE
1. Current plans show the removal of the East entrance ramp from Gregg street to I-10E. We request that this be included back.
1


BUFFALO BAYOU
LYONS AVE
JENSEN DR
PROVIDENCE ST
CONTI ST
CLARK ST
SCHWARTZ ST
EASTEX FWY
BRUCE ELEMENTARY SCHOOL
MEADOW ST
BAYOU ST
GROVE ST
GREGG ST
CAGE ST
MARKET ST
BURNETT ST
ANN ST
2
2. The access road from Meadow Street to Jensen is currently a 2-way road. We request that this remains a 2-way road.
PRELIMINARY
NOT TO CHANGE


BUFFALO BAYOU
LYONS AVE
JENSEN DR
PROVIDENCE ST
CONTI ST
CLARK ST
SCHWARTZ ST
EASTEX FWY
BRUCE ELEMENTARY SCHOOL
CLINTON DR
SWINY PARK
MEADOW ST
BAYOU ST
GROVE ST
GREGG ST
CAGE ST
MARKET ST
BURNETT ST
ANN ST
3
3. Request that a US59 North Bound Exit to Clinton Blvd be provided as part of the plans.
PRELIMINARY
NOT TO CHANGE


4. In yet to be released to the public renderings, TXDOT has removed the I10 East Jensen Exit. Please confirm that this is still in place.
4
BUFFALO BAYOU
LYONS AVE
JENSEN DR
CONTI ST
PROVIDENCE ST
SCHWARTZ ST
CLARK ST
EASTEX FWY
BRUCE ELEMENTARY SCHOOL
CLINTON DR
SWINY PARK
MEADOW ST
BAYOU ST
GROVE ST
GREGG ST
CAGE ST
MARKET ST
STONER ST
BURNETT ST
ANN ST
PRELIMINARY
NOT TO CHANGE


5. Nance/Rothwell Street should not be passing through the rail at this location. Please modify closer to the freeway of create separate below grade underpass.
5
BUFFALO BAYOU
LYONS AVE
JENSEN DR
CONTI ST
PROVIDENCE ST
SCHWARTZ ST
CLARK ST
EASTEX FWY
BRUCE ELEMENTARY SCHOOL
CLINTON DR
SWINY PARK
MEADOW ST
BAYOU ST
GROVE ST
GREGG ST
CAGE ST
MARKET ST
STONER ST
BURNETT ST
ANN ST
PRELIMINARY
NOT TO CHANGE

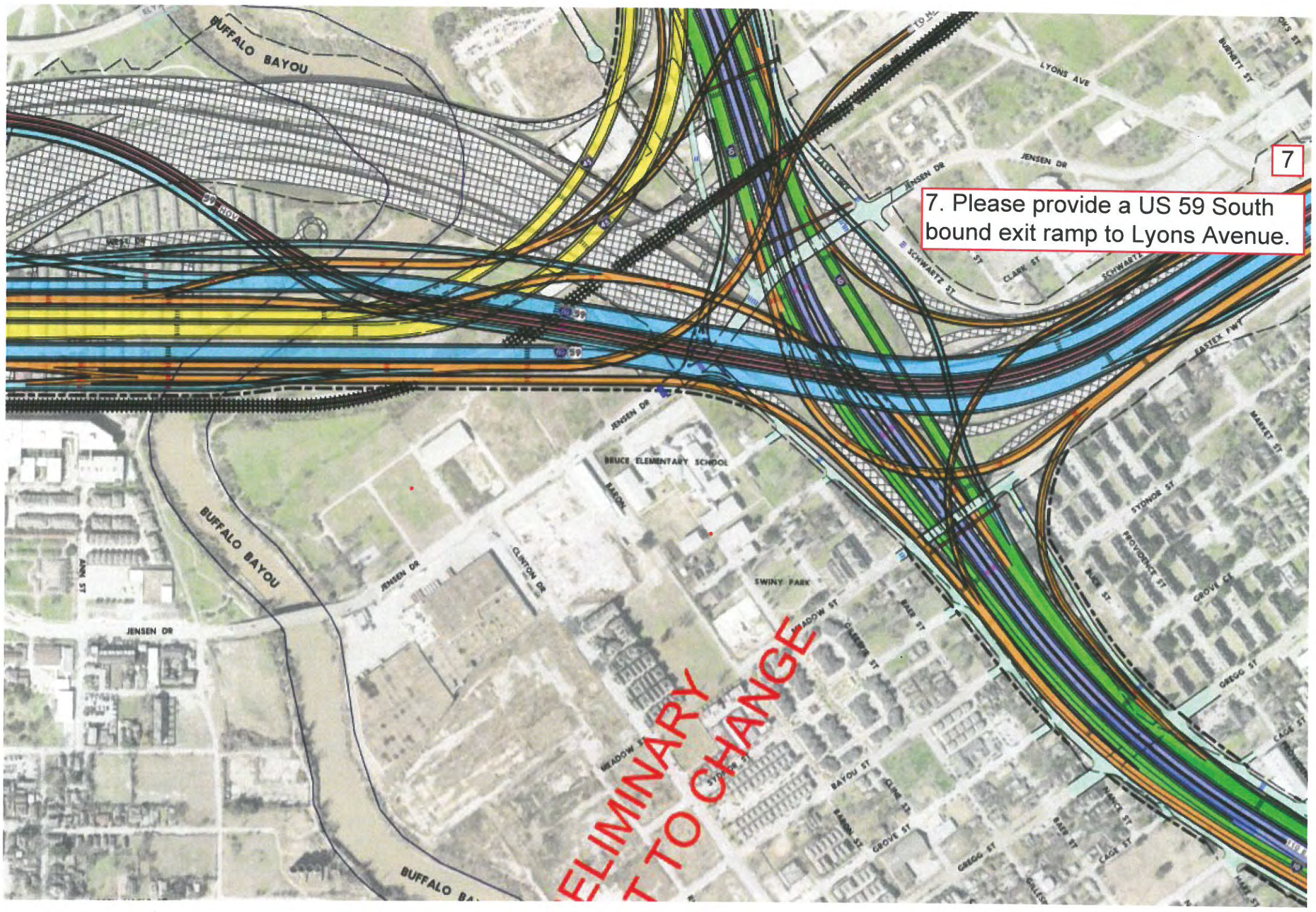
This revised rendering shown at the community meeting in August of 2016 has removed the Jensen Exit ramp from I-10 West. The Exit ramp has now been moved further up the Nance/Rothwell access road which will create conflicts with the existing rail line.

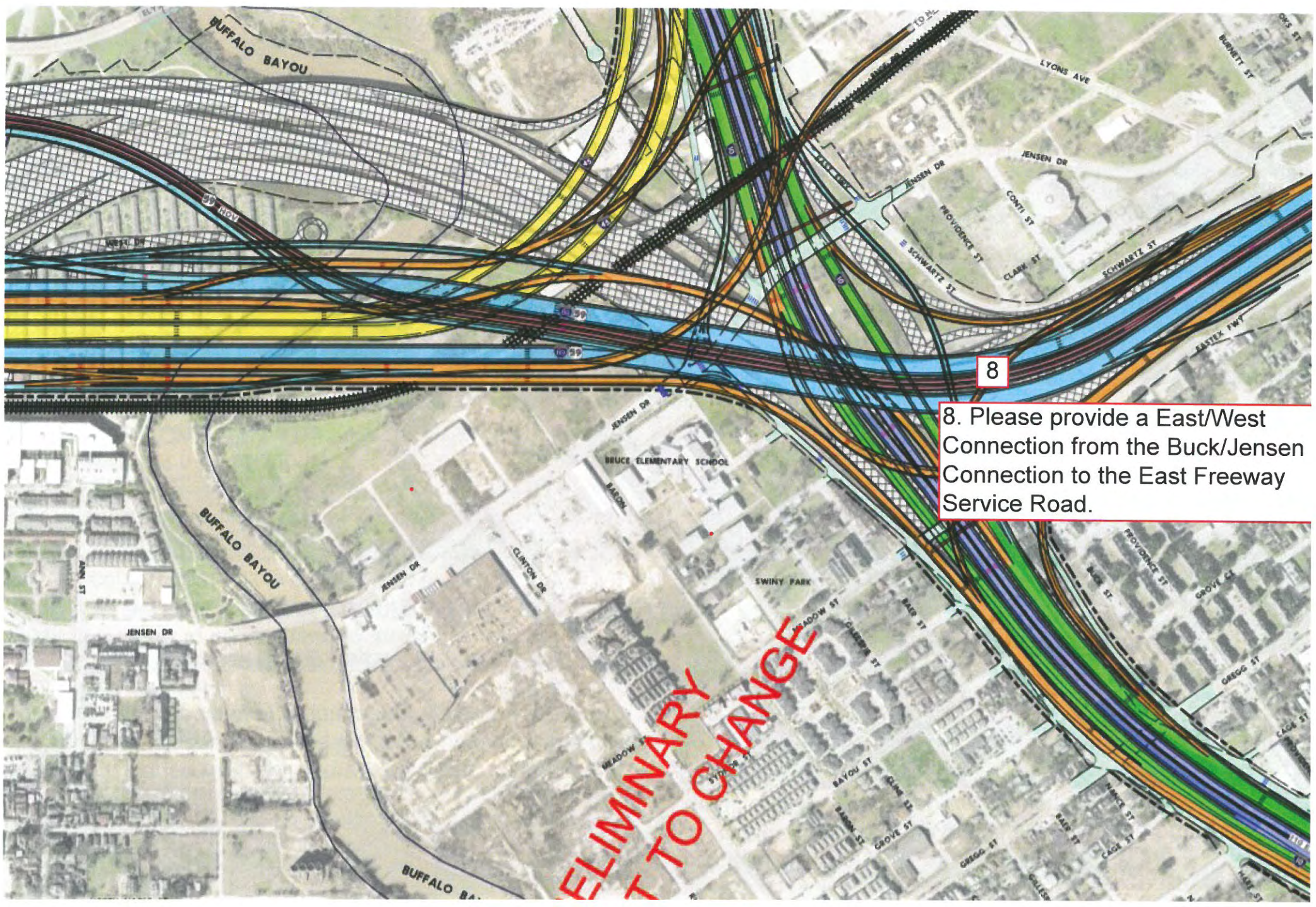
5

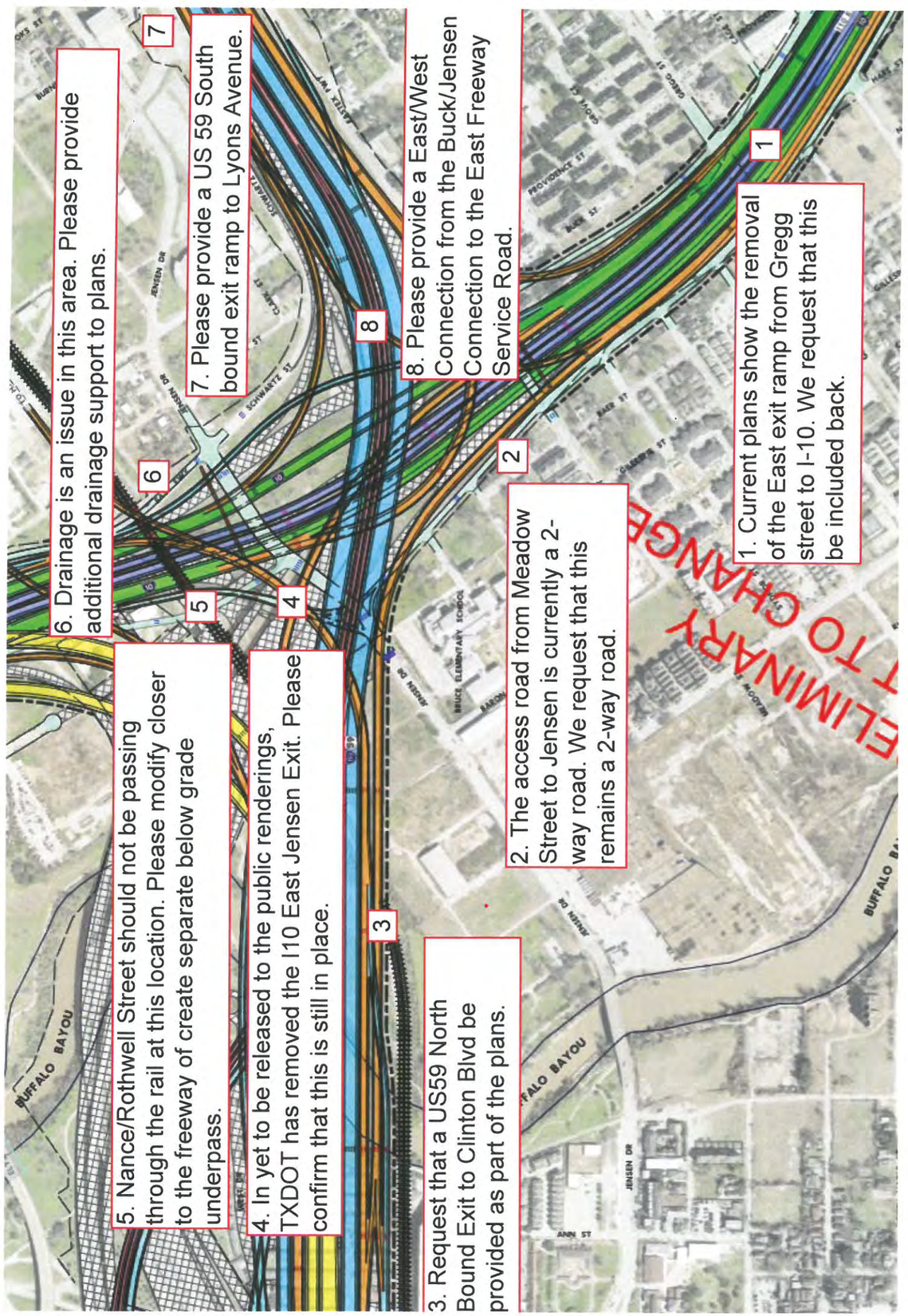
*** We do not currently know if this is the latest plan from TXDOT as the website currently shows the latest being the May 2016 version which we used on all other mark-ups as our basis. The communities were made aware in a Aug 2016 meeting with TXDOT at Swiney Park that this is a version being worked on but has yet to be released for public comment. ***

6. Drainage is an issue in this area. Please provide additional drainage support to plans.
Also, we request an entrance ramp onto I10W at this location.

PRELIMINARY
NOT TO CHANGE


7
7. Please provide a US 59 South bound exit ramp to Lyons Avenue.
BUFFALO BAYOU
LYONS AVE
JENSEN DR
SCHWARTZ ST
CLARK ST
EASTEX FWY
BRUCE ELEMENTARY SCHOOL
SWINY PARK
CLINTON DR
MEADOW ST
BAYOU ST
GROVE ST
GREGG ST
CAGE ST
PROVIDENCE ST
MARKET ST
BURNETT ST
PRELIMINARY
SUBJECT TO CHANGE


8
8. Please provide a East/West Connection from the Buck/Jensen Connection to the East Freeway Service Road.
BUFFALO BAYOU
LYONS AVE
JENSEN DR
CONTI ST
PROVIDENCE ST
SCHWARTZ ST
CLARK ST
EASTEX FWY
BRUCE ELEMENTARY SCHOOL
SWINY PARK
CLINTON DR
MEADOW ST
BAYOU ST
GROVE ST
GREGG ST
CAGE ST
BURNETT ST
PRELIMINARY
SUBJECT TO CHANGE



THE | UNDERLINE

INITIATORS

Mary K. Lambrakos
MKL Design
[redacted]

Jennifer Traina-Dorge
Professional Architect
[redacted]

Our professional background is in art, design and architecture. This project reflects our convergent interest in place-making to activate the underpass, improve walkability and create a symbol of Houston.

MISSION

Identify, celebrate and improve upon a quintessential and ubiquitous Houston characteristic – the freeway – that underpins our city and the development of its environs.

PROJECT Inquiry

Houston is defined by its freeways – the largest in the world. Massive conglomerates of concrete and steel provide an invaluable structure for commuters to navigate an otherwise amorphous urban sprawl. Yet they also circumscribe large swathes of land and with disregard cut through neighborhoods and divide the communities they serve.

TxDot oversees the systematic expansion and design of the freeway in response to the changing urban landscape as well as the proprietary rights to the land under the freeway. This project proposes to not only aestheticize but also improve the conditions of these spaces to engage the surrounding communities. This proposition aligns with TxDot's efforts to inform and respond to community feedback regarding the design and location of new expansion routes and the appropriate circulation design.

Active participation with TxDot would produce mutually beneficial routes, as THE UNDERLINE will use design, art, and lighting to reconfigure the barren, isolated underpasses of our city's freeways as friendly and dynamic community paths reconnecting our local communities of pedestrians and bicyclists.

PROJECT | THE UNDERLINE

Utilize the underpass to change people's perception of the freeway as not only as a vital conduit and space but also a worthy public structure to experience multi-dimensionally – as a creative pathway to neighborhoods, recreational and commercial areas.

SPACE

As natural and ubiquitous as land on which it rests, the freeway carves and looms over our everyday life. Yet the presence of the freeway has remained silent, anonymous, and underutilized, particularly at the underpass, where its columns and running beams enclose our bike routes and walkways. Annexing these monumental structures, and relating their footprint to a broader spectrum of our daily activities, will encourage communities, recreation, and commerce to stretch beyond immediate neighborhood affiliation. The Underline unifies and extends our personal experience to the shared surroundings otherwise obscured from the driver's seat of our cars.

TIME

The freeway continues to present the 'fastest' conduit to destinations. Alternatively, its 'Underline' provides a slower pace, giving pause, and umbrage from the natural elements. Through it, the freeway can assume a broader identity not as a series of destinations but rather a flowing procession of experience, as monolithic underpasses transform to sites of vital ambience by the interaction of people, sound, light and environment.

EXPERIENCE

THE UNDERLINE manifests the dynamic influence of time and space on experience through the interchange of people and environment. THE UNDERLINE is an invitation for communities and individuals to alight, engage, and move through an interface of shared experience. THE UNDERLINE celebrates a structure and space that is inherently Houstonian and gives equal access to all.

THE | UNDERLINE

PHASE I | SAWYER HEIGHTS UNDERPASS

SITE

The Sawyer Heights Underpass presents a great introductory site to this project given its proximity to downtown, residential and commercial areas, connection to the bayou expansion, current traffic flow and size. Establishing THE UNDERLINE at such a prominent location will manifest its potential and secure the exposure needed for its growth throughout the city.

Along the Bayou Bend expansion, bikers and walkers encounter the massive Sawyer Heights Underpass en route to many restaurants and major retailers such as Target. Conversely, those leaving the commercial area reengage the bayou route, head towards the residential area of the Heights and appreciate a singular vantage point of the massive greenway, the wooden underside of the bridge, and the totemic red *Houston* sculpture.

STRUCTURE

Recognize the underpass as both site and architecture, appreciate the potency of its scale, the geometric array of columns and beams, identify the telescoping, bilateral views of downtown and the bayou, and envision a creative and dynamic place animated by the movement of people and community.

SCOP E

Illuminate the area at night by highlighting its underside along the running beams in the color spectrum ROYGBIV to create a moment of pause to identify the structure and the quality of space, look out onto the surroundings and listen to the overhead sound of passing cars.

ACT

Generate support from and affiliations with the city, community, architecture and art organizations.
Consult with TxDot to establish a formal protocol for the use of the underpass.
Procure funds from private and public entities.

THE | UNDERLINE

PRECEDENTS | LOCAL | NATIONAL | INTERNATIONAL

BUFFALO BAYOU PARK CISTERN

HIGH LINE

DUMBO

Down Under the Manhattan Bridge Overpass

PROMENADE PLANTÉE

Email Comments

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Public Hearing - NHHIP, May 9, 2017
Date: Friday, May 12, 2017 2:00:53 PM
[redacted]

Here is a comment.

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, May 12, 2017 9:57 AM
To: Kelly Lark; Christine Bergren
Subject: FW: Public Hearing - NHHIP, May 9, 2017

From: HOU-PIOWebMail
Sent: Friday, May 12, 2017 9:55 AM
To: Pat Henry
Subject: FW: Public Hearing - NHHIP, May 9, 2017

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Widacki, AJ [redacted]
Sent: Wednesday, May 10, 2017 1:39 PM
To: HOU-PIOWebMail
Subject: Public Hearing - NHHIP, May 9, 2017

Please include my comments for this project.

A.J. Widacki, PE
Civil/Structural – South Texas Area Manager
[redacted]

COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición): TRANSPORTATION ENGINEER

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) A. J. WIDACKI
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)
✓**Other (Please explain)** (Otro [Favor de explicar]) HOUSTON COMMUTER

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
✓I do business with TxDOT (Hago negocios con TxDOT)
✓I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓**Other** (Please explain) (Otro [Favor de explicar])

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ✓ **Yes** (Sí) __ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): THIS PROJECT IS NECESSARY TO IMPROVE CONGESTION AND REPLACE AGING INFRASTRUCTURE. IT IS ALSO CRITICAL TO ATTRACTING NEW BUSINESS AND JOBS TO HOUSTON.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

This comment form may be turned in tonight, mailed, or emailed by June 27, 2017 to the address below:
(Esta formulario de comentarios puede ser entregado esta noche, por correo, o por correo electrónico a más tardar el 27 de junio de 2017 a la siguiente dirección:)

Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comment FW: TxDOT Internet E-Mail
Date: Friday, May 12, 2017 2:00:03 PM

Here is a comment.

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Friday, May 12, 2017 9:52 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Friday, May 12, 2017 9:49 AM
To: Danny Perez
Cc: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Thursday, May 11, 2017 6:20 PM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Mr. Brian Johnson[redacted]
Address:

[redacted]

[redacted]

Requested Contact Method:

Reason for Contact: Customer Service
Complaint: No

Comment: The 45 project passing through downtown on the East side of 59.Will all those businesses be bought out between Jefferson and Navigation to make room for the new Freeway?

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comment FW: Revised Comments on I45 plan from resident
Date: Monday, May 22, 2017 11:15:54 AM

Patty,
Comment….

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, May 15, 2017 9:48 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Revised Comments on I45 plan from resident

Sent from my iPad

Begin forwarded message:

> **From:** Mark Patterson [redacted]
> **Date:** May 15, 2017 at 5:20:07 PM CDT
> **To:** [redacted] <[redacted]
> **Cc:** [redacted]
> **Subject: FW: Revised Comments on I45 plan from resident**
>
> Tommy,
>
> I forwarded to Pat Henry in our Advance Project Development group.
>
> They are having a public meeting tonight at St. Arnolds brewery.
>
> -----Original Message-----
> From: Artz, Thomas - PWE [redacted]
> Sent: Monday, May 15, 2017 10:28 AM
> To: Mark Patterson
> Subject: FW: Revised Comments on I45 plan from resident
>
> Mark -
> Attached is a comment about the public meeting for the IH 45 Project. Who at TxDOT should receive such comments?
>
> -----Original Message-----
> From: PD - Houston Bikeway Program
> Sent: Friday, May 12, 2017 11:05 AM
> To: Artz, Thomas - PWE [redacted]
> Subject: FW: Revised Comments on I45 plan from resident
>
> Who can we forward this to?

-----Original Message-----
From: Teri Ogg [redacted]
Sent: Friday, May 12, 2017 11:02 AM
To: CNL District D [redacted]
Cc: PD - Houston Bikeway Program [redacted]
Subject: Revised Comments on I45 plan from resident

Resent with edit because I forgot to add #3 below

Council Member Boykins,

I am a resident on [redacted] in the 3rd Ward. I attended the I45 plan public hearing last night and have some comments I would like to share with you as my council member. I also provided these comments in writing last night.

1. 288 HOV lane is planned to for major exit/entrance at Chenevert St south of Elgin. I am concerned with the potential increase in traffic through a dense residential neighborhood next to a park. I understand the current 288 project under construction has an entrance and exit to HOV at Holcombe for the medical center and that there already currently exists an exit and entrance ramp for 288 on Chenevert St. It is unclear to me how this might affect Baldwin park, Elgin, and the residents in the area.

2. I am very disappointed that this very large and expensive plan for our future does not include options for mass transit. The engineer last night explained to me that trains are a Metro thing from the City and this is State/Federal. I was quite disappointed that there was not more collaboration between the two. Mayor Turner has stated that a top priority for Houston's future is to invest in more mass transit options. I see this as the perfect opportunity. Houston does need to fix outdated roads but it does not need more roads. The plan is to expand the HOV lane to 4 across. Why can we not place one train and one HOV lane in each direction instead. The park and ride people could get onto a train instead of using Metro busses on the HOV lane to sit in traffic and potentially get to work even faster! Bottom line....If we are going to spend billions of dollars for a project that will take many years and disrupt countless residents, why not be more forward thinking.

3. I also use my bike as a mode of transit through the city and walk.
I have concerns that the frontage road only has an outside lane of 14 feet for use as the bike lane. This is not safe for travel due speed of car travel and the inability to ride along a seem of sidewalk and street to stay >3 ft from the auto traffic coming off at freeway speeds. It would be safer if there was a wide sidewalk that would be used by pedestrians and bicycles. This will be very important to me since I often take St. Emanuel north on my bike to visit Discovery Green and to connect with Lamar bike lane for the public library and other downtown locations along with the Bayou trail system. Also, since I live off of Tuam and McGowen bridges to cross into midtown, I would feel much safer if the same 10ft wide sidewalks existed here.
McGowen is listed as a bike route but it is very unsafe to ride on the street and the sidewalks are too narrow to ride with the pedestrians.

Thank you for your time
Teri Ogg

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comment FW: North Houston Highway Improvement Project : Public Comment 2017 May 15
Date: Thursday, May 18, 2017 12:38:34 PM

Patty, here is a comment.

Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Thursday, May 18, 2017 10:53 AM
To: Kelly Lark; Christine Bergren
Subject: FW: North Houston Highway Improvement Project : Public Comment 2017 May 15

-----Original Message-----
From: HOU-PIOWebMail
Sent: Thursday, May 18, 2017 10:44 AM
To: Pat Henry
Subject: FW: North Houston Highway Improvement Project : Public Comment 2017 May 15

Kristina Hadley
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TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: Jong Kim[redacted]
Sent: Monday, May 15, 2017 7:32 PM
To: HOU-PIOWebMail
Subject: North Houston Highway Improvement Project : Public Comment 2017 May 15

To Whom It May Concern,

What is more important to the people traveling to, living, and working in segment 3? Decreasing the time of travel or improving the quality of life of the people living and working at the affected areas of segment 3?

The current proposal feels like it favors the car versus the people that live and work there. I would like to see an option B where the quality of the current highway in segment 3 is improved, but maintains its current footprint as not to negatively impact the urban grid and rate of urban growth of affected areas.

Warm Regards,
Jong Kim
[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Follow up Questions
Date: Thursday, May 18, 2017 12:35:41 PM
[redacted]

Patty, here is a comment.

Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, May 18, 2017 10:51 AM
To: Christine Bergren; Kelly Lark
Subject: FW: Follow up Questions

comments

From: HOU-PIOWebMail
Sent: Thursday, May 18, 2017 10:36 AM
To: Danny Perez
Cc: Pat Henry
Subject: FW: Follow up Questions

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Andrew Nguyen [redacted]
Sent: Tuesday, May 16, 2017 2:29 PM
To: HOU-PIOWebMail
Subject: Follow up Questions

Thanks for putting together the presentation to give further insight into the I-45 development to come. It was very informative though very anti-committal to any scheduled events beyond the Spur 527 work to begin in 2020.

I have the following follow up questions that I would appreciate a comment on:

- When can we expect a full timeline of all three segments to be announced?
- When will the work on Spur 527 be completed?
- When will the next project in Segment 3 be approved and scheduled?
- Will the projects within segment 3 be completed concurrently?

- When will all of the Segment 3 work be completed?
- Will all of the Segment 3 work be completed before Segment 1 and 2 are approved?
- Will all of the Segment 3 work be completed before funding for Segment 1 and 2 begins?
- Will all of the Segment 3 work be completed before work on Segment 1 or 2 is begun?
- Is it a certainty that Segment 2 will be worked on before Segment 1?
- Is there any possibility TXDOT will work on multiple segments at once?
- Please confirm whether the comment is true: For Segment 1, ROW acquisition and work will begin on the south end of the east side of the segment, will progress north to Beltway 8, start again at the south end of the west side of the segment and progress north.
- Once acquisition of property for highway expansion through eminent domain is negotiated:
    - Does ownership of the property change immediately or after a period of time?
    - Do all commercial tenants become tenants of the state at that time?
    - Does TXDOT/another government body take over management of the property or does it remain under current management until construction begins?

Thanks for your time and help.

Regards,

Andrew Nguyen
[redacted]
[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comment FW: TxDOT Internet E-Mail
Date: Thursday, May 18, 2017 12:37:27 PM

Patty, here is a comment.

Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Thursday, May 18, 2017 10:52 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Thursday, May 18, 2017 10:37 AM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Tuesday, May 16, 2017 1:16 PM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Mr. Mark Svoboda[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: There is a huge major flaw in this design. There is a single corridor which will affect all north and south bound traffic through Houston corridors I-45, I-69(US59), and 288 will run through an excavated area. The excavated areas shall be elevated to eliminate flooding issues for hurricane evacuation purposes.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comment FW: Comments on NHHIP
Date: Monday, May 22, 2017 8:59:51 AM
[redacted]

Patty, Comment……

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, May 19, 2017 9:09 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Comments on NHHIP

Comment received. I've forwarded this to COH since much of it involves city streets.

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** May 18, 2017 at 4:19:45 PM CDT
> **To:** Pat Henry [redacted]
> **Subject: FW: Comments on NHHIP**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> ---
>
> **From:** Geoff Carleton [redacted]
> **Sent:** Thursday, May 18, 2017 2:28 PM
> **To:** HOU-PIOWebMail
> **Subject:** Comments on NHHIP
>
> See attached for my comments on the North Houston Highway Improvement Project. I feel a project of this magnitude deserves a detailed level of scrutiny and appreciate the opportunity to provide it. Perhaps some of these issues could be addressed in final design but I feel many should be at least considered now as part of the EIS process to ensure that decisions are not made that would preclude capturing the full potential of the project.
>
> Please let me know if there are any questions or clarifications.

Thank you for all of the outreach and material that has been made available. I appreciate your consideration.

-G

Geoff Carleton, AICP
[redacted]

To: North Houston Highway Improvement Project Design Team

Re: Comments on the North Houston Highway Improvement Project (NHHIP)

Thank you for the opportunity to review and provide comments on the most recent TxDOT proposal of the IH-45 corridor project (NHHIP) from May 2017. While this project would not be at the top of my list for how to use $7 Billion to improve transportation in Houston, it seems that it is moving forward with some momentum and deserves close scrutiny to make the outcome as good as possible, what will be a transformative project however it is implemented. I commend TxDOT and the design team for continuing to make improvements to the design based on previous feedback from various stakeholders. Additional modifications would improve the design significantly and better integrate the project with the development opportunities and multimodal mobility networks of the City of Houston.

The goal of my comments is not to radically redesign of the project but improve, clarify or ask questions that I believe have to potential to greatly improve the outcomes of the project and create benefits for more people, not just those using the highway system. To that end, most of the comments are focused on the impact of the project on local streets, neighborhoods, and adjacent development opportunites, more so than on the operation of the highway system.

These comments are focused on four areas for each of the three project segments:

1. **Connectivity** – The NHHIP should improve connectivity between communities in and around Downtown not reduce it. Where possible, strong connections should remain and new ones should be added to our existing street network. Reducing connectivity in areas around Downtown should be avoid or mitigated wherever possible. It also troubles me that local street operations have not been analyzed at the same level of detail as freeway operations. Improving connectivity, by providing multiple routes where people can travel, is critical to avoid relocation congestion from freeways to local streets.
2. **Support Walking, Biking and Transit Opportunities** – this project represents a once in a lifetime opportunity and the details which impact how people safely get around need to be fully thought out. This requires careful planning and a greater level of detail than has been provided by the current schematics. Focus on well thought out design of safe intersections, sidewalks and bikeways, transit stops, frontage roads and connections has the potential to greatly enhance mobility options. Failure to do so would be a huge detriment to the project. Elements like wide outside lanes for bicyclists, which are likely to be eliminated as guidance from the next AASHTO bikeway design guide, should not be included in this project. The design needs to be forward looking and incorporate best practices for safe multimodal streets. Transit, including how the NHHIP can be designed to support faster transit trips between major activity centers and destinations, should be much more prominently considered in the plan. This should include rail expansion opportunities as well as the potential for an optimized express bus network.
3. **Enhance Development/Redevelopment Impacts and Opportunities** – a project of this magnitude has significant impact on potential development, both positively and negatively. It will also impact the City's tax base through acquisition of valuable land in the City's urban core. The design should be optimized to support high quality development opportunities that are beneficial to the City of Houston and the surrounding communities. To pretend this is solely a mobility project and to overlook the development impacts would be huge missed opportunity. TxDOT and its partners should work to identify and incorporate development opportunities into the project in the initial design, especially in areas where the project eliminates significant existing tax base.
4. **Other General Design and Coordination Considerations** – This project will be transformative, for good or for bad. It is most likely to achieve good outcomes if TxDOT closely coordinates with the City of Houston, METRO and other entities such as Management Districts, TIRZs to make the project as

strong as possible. This means thinking beyond the direct Right-of-Way of the project to understand opportunities and impacts on street, bikeway, greenway, and transit networks. It also means working to tie communities together, not separating them further with ever wider freeways serving as barriers.

Detailed comments on each of the project segments have been provided on the following pages. Please feel free to contact me for any clarifications or to answer any questions you may have. Thank you for your consideration.

Sincerely,

Geoff Carleton

Segment 3

1. **Connectivity**
    a. **East**

    It is important to note that in the plan there is no proposed street that provides direct two-way east-west access between Downtown and the EaDo/East End area along the stretch between IH-45 South to IH-10, a distance of nearly 2 miles. Even those streets that cross the proposed IH-45/IH-69 trench require switching to an adjacent street through several turns to continue east/west. The loss of connections such as Polk, Leeland/Bell and Runnels are significant.

    i. Include Runnel>McKee or Canal>Ruiz connection. The loss of Runnels cuts off the area of the East End north of the West Belt rail line and Buffalo Bayou and limits access to Downtown to just the Franklin/Navigation underpass. Or residents can backtrack to Harrisburg which doesn't really connect to downtown that well due to the street network, stadiums and large parking lots in the area. One of these proposed connection would be significant improvement.

    ii. Maintain Polk Street Connection

        1. Revise design to bring IH-45 Main Lane ramps and I-45 to IH-69 N ramps down below grade between Polk and Rusk. Maintain critical Polk Street connection (Adjust Polk alignment and grades as needed). This proposal eliminates crossings for Dallas, Lamar, McKinney (similar to today).

            a. This change would reduce the size of the proposed Park Cap by several blocks (from 10+ blocks to 7) to a more manageable size. For reference, Klyde Warren is about 5 acres, the east side park cap as proposed is nearly 30 acres.

            b. The potential park area as currently conceived is as big as 15 Market Square Parks or 2.5 Discovery Greens. That is a lot of park space to program and maintain. I feel some of the space should be envisioned as development developable with walkable 1-3 story buildings, potentially as a home for the businesses displaced in EaDo. This opportunity exists regardless of what happens to Polk Street. Would also generate revenue to support park maintenance.

                i. Freeway support structure should be designed with this in mind. For example you could relocate all the bars and restaurant currently along St. Emanuel demoed by the freeway widening to a location on top of the cap, creating an instant destination linking the convention center and stadiums. Would be similar to the bar/meeting space that is on top of Klyde Warren and provide revenue to support maintenance.

                ii. Would also think about how you could access the park from the convention Center, potentially with an elevated connection over the southbound frontage road.

    iii. Connect Leeland to a Leeland/Bell one way pair as it is currently. Will require redesign of the freeway off-ramp connected to Bell which seems achievable. If Polk connection is eliminated, TxDOT should identify funds for a grade separation of Leeland at the West Belt so that a major east-west connection exists without barriers between Eastwood and Downtown.

iv. Maintain Walker St crossing between St. Emanuel and Hamilton as an extension of Columbia Tap trail to west side of SB frontage road (instead of as a street crossing) then bring trail south to Polk St. along the back of the convention center.
v. Ensure underpass at Commerce/Navigation proposed by GCFRD can be constructed with acceptable and safe grades/visibility for all modes of traffic.
    1. The intersection of Franklin and St. Emanuel Frontage Road seems poorly thought out given existing grades, typical travel speeds, and sight distance, should the full underpass mentioned above not come to fruition.
vi. Ensure Buffalo Bayou trails can connect to East End/Fifth Ward though detention area and freeway crossings. This is critical connection for the East End and must be excellent.
vii. Consider making more bridges and related traffic control two-way (e.g., Leeland, Commerce). This should be paired with consideration of more two-way streets in downtown.
viii. Proposed Lamar St at St. Emanuel intersection is difficult to see on the schematic but seems pretty awkward with difficult geometry. Keeping Polk open (with related ramp changes) would address connectivity issues and eliminate need for this funky design.
ix. In the area north of Minutemaid Park, the operations of the proposed southbound frontage road and existing Hamilton appears problematic. Having two parallel one-way street traveling the same direction and located 100' apart seems like a recipe for conflicting queues and confusing operation for motorists both on these streets and crossing them. I think there is significant potential for wrong way turns from crossing streets as drivers are used to the alternative pattern of one-way street Downtown. Consider consolidation of these streets or revisions to ramp access to Downtown.

b. West

i. Include Houston Avenue realignment and direct connection to Walker/McKinney as proposed by Downtown.
ii. Downtown Connector should be designed to allow Andrews Street to connect underneath structure as a walking and biking path to better connect 4th Ward to Downtown/Allen Center.
iii. Review need/potential to maintain IH-10 HOV Connector near Amtrak Station. Maintenance as a transit only facility could have significant value. If the existing IH-10 Connector is removed as currently proposed, Washington Avenue should be connected to the Post Office site. Ideally the connector could be maintained and designed to allow Washington Avenue connection, and incorporate a transit stop to serve post office redevelopment.
iv. The segment of the northbound frontage road between Dallas and Andrews should be made two-way. This will allow direct access to the Metropolitan Garage from more directions and make the connection to the south part of Allen Center more seamless from the west without having to circulate unnecessarily.
v. Instead of off-ramp from clover leaf ramp, connect Clay Street as a two-way road between Allen Parkway and Dallas Street with a signalized intersection at Allen Parkway to provide park access to Sam Houston and Buffalo Bayou Parks.
vi. Provide side path along both Heiner Street and NB frontage road on each side of Downtown Connector to connect Midtown to Buffalo Bayou. Link to new trail proposed for Brazos Street.

c. **North**

This area appears to see the least benefit from the NHHIP plan. TxDOT should offset this by seeking to improve the connectivity in this area which is already hampered by freight rail lines and the Bayou.

i. Plan for the extension of San Jacinto Street to Fulton including potential grade separation at the UP Passenger Main crossing which is hugely impactful to drivers and transit in this area.
ii. Providing an additional bridge crossing of IH-10 between Gregg St and Hirsch St would be very beneficial, potentially at Bringhurst, given the potential development of the KBR site in the East End.
iii. Provide improved version of existing walk/bike crossings of freeway east of Elysian and link to a new north-south trail connecting to Near North Side.
iv. Explore extending two-way frontage road along IH-10E west of Jensen to connect to Nance Street to improve link between Fifth Ward, East End, Near North Side, and Warehouse District.
v. Reconstruct Hogan and Quitman bridges with Bike Friendly crossings and sidewalks.

d. **South – IH-45 Pierce Elevated**

i. Approve of elimination of Pierce Elevated. Would love to see this redeveloped as expanded housing options for more people in the area.

e. **South – IH-69**

i. Complete Wheeler area Park Cap and related street and transit connections. Coordinate with City and METRO to ensure this area is designed to maximize future transit and development opportunities. See attached write up for overview recommendation of Wheeler TOD and Park Cap's potential.
ii. Maintain Blodgett connection from San Jacinto to Main St. This is very useful connection and also is very helpful to the bus operations at the Transit Center. With redesign on San Jacinto on-ramp to east side of street, this should be achievable.
iii. Ensure Transit Center can function. Current Schematic does not show exit point for Transit Center driveway. This project presents opportunity to rethink operations.
iv. Thank you for adjusting NB ramp on San Jacinto to the east side of street from west. Think this is better design and less impactful to street network and neighborhood.
v. Extend Blodgett from San Jacinto to Main St.
vi. Design wider Almeda Bridge crossing to support development as noted in (3b) below.
vii. Ensure LeBranch and Austin bridges are wide enough for safe walk/bike crossings.

2. **Support Walking, Biking and Transit Opportunities**

a. Ensure bridge widths throughout the project include sufficient space for quality sidewalks and high comfort bikeways as called for in COH standards and guidelines, and not be designed to match existing cross-section or old standards.
b. Design bikeways for All Ages and Abilities in line with the high-comfort bikeway guidelines set out in Houston Bike Plan. Protected bikeways or side paths set behind the curb should be designed for all bike connections. Bike lanes should be 6' wide minimum. 14' wide outside lanes designed as shared bicycle facilities are unacceptable and should not be included in this project. Intersections should be designed for safe crossing to accommodate bikeways and sidewalks.
c. All lanes on city streets and frontage roads should comply with City of Houston's 11' lane standards and encourage appropriate travel speeds and safe travel. Having different lane width

for different roads create inconsistent driver experience. 12' lanes are freeway lane standards and not local streets. They encourage excessive speeds through urban area where higher speeds are out of context and unsafe.

d. Define which intersection are proposed as traffic signals and all-way stop control. It is impossible to truly assess whether the design supports safe walkability, bikeability and transit use without this information. Traffic control recommendations should be developed with multi-modal safety and connections in mind.

e. Multiple streets have been shown with sweeping, large radius turns. Several of these match the existing roadway curb lines which may have been designed at a different time for different uses. This project should take the opportunity to minimize these issues, especially in areas where large numbers of people walking can be expected around Downtown and Buffalo Bayou.
    i. Sabine Street at Allen Parkway should be shown as T-intersection without sweeping right turn design. These are not appropriate for the context, given walking and biking crossings and desired travel speeds along Buffalo Bayou Park.
    ii. IH-69 exit to Main Street near Wheeler TC should be designed to allow improved pedestrian crossing and potential for bike connectivity as identified in Houston Bike Plan/METRO Bike & Ride studies.
    iii. Southbound Hamilton at McGowan and northbound Chartres at Elgin should be designed without sweeping right turn lane

f. As mentioned previously, design should accommodate potential for Midtown to Buffalo Bayou trail connection parallel to Heiner and a trail along east side of the northbound frontage road from Brazos/Pease to Dallas St. with a connection between them near Anderws St.

g. Safe comfortable bikeway on key bridge crossings should be provided including, but not limited to, Dallas St, Andrews Connection, Polk St, Leeland St, Walker St, and Commerce St.

h. In general, sidewalks should be identified on the schematics, at minimum in typical sections. All bridges should have wide sidewalk for safe crossing.

i. Transit Considerations
    i. The loss of Downtown to East End/EaDo connectivity at Polk and Runnels also impacts METRO service from the East End to Downtown. Routes 40, 41, 48 will need to find separate routes for eastbound and westbound trips. This will increase complexity, impact reliability for customers, and potentially incur service costs for METRO. Keeping Polk open would mitigate some of these issues and is recommended.
    ii. Design should be developed to accommodate future two-way express bus service on IH-69/US 59 with particular focus on Spur 527. Direct or expedited HOV connections to Wheeler TC should also be explored.
    iii. When reconstructing Green/Purple crossing of I69/I45 trench between East End and downtown, design larger radii turns to support faster train operation speeds. Improve signal operations for rail crossing at St. Emanuel and design Hamilton crossing to work effectively. Coordinate with CITY and METRO and potential for dedicated transit lanes on Capital and Rusk as well as rail connection through proposed cap park.
    iv. Entire design should be reviewed to ensure optimized bus stop locations have been considered Stops (and access to stops) would be designed to ADA and METRO standards with room for shelters to support high quality transit experience.
    v. When reconstructing Red Line over IH-69, consider elevating to remove conflict with Main, Richmond and Fannin. Elevated station could be designed to be oriented above bus transit center stops, minimizing footprint of station and making for easy customer connections. Design should be optimized to maximize TOD opportunity. Could also consider other alignments such as routing behind Sears and then parallel to San Jacinto. Main goal would be to minimize train/roadway conflicts (e.g., train does not cross

streets in the middle of intersections) while maximizing transit operations and TOD potential

vi. Links to downtown should support high-quality, fast, reliable connections to major activity centers. The loss of the existing downtown connector tied into Franklin, should be re-evaluated to see if it could be better used as part of express bus network or as an alignment for a light rail extension.

3. Development/Redevelopment Impacts and Opportunities

a. Partner with COH, METRO and others to develop Cap Park near Wheeler Transit Center from west of Main St. to east of San Jacinto coordinated with improved multimodal mobility and Transit Oriented Development potential. (See attached)

   i. Supports green space and walkable access to Transit Center
   ii. Support potential for adjacent TOD near Wheeler TC potentially with affordable housing component at rail stop ½ way between Downtown and TMC job centers.
   iii. Supports Blodgett connection to Main St matching existing connectivity
   iv. Supports existing or better operations for Wheeler TC (350 buses use TC bus bays per day not including stops on Main St). Proposed TxDOT plan does not correctly match or support current operations.
   v. Recommend assessment to determine if the Red Line could be elevated from north of Wheeler to south of Blodgett as described earlier.

b. Consider widening Almeda bridge to allow simple buffer buildings (see photo of IH-670 in Columbus below for example). This would reduce view of freeway and make a more seamless commercial corridor experience on this important roadway.

c. Area south of Baldwin Park should be redesigned to more of a neighborhood context without sweeping high speed curves in streets. For example, Francis Street could be designed as a T-Intersection with Chenevert. This would allow block between Chenevert, Francis, Jackson and Stewart to be reassembled at full city block. This could be used for green space or development opportunities.

d. Consider abandon Conti Street between McKee and Frontage Road. Space could be abandoned and reallocated to development space. Could also clean up transition from Lyons to McKee to make smoother and more legible.
e. Integrate connection to link area north of UP RR on the north side of the post office site to Downtown. This could potentially be incorporated into Downtown Connector, Bagby, Washington Avenue extension design.

4. Other General Design and Coordination Considerations

a. Where frontage roads are proposed such as between Midtown and Museum Park or between Downtown and the East End, it would be helpful to know which intersections would be proposed for signalization nor all-way stop control. This will greatly impact people's ability to cross at these locations, especially those walking or biking. It would likely be beneficial if all of these be considered for either signal or all-way stop control.
b. Would like to know if local street intersections have been analyzed in any way. It is not clear from the material on the website and would want to know if that included in the plan and FEIS analysis. If not, I believe that is a serious oversight to understand the proposed plan impacts.
c. In general, creating excess unproductive space should be avoided in street design (e.g., small triangles of isolated land unless there is clear plan to address (e.g. public art projects). Would also like to know how the project will be landscaped.
d. Tying SH 288 managed lanes directly into Chenevert seems troubling. This is very much a residential neighborhood and Chenevert is not natural connection to most destinations Downtown. Tying to frontage roads would be preferred, particularly for northbound traffic. If Chenevert connection is maintained, there should be design elements in place to slow traffic through the neighborhood to appropriate speeds.
e. Need to define street network under the freeway segment of IH-10 north of Downtown. This area is designated "Excess ROW" and has significant potential to transform the warehouse district area. What will be the process to clarify?
f. Bottlenecks –
    i. Could IH-45>IH-69N to IH-10 Ramp be separated to eliminate some of the likely weaving though that section. IH-45 N to IH-69 N connection could occur in vicinity of Runnels. Think this has potential to reduce weaving through that area overall.
    ii. IH-69S south of merges seven southbound lanes (2 from Hamilton/Webster, 4 from IH-69S main lanes, 1 from IH-45N) in 6 lanes which drop to 4 lanes once two lanes are peeled off to local streets on south end of midtown. This seems like it will end up as a major bottle next similar to Existing IH-69 NB at the Spur. Don't really have a solution but seems like it will be challenge at day one of opening.

g. I know several stakeholders have submitted recommendations that have potential to significantly improve connectivity but have not been reflected in current plans. Plans say they are "subject to change" What is the process to consider these changes?

Segment 2 (I-10 to I-610)

1. **Connectivity**
    a. Clarify end of streets like North Ave, Woodland and Farwood. Do they cul-de-sac or connect to Frontage Road? Connections seem preferable.
    b. Appreciate extension of frontage roads under IH-610 at IH-45 interchange. These roadways and intersections should be designed to also allow safe pedestrian and bicycle crossings as there is not another crossing for approximately ½ mile in either direction. The large radius turn lanes are not typically supportive of safe, comfortable crossings at these locations.
    c. Consider extending IH-610 Segment east to allow Helmers Street connection across the freeway. Helmers would be a very useful north-south connection, potentially as a minor collector, as it is continuous from Fulton Street on the South to Berry Street on the north, a distance of almost 3 miles. Right now only north connections through here are Fulton and Irvington and Fulton has Red Line impacts.
2. **Design to Support Walking, Biking and Transit Opportunities**
    a. Design bikeways for All Ages and Abilities in line with the high-comfort bikeway guidelines set out in Houston Bike Plan. Protected bikeways or side paths set behind the curb should be designed for all bike connections. Lanes should be 6' wide minimum 14' wide outside lanes designed as shared bicycle facilities are unacceptable and should not be included in this project. Intersections such as Main, Cavalcade, Patton and Link are all identified on Houston Bike Plan as bikeway opportunities. Intersections and crossings should be designed to accommodate high comfort bikeways and sidewalks.
    b. Ensure bridge and approaching roadway widths throughout project include sufficient space for wide sidewalks and high comfort bikeways as called for in COH standards and guidelines, and not be designed to match existing cross section.
    c. Ensure design allows trail connectivity along Little White Oak bayou, connecting neighborhoods to parks and open space, wherever it crosses freeway including at IH-610 at IH-45 N interchange.
    d. Assess ability to bring trail underneath Freight Rail Line north of Stoke Road. If trail cannot travel under the freight rail line, integrate trail into frontage road design to cross rail ROW.
    e. Transit
        i. Entire design should be reviewed to ensure optimized bus stop locations have been considered and stops (and access to stops) would be designed to ADA and METRO standards to support high quality transit experience. For Segment 2, this is most critical for the Cavalcade St. bridge crossing and the operation of the existing 44 Acres Homes which travels on a section of Main St and Houston Avenue impacted by the NHHIP project.
3. **Development/Redevelopment Impacts and Opportunities**
    a. Proposed design of Cap Park area near Main Street can be greatly improved if it is intended to be a place for people. It will be difficult to access the park with high speed frontage roads. It will also be difficult to connect between sections of the proposed park/open space due to U-Turn lanes. Consider relocation, removal or by pass of these U-Turn lanes and design of frontage roads to allow safe access to the park space.
    b. Consider designating northeast corner of IH-45 and IH-610 as excess ROW to allow potential development, offsetting impacts in other quadrants of the interchange. Extend streets like Nordland and Melborn to new Frontage roads.
    c. Plans should designate where noise walls are proposed to mitigate neighborhood impacts.

Segment 1 (I-610 to Beltway 8)

1. **Connectivity**
    a. Trying (and struggling) to envision how the Airline, Victoria Drive and Northbound IH-45 Intersection would operate safely and legibly to people traveling through in any mode of travel. I realize that is largely how it is today but would use this opportunity to look at alternatives.
    b. Clarify plan for Werner Street in northeast corner of Tidwell intersection with IH-45. Seems like Cul-de-sac with access further north could be better than proposed T shaped design.
    c. Consider extension and direct connection from IH-45 MaX lanes to Greens Road to serve Greenspoint area. Would help with redevelopment of the area and support potential METRO Limited Stop Downtown to Airport Route (e.g., Downtown> Shepherd> Greenspoint> IAH)
2. **Support Walking, Biking and Transit Opportunities**
    a. Design bikeways for All Ages and Abilities in line with the high-comfort bikeway guidelines set out in Houston Bike Plan. Protected bikeways or side paths set behind the curb should be designed for all bike connections. Lanes should be 6' wide minimum 14-15' wide outside lanes designed as shared bicycle facilities are unacceptable and should not be included in this project. Intersections such as Crosstimbers. Tidwell, Parker, Little York are all on Houston Bike Plan. Intersections and crossings should be designed to accommodate high comfort bikeways.
    b. Intersection should also be designed with special care for safe, comfortable crossings for pedestrians. Most arterials crossing IH-45 are on METRO's bus network, have significant nearby boardings and will require safe crossings to serve stops for people traveling in both directions. There is also adjacent development that should be safely accessible for people walking.
        i. In particular the Intersection of Shepherd and IH-45 is directly adjacent to the N Shepherd Park & Ride. This intersection should be assessed to ensure that is safely traversable by people walking.
    c. Ensure Halls Bayou Crossing north of W. Mt. Houston is design to allow trail crossing under freeway and frontage roads.
    d. Transit
        i. Entire design should be reviewed to ensure optimized bus stop locations have been considered and stops (and access to stops) would be designed to ADA and METRO standards to support high quality transit experience. For Segment 2, this is most critical for the Cavalcade St. Bridge crossing and the operation of the existing 44 Acres Homes which travels on a section of Main St and Houston Avenue impacted by the NHHIP project.
        ii. Like the ability for two-way access to N. Shepherd P&R. Coordinate with METRO to consider how this can be part of expanded express bus network providing high speed connection to activity centers. Extension of Max lanes to Greenspoint and IH would also greatly enhance this network.
        iii. N. Shepherd Transit Center would be logical extension for METRO Red Line. Would think about how that connection could be made and consider that in design so as to not predlude options. For example, consider making West Little York and Parker crossing spans wide enough as these would be potential point for light rail to cross IH-45 to reach N. Shepherd.
3. **Development/Redevelopment Impacts and Opportunities**
    a. Plan should designate where noise walls are proposed to mitigate neighborhood impacts.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, May 25, 2017 11:24:28 AM

Patty,
Comment

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Thursday, May 25, 2017 9:14 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Wednesday, May 24, 2017 10:21 AM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Tuesday, May 23, 2017 9:50 PM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Ms. Victoria Gutierrez [redacted]

Requested Contact Method:

Reason for Contact: Customer Service
Complaint: No

Comment: I do not agree with the on /off ramps being at grade when going east or west on 610 at 45 and having to cross Fulton where the metro light rail runs. That will be a high traffic area resulting in long delays due to the trains. This is a safety issue and dangerous with that rail having to be crossed. I am ok with them if they go OVER Fulton !

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, May 25, 2017 11:23:51 AM

Patty,

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Danny Perez
Sent: Thursday, May 25, 2017 8:39 AM
To: Kelly Lark
Subject: FW: TxDOT Internet E-Mail

Kelly,

Forwarding to include as a public comment. Thanks.

Danny Perez
Public Information Officer
Texas Dept. of Transportation - Houston District (Galveston Ferry PIO) Danny.Perez@txdot.gov
Office: (713) 802-5077
Cell: (281) 686-0977

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Galveston Ferry - @galvestonferry

-----Original Message-----
From: HOU-PIOWebMail
Sent: Tuesday, May 23, 2017 4:33 PM
To: Danny Perez
Cc: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----

From: [redacted]
Sent: Tuesday, May 23, 2017 11:25 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Mr. Ian Hlavacek [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: For the I-45 North construction project, please consider revising the design to keep Bell, Clay, and Polk open across the freeway in the downtown area. Four streets apparently need to be closed to accommodate the ramp; that could be accomplished by closing the 4 streets between Polk and Rusk, none of which provide connectivity into downtown.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, May 25, 2017 11:25:08 AM

Patty,
Comment....

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Thursday, May 25, 2017 9:14 AM
To: Christine Bergren; Kelly Lark
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Wednesday, May 24, 2017 10:22 AM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Tuesday, May 23, 2017 8:15 PM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Mr. Mathew Zeis[redacted]

Requested Contact Method: Email

Reason for Contact: Customer Service
Complaint: No

Comment: I am excited about the expansion of I-45, however I believe increasing traffic across Fulton at the east and west bound access roads will decrease safety instead of increasing safety. Increasing traffic flow across the rail line will create much longer delays. I hope the designers will consider a fly over/ bridge over the rail line. Thank you!

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Tuesday, May 30, 2017 2:19 PM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Tuesday, May 30, 2017 1:46 PM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Saturday, May 27, 2017 9:04 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Ms. Kathy Green[redacted]

Requested Contact Method: Email

Reason for Contact: Customer Service
Complaint: No

Comment: I am a resident of Lindale Park. I believe the proposed change for westbound entrance to 610 at street level west of Fulton is problematic. Waiting at the light at Fulton is very, very slow due to the rail. A dedicated elevated ramp that would go over the Fulton intersection onto 610 would alleviate the potential problem.
Thank you, Kathy Greer

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Tuesday, June 20, 2017 8:09:23 AM

Patty,
Comment
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, June 19, 2017 8:50 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 19, 2017 at 11:09:08 AM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
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> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 06, 2017 6:55 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. CORRY BAILEY[redacted]
>
> [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I-45 DOWNTOWN PROJECT. I am writing about my concern to move I-45 from the pierce elevated to run parallel to HWY 59. The cost alone is a serious concern. This money would be used to help fix existing problems with the 45/59 interchange. The freeway should have been widened during the pierce elevated project in the late 90s.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Tuesday, June 20, 2017 8:19:13 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, June 19, 2017 8:50 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 19, 2017 at 11:08:51 AM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
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> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
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> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 06, 2017 7:39 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: [redacted]

[redacted]

Requested Contact Method: Email

Reason for Contact: Customer Service
Complaint: No

Comment: Demolishing the Pierce Elevated isn't a good idea for the City of Houston. The Pierce elevated is idea for the city because you can go that route to get to the other side quicker. If you demolished it, the traffic will be worse , trying to get to 45north from 59North to I10-west is not good for the city, that sharp curve to I10-west is terrible.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Tuesday, June 20, 2017 8:06:38 AM

Patty,
Comment.....
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, June 19, 2017 8:50 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 19, 2017 at 11:10:35 AM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
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> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 06, 2017 4:53 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. doris fields<[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I for one commute daily on the pierce elevated. Since the re-route of the entrance from Allen parkway the commute on I-45 has improved in my eyes. The stretch of 59 south between Hamilton and I-45 needs work. Does Houston need need to spend more money on freeways? Keep the pierce elevated alive!

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Tuesday, June 20, 2017 8:10:10 AM

Patty,
Comment
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, June 19, 2017 8:50 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 19, 2017 at 11:07:24 AM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
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> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 06, 2017 9:50 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Scott [redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: In addition to rerouting 45 to run parallel to 59/69, why not keep the Pierce Elevated as well to serve as an alternate route or run all 45 northbound traffic on the Pierce Elevated and route all 45 southbound traffic on the new route being constructed parallel to 59/69.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Tuesday, June 20, 2017 8:06:07 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, June 19, 2017 8:40 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 19, 2017 at 10:25:04 AM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, June 08, 2017 11:18 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Aaron [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I'm highly against rerouting I-45 around the east side of downtown. The current Pierce has congestion partly because of the hard curves in the existing highway, causing traffic to brake, with the "replacement" having even more awkward curves that would introduce more congestion without fixing problems, as well as uneconomical ROW acquisitions.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Public Comments for the North Houston Highway Improvement Project
Date: Tuesday, June 20, 2017 8:19:03 AM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, June 19, 2017 8:50 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Public Comments for the North Houston Highway Improvement Project

Sent from my iPad

Begin forwarded message:

> **From:** "HOU-PIOWebMail" <HOU-PIOWebMail@txdot.gov>
> **To:** "Pat Henry" <Pat.Henry@txdot.gov>
> **Subject: FW: Public Comments for the North Houston Highway Improvement Project**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: Oscar Slotboom [redacted]
> Sent: Thursday, June 08, 2017 8:42 PM
> To: HOU-PIOWebMail
> Subject: Public Comments for the North Houston Highway Improvement Project
>
> Comments are attached as a PDF file. If this format is not suitable, please advise and I can provide the comments in another form (printed or Word document.)
>
> Thank you for considering my comments,

Comments for the North Houston Highway Improvement Project

June 9, 2017

Submitted by:
Oscar Slotboom
[redacted]

General Comments

1. I support the North Houston Highway improvement project.

2. I would like to thank TxDOT and its consultant for the substantial improvements in the design since the original design was presented in 2015.

3. Due to the high cost and construction disruption of this project, TxDOT should continue efforts to refine and improve the design.

4. The section of the project between Interstate 10 and Loop 610 has numerous design concerns due to the narrow right-of-way. The properties along both sides of the freeway in this section are lower-tier commercial properties, none historic or worthy of preservation. It makes no sense to compromise an important section of a $7 billion project to preserve these low-grade properties.

   For example, widening to the west at North Main (across from the Hollywood Cemetery) would affect an Exxon gas station, a McDonalds, a pawn shop, an old house used a commercial office, a real estate office and the Houston Food Bank warehouse. All these properties are easily relocatable to other locations.

   North of the Hollywood cemetery, additional right-of-way can be acquired on the east side of the freeway.

   TxDOT should look at all options for widening the corridor in this section.

5. Avoiding the Cheek-Neal building in the downtown area forces a swerve in the alignment and also introduces design compromises, including item 9 in my list of concerns. The Cheek Neal building was built in 1917, has been vacant and unused for decades, and was designated as historic in 2015. It seems very suspicious and opportunistic that the structure all of a sudden became historic when plans for a deck park were revealed in 2015. Of course, being immediately adjacent to the park will drastically increase the value of the building.

   It appears that the historic designation will greatly benefit the real estate developer, while compromising the design of the freeway. Since the building was not considered historic prior to 2015, the historic designation should be reconsidered so this property can be used for the project.

6. On the following pages I have listed 12 design concerns. The project design in the areas of these concerns can be improved with simple to moderate design changes. I urge TxDOT and its consultants to take a close look at these spots for potential improvements.

Thank you for considering my comments.

Reference item: news article about the Cheek-Neal building

This news report from the September 27, 2015, Houston Chronicle documents that the building was unused and never considered to be historic until the real estate developer purchased the property and petitioned for its historic status in 2015, after plans for the deck park were revealed.
I have added underlines to items of interest.

Historic coffee building wakes up to a new morning

NANCY SARNOFF
PUBLICATION: Houston Chronicle (TX)
SECTION: Business
DATE: September 27, 2015
EDITION: 3 STAR
Page: 1

A soft breeze blew through the open windows on the top floor of 2017 Preston, bringing with it the rich smell of coffee from a manufacturing plant about a half-mile away. At first, the irony was lost on the owner of the five-story building, itself once a coffee roasting operation that shuttered in the 1940s.

"I've always smelled that, but I didn't know exactly what it was. That's pretty cool," said David Denenburg, laughing about how his senses have been dulled by years of exposure to paint, chemicals other products used in construction.

Denenburg recently bought the red brick building that rises five stories alongside the Southwest Freeway just east of downtown. Though there's been a renaissance of the neighborhood around it, the old Cheek-Neal Coffee building has languished for decades, a target for graffiti artists and a shelter for the homeless.

One of its most identifiable features is a rooftop water tower that was replaced several years ago with a fiberglass imitation that hides Verizon Wireless cellular equipment. The original tank sits just a few feet away, and Denenburg imagines it being used as perhaps a circular bar once the building has been restored and has a new purpose.

For now, he's not sure what that purpose will be. And there's still a looming question as to how the building might be affected by the state's plans to reroute Interstate 45 alongside U.S. 59, effectively widening the freeway adjacent to Denenburg's building.

Since he and a small group of investors purchased the building in June, the 36-year-old developer has been moving at a fast clip to restore it to the way it looked when it was built in 1917.

Denenburg has concentrated initial restoration efforts on the building's downtown-facing side.

"What I'm trying to do is get this entire façade finished so everybody in the city can see how beautiful this building really is," Denenburg said during a tour of the property. "I just want to prove this building is not a piece of junk. It's a masterpiece."

Workers have been power-washing the structure and removing paint with equipment that won't damage the bricks. Every window has been restored by hand.

"Everything we do is kind of old school, from building our own scaffolding to how we do the windows," Denenburg said.

Distinctive windows

Welders and architects told him the windows, which were manufactured in St. Louis 100 years ago, could not be saved because they'd have to be removed in order to be restored, and that wasn't an option because of the way they were built into the structure.

"Everyone told me to rip these out and have them re-created in a factory in China," said Denenburg, who was determined to redo them in place.

He pointed out the curvature of a handle that cranks open the windows.

"See how beautiful this handle is? You can't find that anywhere," he said.

The Houston Archaeological and Historical Commission recently voted to approve the building as a Protected Landmark, the highest level of protection for a historic property. It prohibits demolition, except in cases of extreme hardship, and requires approval for any alteration to the façade.

Joseph Finger and James Ruskin Bailey designed the 55,000-square-foot concrete frame structure, which served as a coffee plant that manufactured Maxwell House before operations moved to a bigger plant on Harrisburg, the one nearby, in the late 1940s.

As Denenburg pushed for the designation, he was warned against it.

"People were like, 'Oh be careful ... you're going to be in the hand of the preservation society for everything you do,' " he said. "I was like, 'I don't care. I want it to be that way.' "

What it could be

For now, Denenburg is more focused on restoration than finding a tenant. Still, he's talked with boutique hotel operators and was recently approached with an idea that would use the property as a culinary market like they have in other major cities.

He'd also like to see a coffee shop on the first level and perhaps an event space on the top floor with rooftop access. Residential lofts are "off the table," he said, "because the only people that would be able to enjoy them are the owners."

His plan is to use the original name: The Cheek and Neal.

LISTING OF THE 12 DESIGN CONCERNS

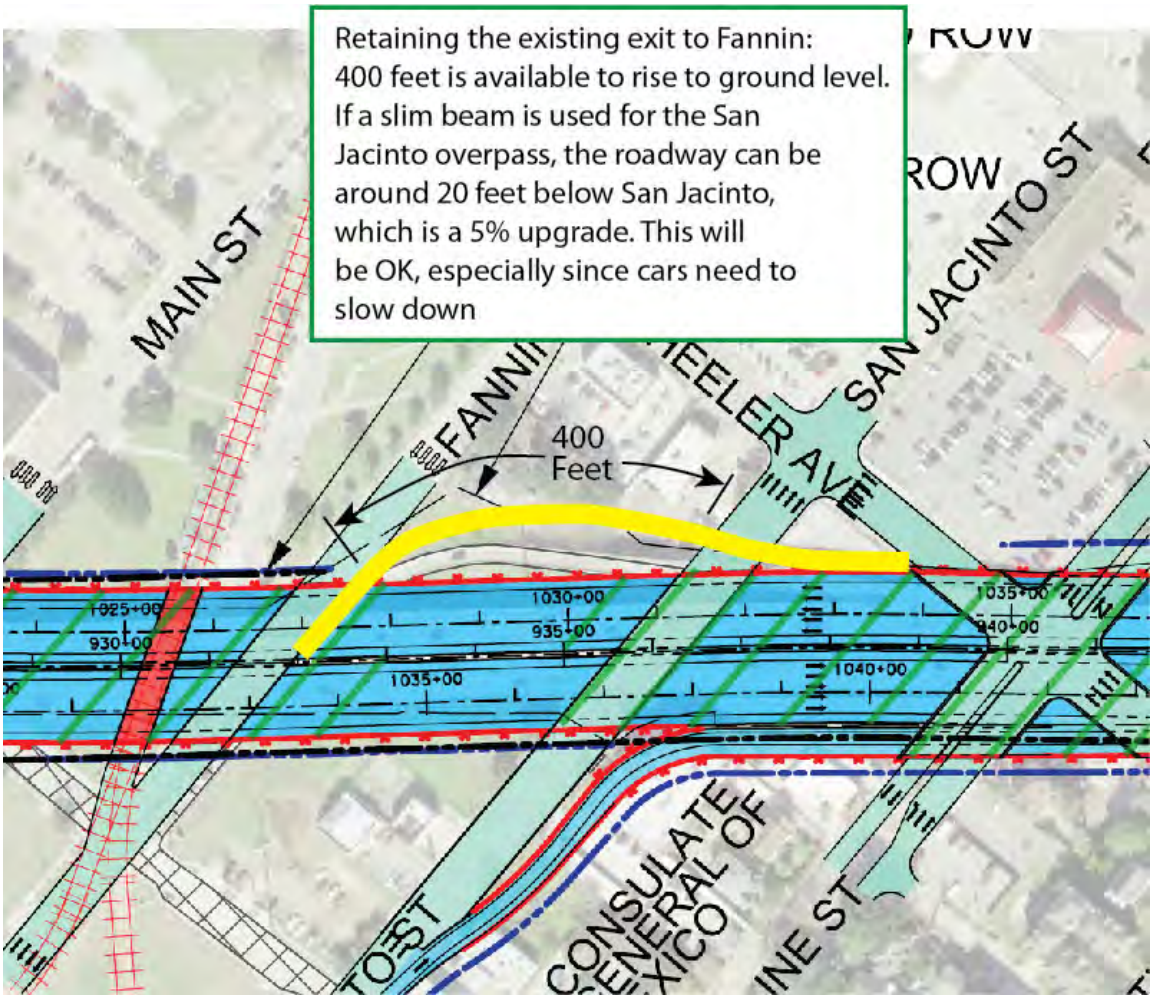
1. Southbound IH-69 exit Midtown: the Fannin exit ramp needs to be restored

Problem

- The existing exit to Fannin is eliminated and replaced with an exit to Almeda Road. This will force vehicles through six traffic signals to reach Fannin using a route with two turns.
- Using Wheeler to reach Fannin will exacerbate congestion in the area, and Wheeler does not have a left-turn lane to southbound Fannin.
- Proceeding to the west from the Almeda exit using routes other than Wheeler will be difficult and inconvenient since east-west streets are not equipped to handle through-traffic.
- Without the Fannin exit, there is a distance of 2.3 miles on southbound IH 69 with no exit. This will likely contribute to extra weaving for people trying to reach the Almeda exit, see issue 10
- With the currently existing exit to Fannin, traffic coming from SH 288 can exit to Fannin. If the Fannin exit is eliminated, SH 288 traffic will need to take a much longer route on surface streets to get to the west side of Midtown.

Potential Solution

- Restore the exit to southbound Fannin
- The option shown in the diagram provides 400 feet to bring the ramp up to ground level. This is a 5% grade, which should be acceptable for an off-ramp where traffic must slow down. The benefits of this exit can justify a design exception, if an exception is needed.



2. IH-45 northbound, entrance/exit to the managed lanes at Loop 610 is poorly situated and jammed into a constricted space

This design issue was introduced in the May 2016 schematics and was carried forward with no changes to the May 2017 schematics.

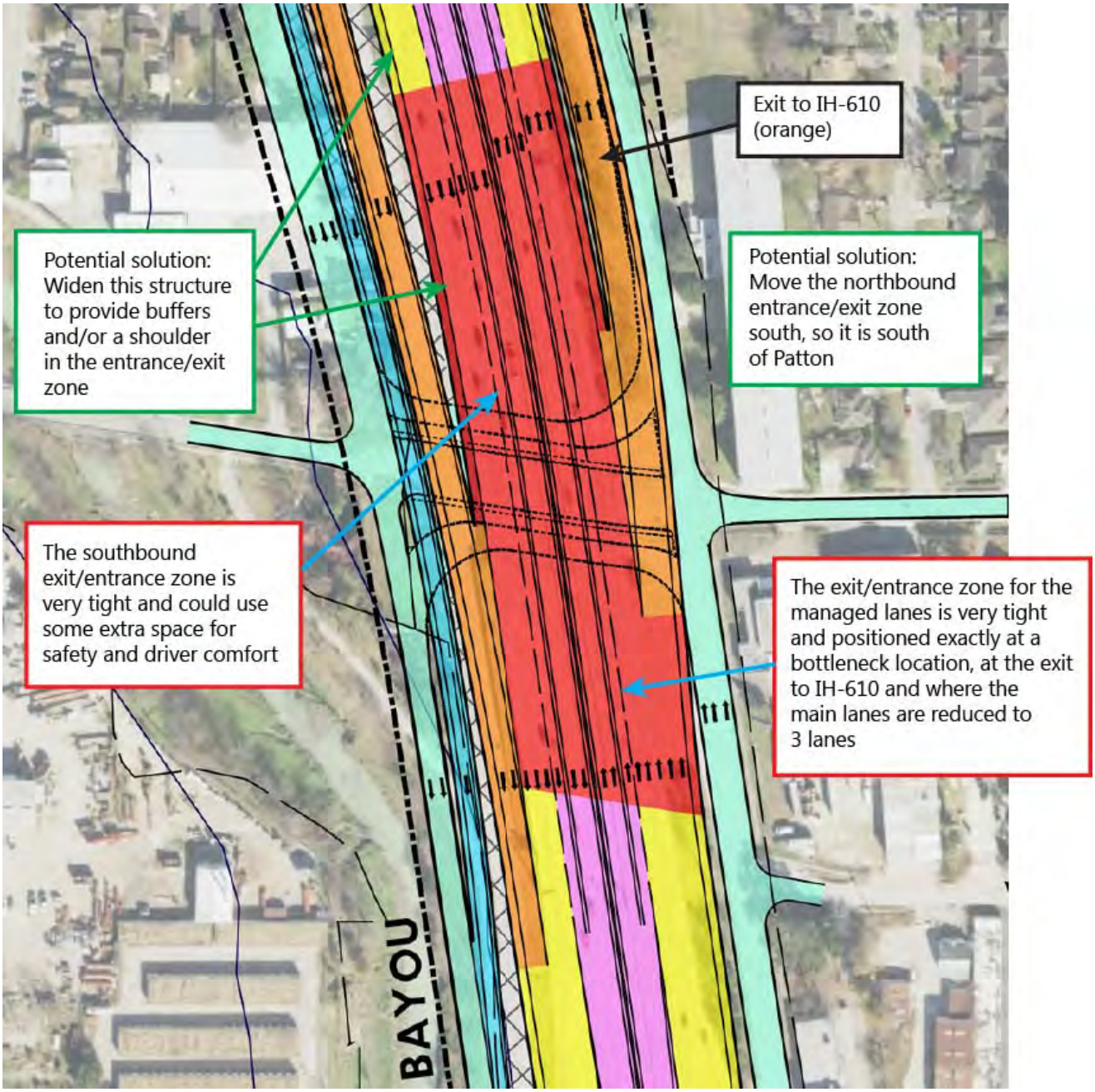
Problem

- The northbound entrance/exit to the MaX lanes is located at the exit for the connections to the North Loop. Traffic congestion usually occurs at interchange exit points. Now to further complicate this location, the MaX lane entrance is added at this spot.
- Vehicles positioning to enter the managed lanes will be weaving to the left, causing more lane-switching in an already congested area, likely worsening congestion.
- Both the northbound and southbound entrance/exit zones are very tight with no shoulders and minimal buffers. There is minimal space between the edge of the lane and pylon separators. (Pylons would likely have a short life.) It will be safer to have a shoulder and/or wider buffers, like the well-designed entrance/exit zones on the Katy Freeway managed lanes.

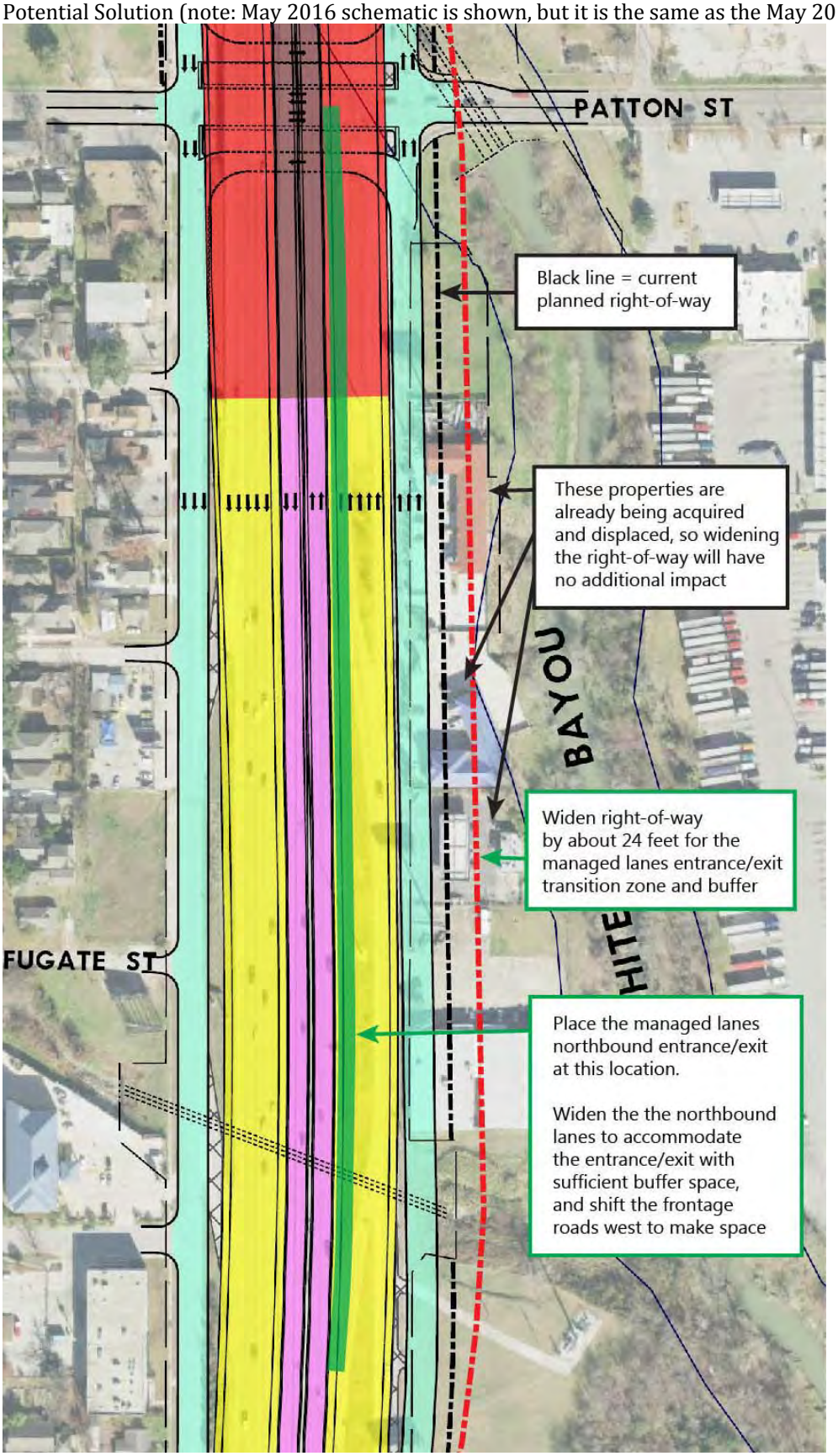
Potential Solution

- Move the northbound managed lanes entrance/exit southward to be between Cottage Street and Patton Street (shown in the second diagram below), since properties are already being acquired and widening the right-of-way would have no additional impact. Or, a thin strip of right-of-way can be acquired on the west side, since only lower-tier commercial establishments would be affected. Also add buffer space and/or a shoulder along the managed lanes entrance/exit.
- Or, remove the northbound slip ramp entirely and replace with direct connections, as suggested in item 3 below.
- For the southbound entrance/exit zone, widen the bridge to provide a wider buffer and/or shoulder to improve safety and driver comfort. Possibly move the entrance/exit zone north to be farther away from the merge point of the connections from Loop 610.

This diagram shows the location of the poorly-situated MaX lanes entrance/exit.



Potential Solution (note: May 2016 schematic is shown, but it is the same as the May 2017 design):



3. IH-45 Northbound Managed Lanes: Insufficient Access Inside the Loop

This item has existed on all prior versions of the schematics. But I still believe there is a need for at least one additional northbound entrance inside the loop, and there are potentially feasible options to be considered.

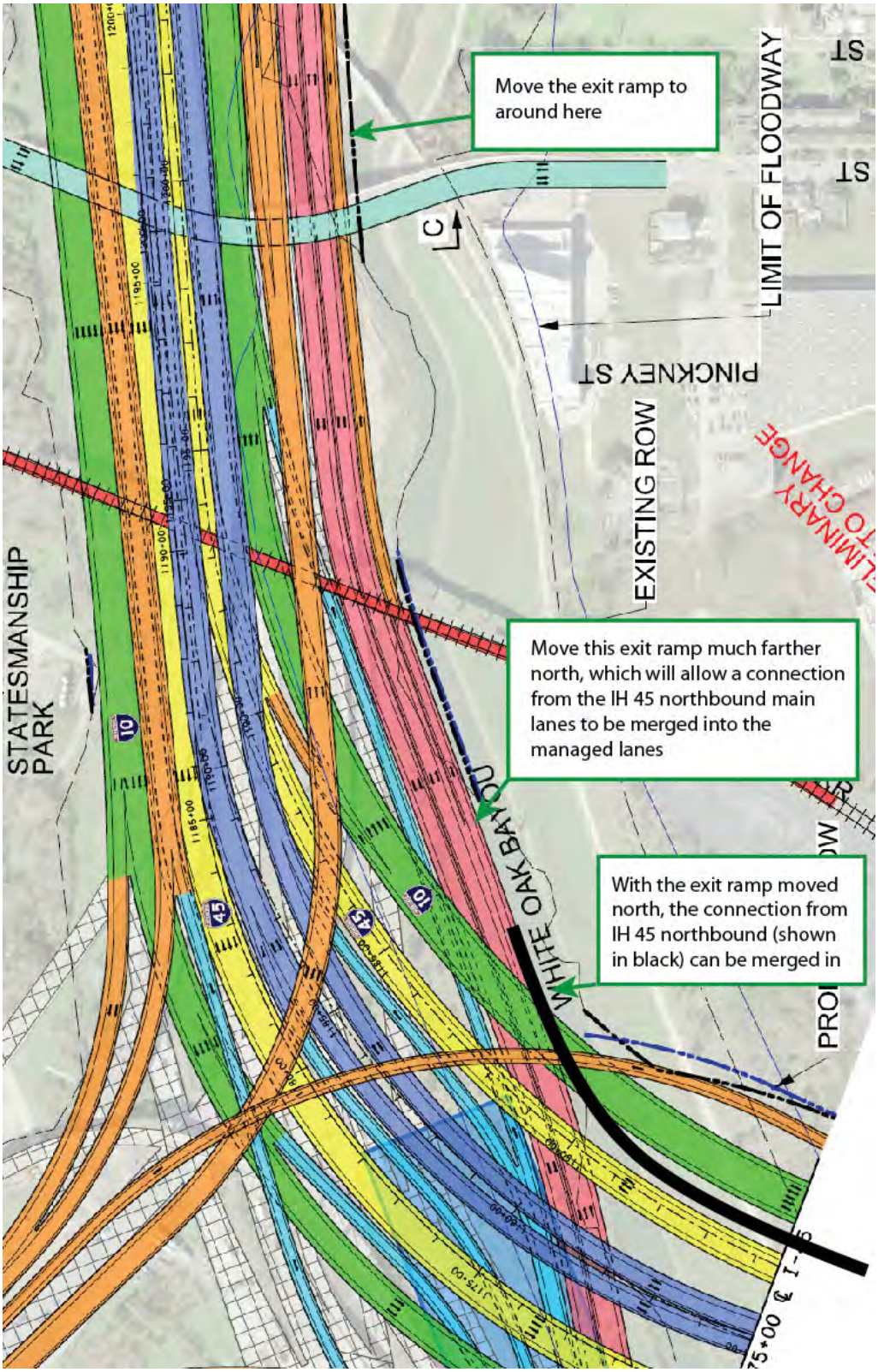
Problem

- There is only **ONE** definite access point to the northbound managed lanes inside the loop, from Travis Street downtown. The May 2017 plan shows a potential connection from the IH 10 eastbound express lanes.
- Traffic on the northbound IH-45 main lanes, northbound on the downtown spur and westbound on IH-10 cannot get on the managed lanes until the entrance at the North Loop.
- Since there is normally a heavy traffic backup inside the Loop between downtown and Loop 610, motorists should have the option of better access to the managed lanes to avoid the traffic jams

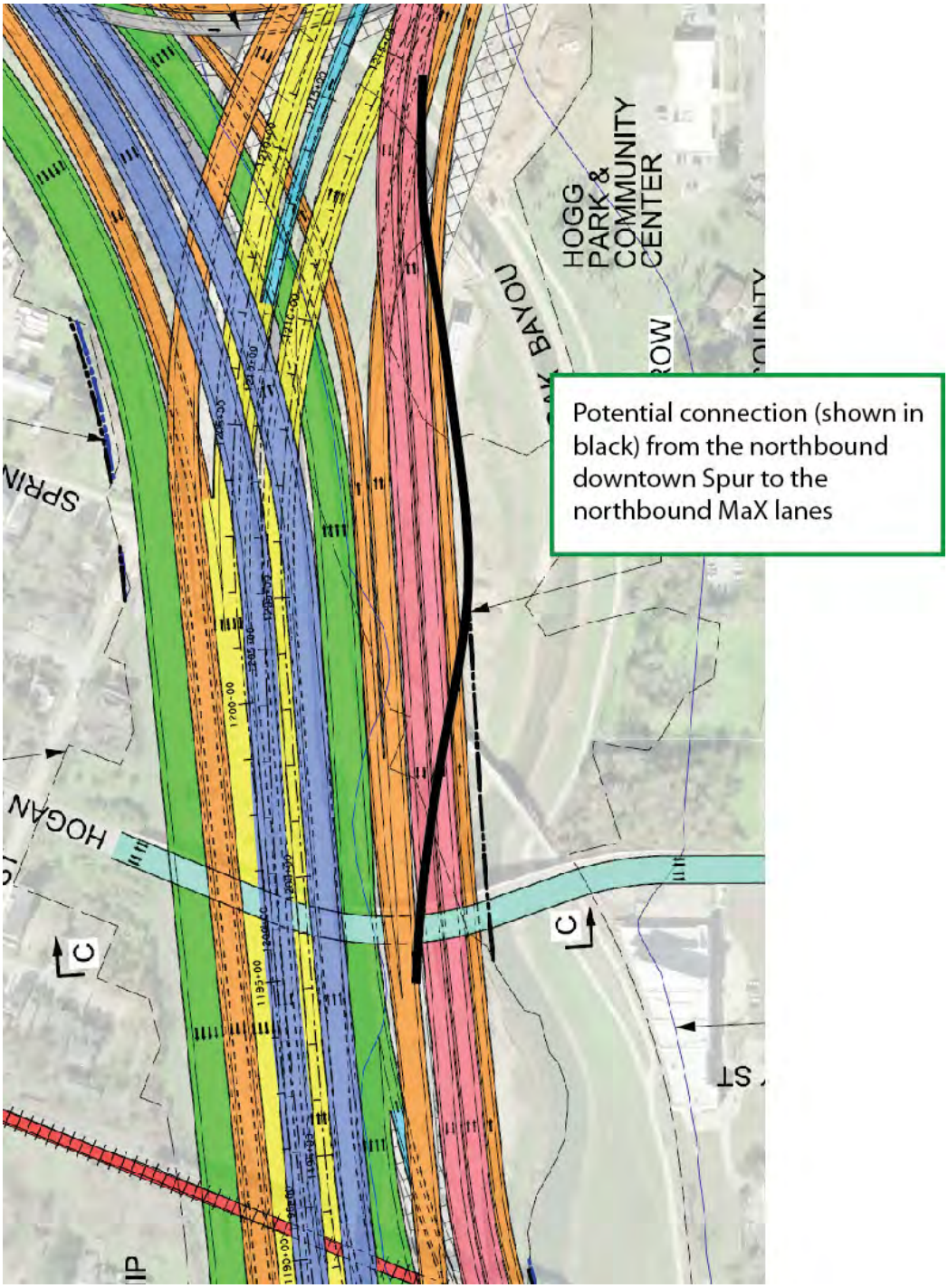
Potential Solution

- Ideally, both the northbound downtown Spur and IH-45 northbound main lanes should have access to the managed lanes in the downtown area.
- It appears to be feasible to add access to the northbound managed lanes from both the IH 45 northbound main lanes and the northbound Spur. See the diagrams below.
- If both options above are not feasible or not cost-effective, shifting the northbound managed lanes access point to the area south of Patton as suggested in item 2 would help mitigate this problem, and may in fact be the best solution since it would also solve design concern #2.

This image shows how a connection from the northbound IH 45 main lanes to the northbound MaX lanes can be added



This image shows how a connection from the northbound downtown Spur to the northbound MaX lanes can be added.



4. IH-45 between IH 10 and Loop 610: design standards are compromised, especially the shared shoulder

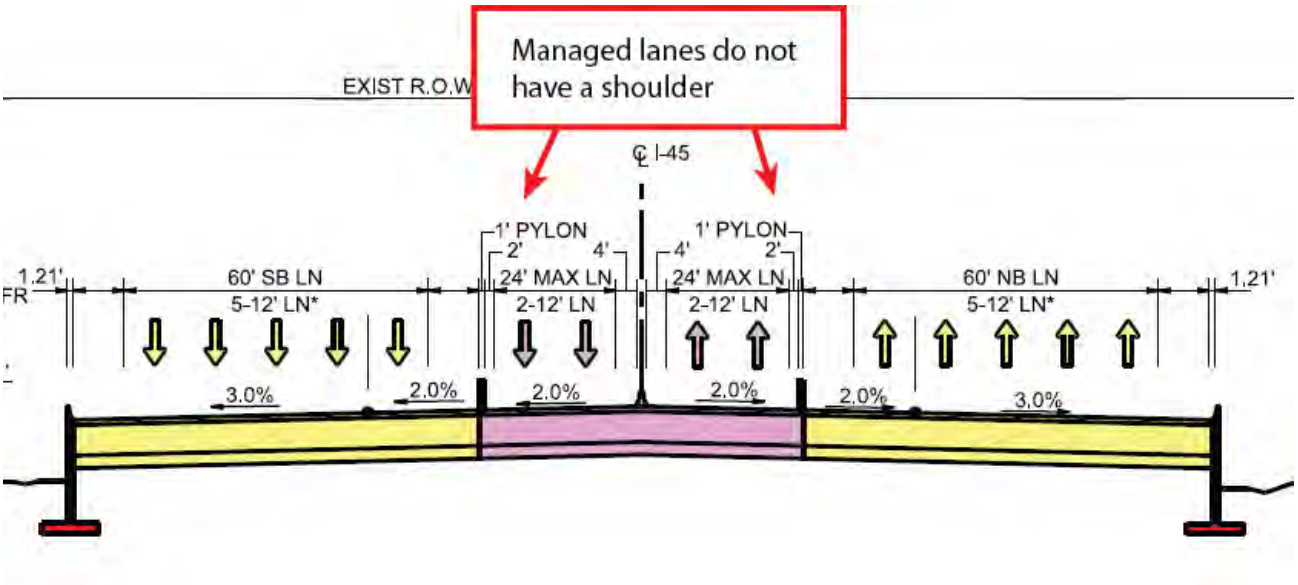
Due to constricted right-of-way width in this section, the design standards are compromised. Because the west side of the freeway is lined with lower-tier commercial establishments and some vacant lots, it makes no sense to constrict the width and introduce design compromises.

Problem

- The managed (MaX) lanes don't have a dedicated shoulder due to the constricted right-of-way width
- It is unclear from the schematics if there is an adequate merging zone for the northbound entrance ramp just south of Main Street (see issue 6 diagram). This entrance ramp is at the tunnel entrance, and the transition to the tunnel may distract drivers' attention from merging. Ideally an auxiliary lane should be maintained for a distance, possibly all the way to the Loop 610 exit.
- The merging distance for the southbound entrance ramp from Cavalcade also appears to be very short.

Potential Solution

- Ideally, the right-of-way width should be widened to provide standard-width shoulders for both the main lanes and the MaX lanes.
- Add a northbound auxiliary lane for at least a short distance for the northbound entrance ramp just south of Main Street, and a southbound auxiliary lane for at least a short distance for the southbound on-ramp from Cavalcade.
- Consider using extra right-of-way on the west side which is currently listed as a potential detention area. Replacement detention acreage can be obtained around the truck stop.



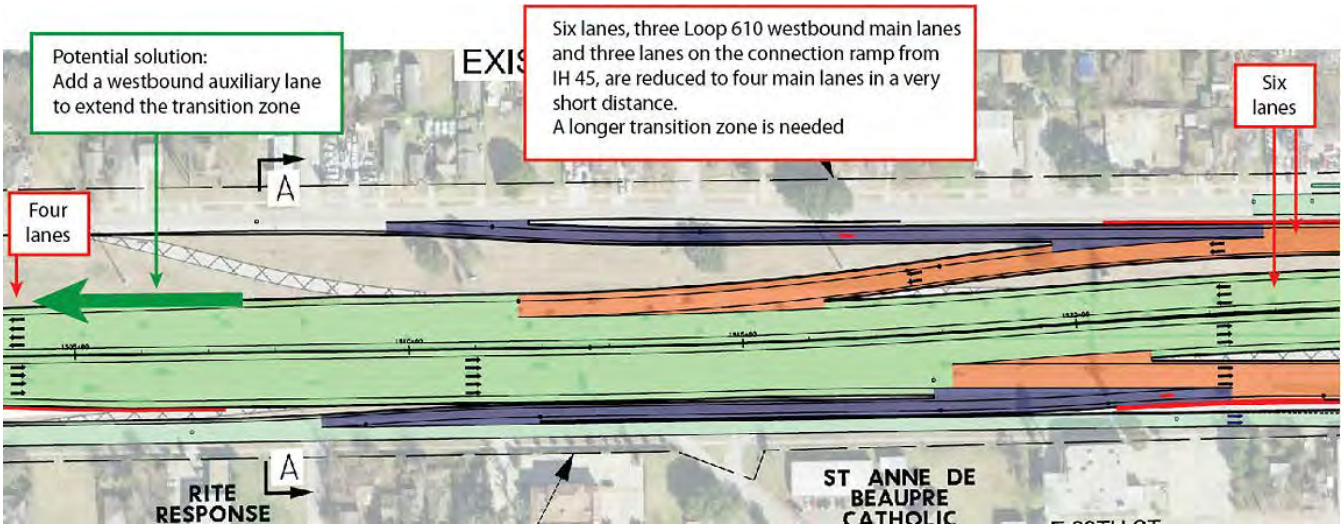
5. Connections from IH 45 to Loop 610 westbound: Transition zone is too short

Problem

- There are six lanes of traffic going westbound including the Loop 610 main lanes and lanes on the connections from IH 45, and these six lanes are reduced to four lanes in too short a distance
- This is similar to the present-day situation, where the merging transition zone is too short.

Potential Solution

- Extend the transition zone by adding a westbound auxiliary lane over Main and Yale.



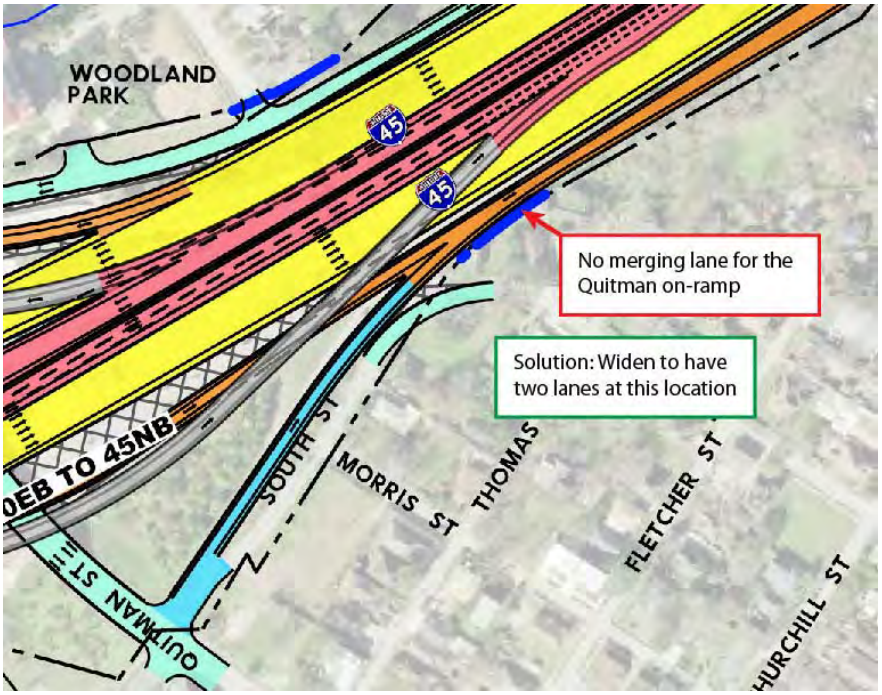
6. The connection ramp from IH 10 eastbound to IH 45 northbound has a narrow merge point with the on-ramp from Quitman, and the merge distance with the main lanes appears to be very short

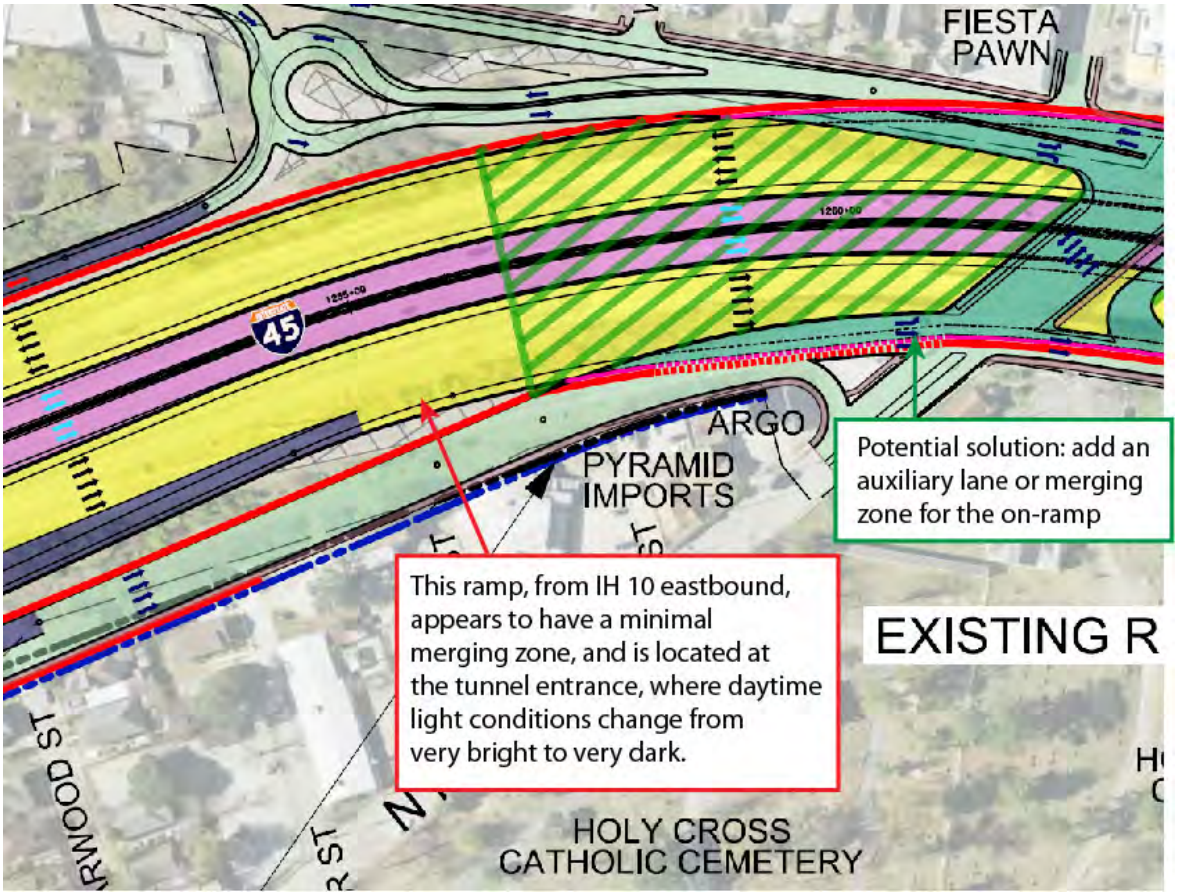
Problem

- There appears to be little or no merging zone for the on-ramp from Quitman
- The merge zone into the northbound IH 45 main lanes appears to be short or non-existent
- The merge zone into the northbound IH 45 main lanes is at the tunnel entrance, and changing lighting conditions may cause additional motorist distraction and stress, potentially making this a dangerous on-ramp if there is not a dedicated auxiliary lane.

Potential Solution

- The on-ramp from Quitman should have a dedicated lane
- The merge into the IH 45 northbound main lanes should have an auxiliary lane, and at the minimum a sufficient transition zone





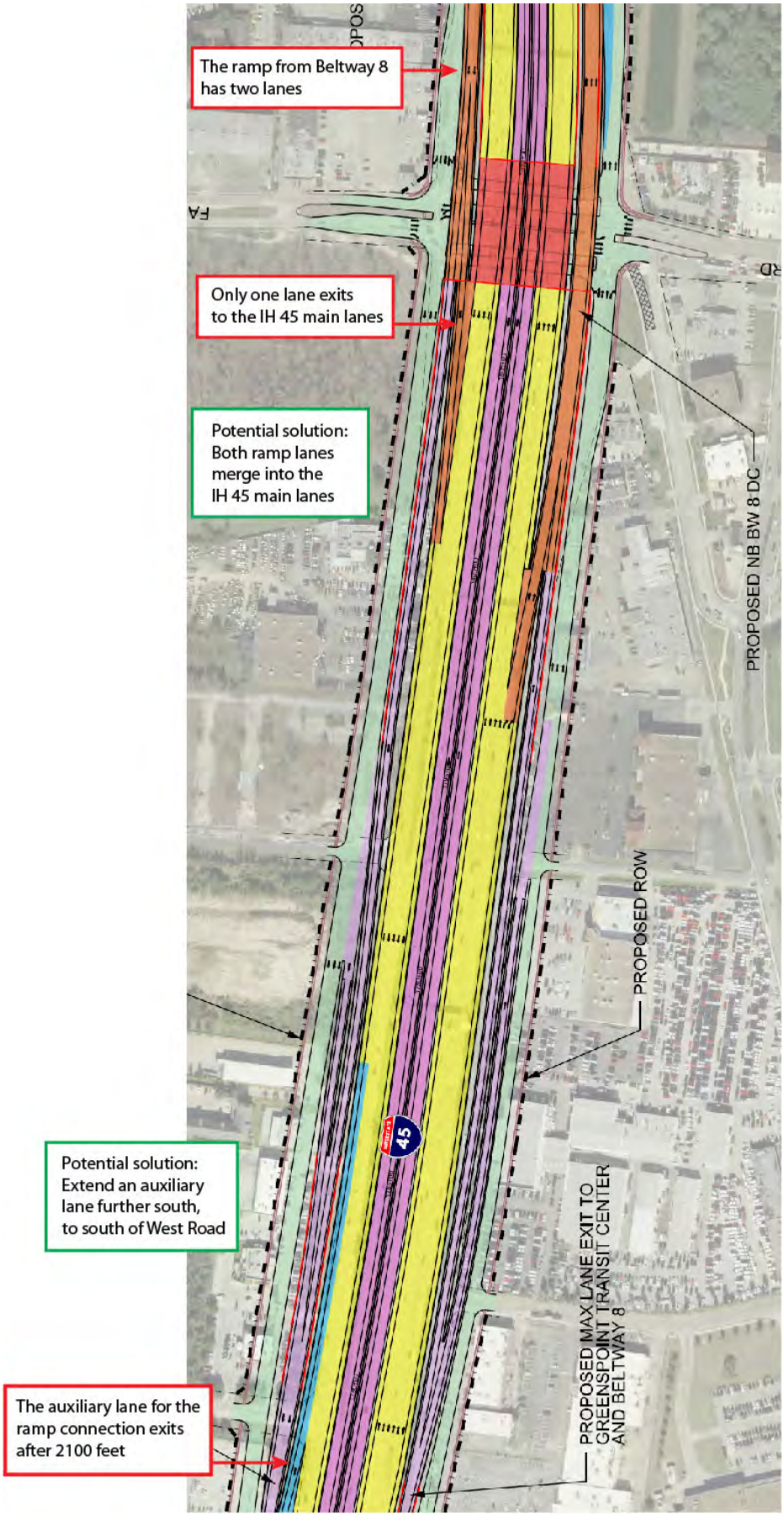
7. The connections from BW8 have only one lane to the southbound IH 45 main lanes, and the transition zone is too short

Problem

- On the connection ramp from Beltway 8 to IH 45 southbound, there is only one lane connecting to the IH 45 regular main lanes
- The transition/merging zone of the lane coming from Beltway 8 is too short

Potential Solution

- Have two lanes from the Beltway 8 connection ramp connect to the main lanes
- One lane should exit to West Road
- The second lane should continue as an extended auxiliary lane across West Road
- Additional changes in this area are needed to fix the short frontage road merge distance for the exit/entrance ramp, see issue 8.


The ramp from Beltway 8 has two lanes
Only one lane exits to the IH 45 main lanes
Potential solution: Both ramp lanes merge into the IH 45 main lanes
Potential solution: Extend an auxiliary lane further south, to south of West Road
The auxiliary lane for the ramp connection exits after 2100 feet
PROPOSED NB BW 8 DC
PROPOSED ROW
PROPOSED MAX LANE EXIT TO GREENSPOINT TRANSIT CENTER AND BELTWAY 8
45

8. Some frontage road off/on ramp merging zones are too short

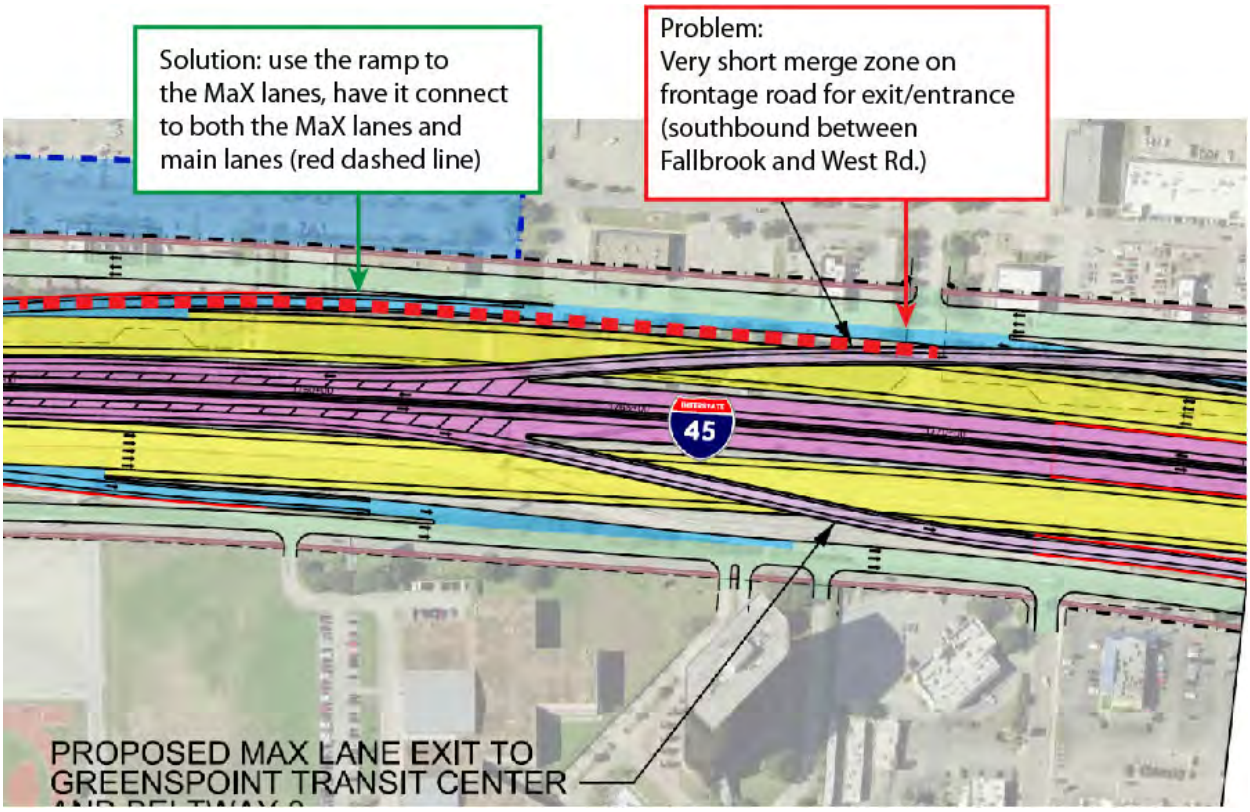
Problem

The length of the auxiliary lane on the frontage road between exits ramps and entrance ramps is short in these locations

- Southbound, between West Road and Fallbrook, about **600 feet**
- Southbound, between Little York and Parker, about **900 feet**
- Southbound, between Yale and Tidwell, about 1600 feet
- Northbound, between Parker and Little York, about 1400 feet

Potential Solution

- Adjust ramp locations to lengthen the frontage road transition zones
- Braided ramps could be warranted in both directions between Parker and Little York
- The southbound ramp north of West Road may need major rearrangement in conjunction with a fix for the issue with the lanes from the Beltway 8 ramp (issue 7). I'm thinking that the on-ramp should be included in the ramp to the MaX lanes, but then the currently-planned ramp will have a split point where traffic chooses between the MaX lanes and the main lanes (see diagram).



9. Connecting from southbound IH 69 to southbound IH 45 requires weaving across three lanes in 2200 feet in the tunnel

Problem

- Southbound IH 69 traffic connecting to southbound IH 45 must move three lanes to the left in 2200 feet. Traffic coming from the ramp on the left side will also be moving to the right, causing a weaving zone.
- This will be in the tunnel just after entering the tunnel, and people's vision will be adjusting during the day, probably causing some delay in response time, making the connection more stressful for motorists.
- In my experience, viewing signage and changing lanes in a tunnel is more difficult than outside of a tunnel, which is another reason to move this connection outside of the tunnel.

Potential Solution

- Move the connection northward (see diagram). Ideally an auxiliary lane should be maintained on IH 45 southbound, but if an auxiliary lane won't fit, I still think it will be better to move the connection north.
- The existing connection should be maintained to serve traffic coming from IH 10 which needs to connect to IH 45 southbound.

This change should have a minimal cost. The only potential problem is the auxiliary lane on IH 45, for which there may not be sufficient space.

Potential improvement:
Add a connection from IH 69 southbound to IH 45 southbound further north (underneath the orange ramp), and add an auxiliary lane to IH 45 southbound
Southbound IH 69 traffic connecting to southbound IH 45 must weave across the three lanes coming from the connection ramp
PRELIMINARY SUBJECT TO CHANGE
BNSF RR
RUNNELS ST
CANAL ST
COMMERCE ST
FRANKLIN ST
CONGRESS ST
RESTON ST
CHEEK NEAL BUILDING
EXISTING ROW
HAMILTON ST
TEXAS AVE
ST EMANUEL ST
CAPITOL ST
RUSK ST
WALKER ST
SKINNEY ST
C
C

10. Exit from northbound IH 45 to southbound IH 69: potential for motorists to make a five-lane weave in a short distance

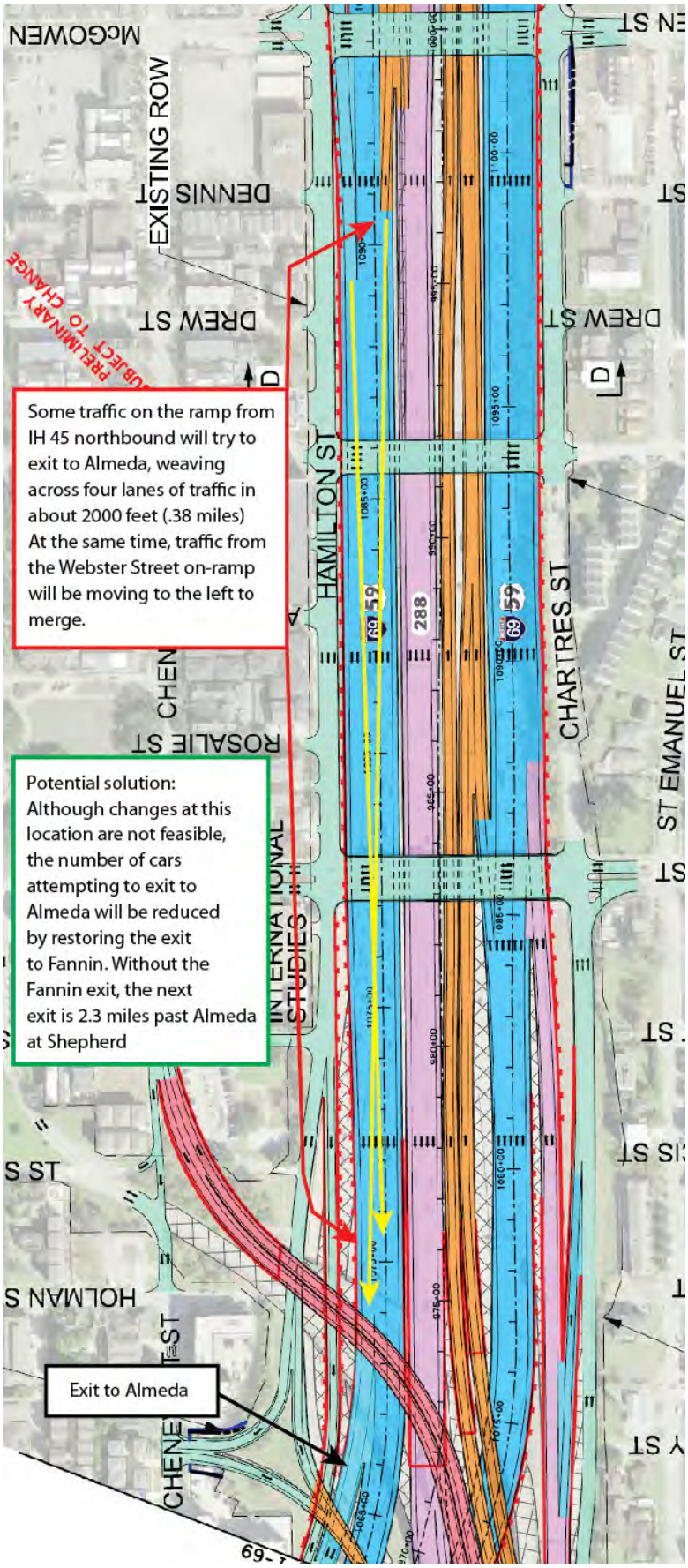
Problem

- Vehicles connecting from IH 45 northbound to IH 69 southbound may try to exit to Almeda, making a five-lane weave to the right in 1900 feet.
- Traffic entering the freeway from the Webster Street on-ramp will be moving to the left, creating a weave zone.

Potential Solution

- There appears to be no feasible way to prevent the 5-lane weave from the ramp from IH 45.
- The best solution is to minimize the number of vehicles attempting to exit to Almeda. Restoring the exit ramp to Fannin will provide another option for vehicles looking to reach the Midtown area. Without the Fannin exit, it will be 2.3 miles to the next exit at Shepherd, and this long distance will surely cause vehicles from IH 45 to try to reach the Almeda exit.

This is another reason to restore the exit to Fannin (see concern #1).


Some traffic on the ramp from IH 45 northbound will try to exit to Almeda, weaving across four lanes of traffic in about 2000 feet (.38 miles) At the same time, traffic from the Webster Street on-ramp will be moving to the left to merge.
Potential solution: Although changes at this location are not feasible, the number of cars attempting to exit to Almeda will be reduced by restoring the exit to Fannin. Without the Fannin exit, the next exit is 2.3 miles past Almeda at Shepherd
Exit to Almeda
EXISTING ROW
PRELIMINARY SUBJECT TO CHANGE
McGOWEN
DENNIS
DREW ST
HAMILTON ST
CHARTRES ST
ST EMANUEL ST
ROSALIE ST
INTERNATIONAL STUDIES
HOLMAN ST
288
59
69

11. The merge-weave zone for northbound SH 288 connecting into northbound IH 69, and for the exit to Gray Street, is very short, around 1500 feet

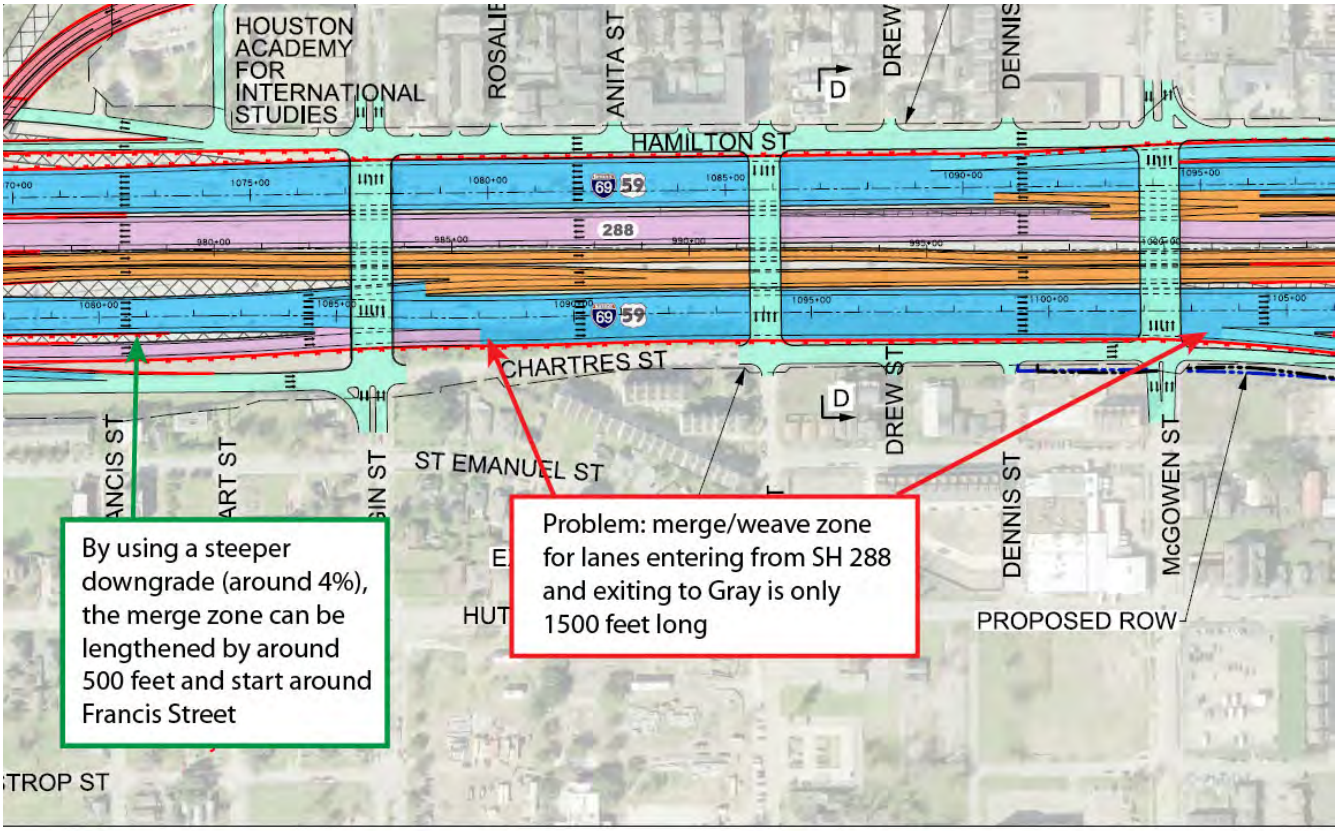
Problem

- The right lane of the two lanes coming from SH 288 must move to the left
- IH 69 northbound traffic exiting to Gray Street will be moving to the right
- The merge/weave zone is only around 1500 feet, about the same that exists today, and the lane weaving will be about the same as exists today. The existing weave zone is too short.

Potential Solution

- Since the SH 288 lanes go over Alabama Street, there is a geometric constraint since the lanes must drop about 45 feet
- Move the merge point as far south as possible, possibly by using slim beams on the Alabama overpass and also possibly by a design exception of downgrade percent. A steeper than usual downgrade is preferable to a short and dangerous merging zone.
- The westbound Woodall Rodgers Freeway in Dallas has an 8% downgrade for a similar drop, with no negative effect.
- By using a 4% downgrade after the Alabama overpass, the connection ramp can be dropped 45 feet in about 1100 feet, which would increase the weave zone length by **500 feet**.

I think a design exception (if needed) can be justified to get the benefit of a longer weave zone.



12. IH-45 Northbound at Loop 610 is Reduced to Three Main Lanes, the Same as Currently Exists

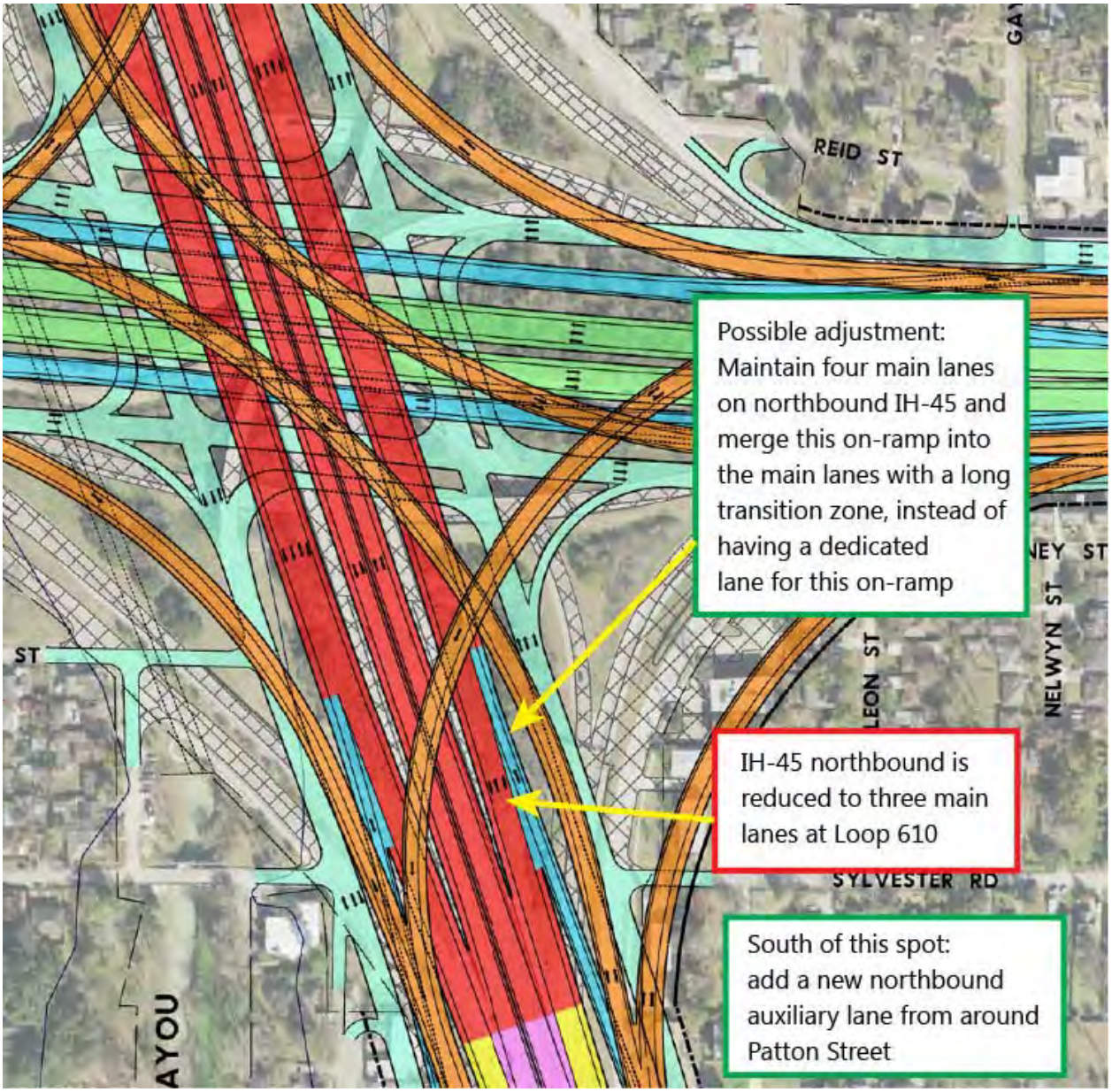
There is normally traffic congestion south of Loop 610 due to this bottleneck location. The managed lanes will help with this problem, but the managed lanes have poor access in the current plan (see concern #3).

Problem

- IH-45 Northbound is reduced to three main lanes at Loop 610
- Access to the northbound Max lanes is poor, so most motorists won't be able to bypass backups using the MaX lanes

Potential Solution

- Maintain four northbound main lanes across Loop 610
- The northbound entrance ramp from the frontage road just south of Loop 610 would not have a dedicated lane



From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: FW: NHHIP Comments FW: Alternatives to the possible taking of 4001 N. Freeway for detention pond in the I -45 widening?
Date: Wednesday, July 12, 2017 3:55:15 PM

Not sure if I send this one

Patty

From: Kelly Lark [mailto:Kelly.Lark@txdot.gov]
Sent: Monday, July 10, 2017 3:38 PM
To: Matthews, Patty
Subject: NHHIP Comments FW: Alternatives to the possible taking of 4001 N. Freeway for detention pond in the I -45 widening?

Patty, I don't think I sent this comment to you guys.

Thanks, Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, June 12, 2017 11:40 AM
To: Kelly Lark; Christine Bergren
Subject: FW: Alternatives to the possible taking of 4001 N. Freeway for detention pond in the I -45 widening?

Comment.

From: John Hagerman [redacted]
Sent: Monday, June 12, 2017 9:57 AM
To: Pat Henry
Cc: al flores; jim dannenbaum
Subject: Alternatives to the possible taking of 4001 N. Freeway for detention pond in the I -45 widening?

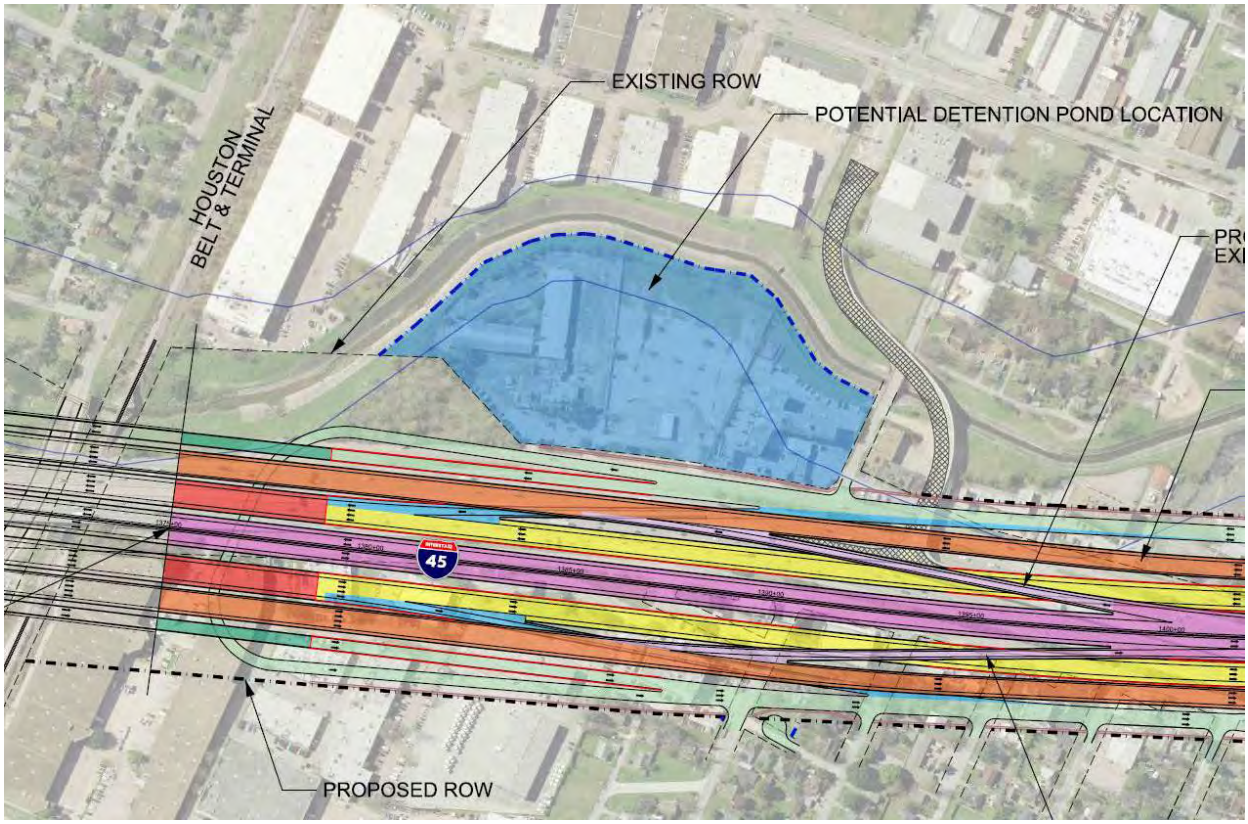
Hi; I was furnished the below copy of the proposed taking of 4001 N. Freeway for a detention pond in the expansion of I-45. My tract is the middle tract with an "arrow" pointing toward it saying "potential detention pond". This tract is owned by Rabbit Hill Properties LLC which is my Family Limited Partnership of which I and my wife are the majority owners.

This tract is at the northwest quadrant of I-45 and the 610 loop and this is a very central location for quick and easy access to a large part of Houston within minutes. We acquired this 3.8 acre tract some years ago with the thought of building a large multi story office building as the area transitions to a commercial office location. Although we are in the 100 year flood plain, our engineers have said that we can build by raising the office building 3 and one half feet off the surface. When the bayou behind us floods, only a small part of a small dip on the tract gets a few inches of water which runs off quickly; and I have not seen the remainder of the tract have water on it.

In contrast, the tract immediately to the south[originally a Howard Johnsons Motel and now a city low income housing project] often gets one to two feet of water into the building and requires extensive repair each time. This southerly adjoining tract is one to two feet lower than our tract.

I have ask my engineers,Dannenbaum Engineers, to work with you to see if there is an alternative to the condemnation of our tract for detention purposes. It is possible that the tract to the immediate south of me could be deepened enough to handle the detention required without going to the expense of condemning our tract. On the enclosed condemnation map, there appears to be a wooded tract which is just south and adjoining the old Howard Johnson Motel and the current city housing project which could be added to the detention pond area at lower condemnation cost. If our tract has to ultimately be condemned, we would like to present a proposal where you could get a detention pond easement on the part that you need and that we could retain office or commercial building rights on support columns above your detention pond easement. This alternative could be a win/win in that the detention pond easement would be a lot cheaper to condemn and we could retain elevated commercial building rights on a tract that has minor flooding on a very limited time basis.

I hope that you will consider the above email and work with Dannenbaum and me on this matter. I will monitor this mater for a month to see if there are any new thoughts to be discussed. Thank you. John Hagerman-[redacted]



David G. Wall
Partner
[redacted]

[redacted]

From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: FW: NHHIP Comments FW: Opposed to pierce
Date: Friday, June 16, 2017 10:55:35 AM

-----Original Message-----
From: Kelly Lark [mailto:Kelly.Lark@txdot.gov]
Sent: Friday, June 16, 2017 10:51 AM
To: Matthews, Patty
Subject: NHHIP Comments FW: Opposed to pierce

Patty, Comment.....

Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Thursday, June 15, 2017 3:48 PM
To: Kelly Lark; Christine Bergren
Subject: FW: Opposed to pierce

-----Original Message-----
From: HOU-PIOWebMail
Sent: Thursday, June 15, 2017 2:54 PM
To: Pat Henry
Subject: FW: Opposed to pierce

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: Jill Whitten [redacted]
Sent: Monday, June 12, 2017 5:42 PM
To: HOU-PIOWebMail
Subject: Opposed to pierce

I think the sky park is a terrible idea and that it should be over I-45 next to the Woodland Heights. There is already a

park below the Pierce elevated. Thank you, Jill Whitten

Sent from my iPhone
[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

COMMENT FORM
(FORMA DE COMENTARIOS)

North Houston Highway Improvement Project – Additional Opportunity for Review and Comment
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Proyecto de Mejoras de la sistema de carreteras de Norte Houston – Oportunidad Adicional para Revisión y Comentario
Desde la US 59/I-69 y Spur 527 hasta la I-45 y Beltway 8 Norte
KL: CSJ No. 0912-00-146

May 15, 2017
15 de mayo de 2017

__I am an Elected Official (Soy Funcionario/a electo) **Position** (Posición): N/A

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) ARASH RAZZAGHI
Address (Dirección) [redacted]
Telephone (Teléfono)

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓ **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar])

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓ **Other** (Please explain) (Otro [Favor de explicar]) NextDoor App

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) ✓ **No** (No) __ **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): This project is closing down (Jensen ramp) and limiting entrance/exit access points in my area. Doing so would stunt the growth of this community and it would destroy home values b/c the main reason this community is growing is b/c of its quick access to the major highways. We need the Mickey entrance and the feeder road to be enhanced in order to offset the loss of Jensen exit. Perhaps you can add some lanes, fix drainage, add stop lights, etc. This is very important to us and we will fight for this until the very end. Please do not stunt our growth and destroy home values in my area w/o compensating for the entrance/exit point closures. Thanks.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

This comment form may be turned in tonight, mailed, or emailed by June 27, 2017 to the address below:
(Esta formulario de comentarios puede ser entregado esta noche, por correo, o por correo electrónico a más tardar el 27 de junio de 2017 a la siguiente dirección:)

Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: FW: NHHIP Comment FW: Project Comment received via CSTAR
Date: Friday, June 16, 2017 10:55:47 AM

From: Kelly Lark [mailto:Kelly.Lark@txdot.gov]
Sent: Friday, June 16, 2017 10:49 AM
To: Matthews, Patty
Subject: NHHIP Comment FW: Project Comment received via CSTAR

Patty, comment…

Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, June 15, 2017 1:50 PM
To: Kelly Lark; Christine Bergren
Subject: FW: Project Comment received via CSTAR

comment

From: Kristina Hadley
Sent: Thursday, June 15, 2017 11:51 AM
To: Pat Henry
Subject: Project Comment received via CSTAR

"The proposed highway would bring far to much traffic to Chenevert Street between Tuam and Elgin. The street is nowhere near large enough to handle the added traffic and would be dangerous for near by residents and students at the high school, please consider the neighborhood and property values of those of us living here Date of Occurrence: 6/14/17 Location: highway"

Contact Information:

Michelle Parrish
[redacted]

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Tuesday, June 20, 2017 8:03:39 AM

Patty,
Comment….

Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, June 19, 2017 8:36 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 19, 2017 at 10:03:06 AM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Friday, June 16, 2017 12:59 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Hector Garza[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Will the new I-45 expansion have the quiet road grooves to keep road noise out of neighborhoods? I've seen it being used on the 290 project and now Katy fwy is being redone to have that implemented.

[redacted]

From: [redacted]
To: [redacted]
Subject: FW: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Wednesday, June 21, 2017 12:44:16 PM

From: Kelly Lark [mailto:Kelly.Lark@txdot.gov]
Sent: Wednesday, June 21, 2017 8:24 AM
To: Matthews, Patty
Subject: NHHIP Comments FW: TxDOT Internet E-Mail

Patty, Comment….

Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 20, 2017 7:32 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 20, 2017 at 2:34:08 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 20, 2017 12:20 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail

Name: Mr. James Joseph[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: How will the proposed hwy affect the Lyons Ave. exit on the north and south feeder roads of hwy 59/69?

What are the proposed dates of construction and completion?

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Reroute of I-45 Downtown
Date: Tuesday, June 27, 2017 8:21:26 AM

Patty, Comment….

Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, June 26, 2017 8:57 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Reroute of I-45 Downtown

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 26, 2017 at 3:22:24 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: Reroute of I-45 Downtown**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: Juan Torres [redacted]
> Sent: Friday, June 23, 2017 5:58 PM
> To: HOU-PIOWebMail
> Subject: Reroute of I-45 Downtown
>
> While I believe it's a good idea, I also believe you need to be more forward thinking. For example: San Antonio has a double stack freeway for entering and exiting downtown.
> You should consider a double stack bypassing the downtown exits--for persons driving through. Send the bypass traffic going north past the near Northside. Send the South bound bypass south to the South loop 610.

This would help with Reliant stadium event traffic--maybe a Special exit/entrance for Reliant.

Sent from my iPhone

Juan Torres
Field Director
Communities In Schools of Houston, Inc.
[redacted]

Surrounding students with a community of support, empowering them to stay in school and achieve in life

Communities In Schools of Houston is a Texas Education Agency Dropout Prevention College-and-Career Readiness Program

"The information contained in this message is intended for the personal and confidential use of the recipient(s) named above. If you have received this communication in error, please notify the sender immediately and destroy the original message."

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Commerce underpass
Date: Tuesday, June 27, 2017 8:22:13 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, June 26, 2017 9:03 PM
To: Matthews Patty; Kelly Lark; Christine Bergren
Subject: Fwd: Commerce underpass

Sent from my iPad

Begin forwarded message:

> **From:** "Crocker, Maureen" [redacted]
> **Date:** June 26, 2017 at 4:21:48 PM MDT
> **To:** "pat.henry@txdot.gov" <pat.henry@txdot.gov>
> **Subject: Commerce underpass**
>
> Hi Pat,
>
> I was just flipping through the IH-45 DEIS and came across something that needs to be corrected in the Historical appendix. Table 1 lists the Navigation underpass as under METRO. It is under the Houston Belt & Terminal Railway.
>
> M
>
> Commerce/Navigation Underpass 3 Navigation St under Metro rail line eligible 2005

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Monday, July 03, 2017 9:21:52 AM

Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Monday, July 03, 2017 9:09 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Wednesday, June 28, 2017 3:44 PM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Monday, June 26, 2017 8:10 PM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Mr. Edward [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I object to the proposed North Houston Highway Improvement Project. 7 Billion dollars to add a toll lane a waste of tax dollars. "Managed lanes, MAXX lanes and HOV lanes" are a failed academic/government policies and double taxation. It is not worth the effort/inconvenience. Don't overthink this, just build another free lane in both directions.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Comment on North Houston Highway Improvement Project
Date: Monday, July 03, 2017 9:23:03 AM

Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, July 03, 2017 9:10 AM
To: Christine Bergren; Kelly Lark
Subject: FW: Comment on North Houston Highway Improvement Project

---

From: HOU-PIOWebMail
Sent: Wednesday, June 28, 2017 3:47 PM
To: Pat Henry
Subject: FW: Comment on North Houston Highway Improvement Project

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Monte Large [redacted]
Sent: Monday, June 26, 2017 5:59 PM
To: HOU-PIOWebMail
Cc: [redacted]
Subject: Comment on North Houston Highway Improvement Project

Dear TXDoT,

Please focus on the design for the new I-10 freeway interchange on the north side of downtown between I-45 and Hwy 59 bordering the Near Northside and incorporate:

- Noise reducing materials, including sound walls and the surface of highway (similar to the I-10 between 610 and Gessner Rd portion)
- A beautiful design that creates an interchange that focuses on aesthetics, including lots of plants and trees
- Designs that reduce the profile (or massiveness) of the interchange

The west, east, and south sides of downtown are all benefitting from above ground removal or reduction of freeway infrastructure and unsightliness, while the north side is seeing a significant

increase. Since TXDoT will likely not consider burying the freeways here, aesthetics and sound reduction are of imminent importance for sake of environmental justice for the Near Northside.

The Near Northside is a historic neighborhood of largely underserved communities of Black and Hispanic people, but deserves the same attention that the Whiter communities on the west, south, and gentrifying east have received. Please design the freeway here with the same care and consideration those other communities have received.

Thank you,
[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:20:36 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:26 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:14:52 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 2:15 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Jonathan Barney [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I think moving I-45 to the east side of downtown Houston will not help at all, and will make traffic worse for everyone. I commute south on 59/I-69, through downtown, to southbound on 288. It is far worse than I-45. In fact, I go west on I-10, then south on I-45 to 288, a "shortcut" to avoid 59/I-69 east of Houston, because it is so bad. Fix that.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Monday, July 03, 2017 9:17:44 AM

Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Monday, July 03, 2017 9:07 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Wednesday, June 28, 2017 3:42 PM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Tuesday, June 27, 2017 7:50 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Mr. James Boy[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: The Pearce Elevated was okay in the Early 1960's, however with 6 million people in the Metroplex, it's past time to reroute I 45 and Bypass the center of Houston. Tourism leads to Galveston which adds to the local traffic congestion. Bypassing Houston and widening I-45 is the smart thing to do.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 10:25:15 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, June 29, 2017 10:20 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 28, 2017 at 1:37:14 PM MST
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 9:33 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. James Cooke[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Facing to the north: Double deck I-45 over I-69/US-59, matching the same number of lanes. Prior to the overlap, have traffic for I-10 and I-69/US-59 exit and merge with the I-69/US-59 lanes. Swing the I-45 lanes to the north right after downtown, increasing the number of lanes (vice versa for the southbound lanes).

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:21:17 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:26 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:15:00 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 2:05 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Sanford Criner[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Moving I45 east of Houston's CBD and depressing it below grade is the best idea I have heard from TXDOT in a long time. It accomplishes the mobility improvements that are so critical while also improving the quality of Houston's built environment and creating the possibility of a better quality of life for Houstonians. Thank you TxDOT!!

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Monday, July 03, 2017 9:16:23 AM

Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Monday, July 03, 2017 9:06 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Wednesday, June 28, 2017 3:40 PM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Tuesday, June 27, 2017 8:56 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Mr. Michael Dalgity[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Running 45 alongside 59 is a good idea to relieve congestion on the roads. The idea that speeds will increase by 20 mph is far fetched considering that curves and interchanges are what bogs our traffic down. With out proper design of interchanges, traffic will be the same if not worse no matter

how big you make it.Clearly mark them well in advance.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Monday, July 03, 2017 9:20:10 AM

Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Monday, July 03, 2017 9:08 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Wednesday, June 28, 2017 3:43 PM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
Watch us @www.youtube.com/txdotpio

-----Original Message-----
From: [redacted]
Sent: Tuesday, June 27, 2017 6:28 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Ms. Tonita Franklin[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Please provide a simple explanation of the proposed changes. It is hard to follow the diagrams of the I-45 Downtown changes.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:26:58 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:30 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:17:50 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 11:11 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Ernest Fruge[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: The need for a public-transit connection between downtown and the 290/610 area will be even greater once the high-speed rail station is operational. TxDOT's current plans would demolish the I-10 HOV ramp at Franklin Street needed for this connection. We request that TxDOT modify its plans to preserve or reconstruct the Franklin Street ramp. Thanks

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:44:26 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:35 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:33:28 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 9:29 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Michael Hoffman[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: The relocation of I-45 does a disservice to the historically disenfranchised East End. The new plan cuts off vital road ways into downtown (Polk St.) and eliminates thriving East Side businesses. Graphics which show an unfunded park on top of the road way to increase community support are misleading. Focus on alternative modes of transportation!

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:29:29 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:34 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:31:52 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 10:07 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Courtney Joseph[redacted]
>
> [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Please leave the 45 downtown exchange as it exists. There's NO reason to move it. Improve cross city mass transit but leave the freeways alone for those of us that rely on it daily. Or if you're gonna mess with it, finish the rest of the projects. All the concurrent construction is awful for those of us working and have to commute.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 10:25:50 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, June 29, 2017 10:21 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 28, 2017 at 1:37:22 PM MST
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 7:28 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Matthew Kleiber[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Rather than demolishing the Pierce Elevated, you should consider converting it to managed lanes as described here:
https://drive.google.com/file/d/0B9Ygq5Ilh865b09XMWQyLWc0M2s/view

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Polk Street access to Downtown Being Cut off from East End Residents
Date: Thursday, July 06, 2017 7:53:15 AM
[redacted]

Patty and Cristie,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Danny Perez
Sent: Thursday, July 06, 2017 7:14 AM
To: Kelly Lark
Cc: Pat Henry; Wahida Wakil
Subject: FW: Polk Street access to Downtown Being Cut off from East End Residents

Kelly,

Please see the comment below regarding NHHIP. Thanks.

Danny Perez
Public Information Officer
Texas Dept. of Transportation - Houston District
(Galveston Ferry PIO)
Danny.Perez@txdot.gov
Office: (713) 802-5077
Cell: (281) 686-0977

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Follow us on INSTAGRAM @txdothoustonpio
Watch us @ www.youtube.com/txdotpio
Galveston Ferry - @galvestonferry

From: Hulsey, Carla - CNL[redacted]
Sent: Wednesday, July 05, 2017 3:41 PM
To: Danny Perez
Subject: FW: Polk Street access to Downtown Being Cut off from East End Residents

Good afternoon, Mr. Perez – I hope all is well! Who would be the appropriate person at TxDOT to forward the below comments regarding the I-45 expansion project?

Carla Hulsey
Deputy Chief of Staff
Council Member Mike Knox
City Council At-Large Position 1
[redacted]

[redacted]

From: Karen Lancaster [redacted]
Sent: Tuesday, June 27, 2017 5:35 PM
To: CNL At Large 1 [redacted]
Subject: Polk Street access to Downtown Being Cut off from East End Residents

Dear Mr. Knox,

I attended a meeting last night whereby TxDOT presented their plans for the highway project in Houston. (http://www.ih45northandmore.com) This project is an absolute insult to the folks that reside in East End. We always seem to get shafted. At the meeting it was suggested that an alternative was to close off Leeland instead of Polk; still insulting us East Enders further. We need to stand up to these bullies at TxDOT. This is a plan that has been in the works for years. George R. Brown Convention Center and the Greater Houston Partnership's input was considered -- these are the money-makers. Input from the East End residents seemed to be nonexistent. It is obvious that we do not bring in the big bucks nor do we line the pockets of the folks that will benefit from this project. All we do is work, reside and pay taxes in this City. Additionally, they talked about choosing between a green space or closing Polk. NOT CLOSING POLK is FAR MORE IMPORTANT than a green space. The green space is useless because folks would have to cross a feeder with 50 mph traffic to even use. This is ridiculous! Please do what you can to get this project halted until the Polk Street closure is resolved! Thank you very much for your kind attention to this very important issue, as going forward with this plan will affect our East End community in a very negative way.

Sincerely,

Karen Lancaster
[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 10:07:39 AM

Patty, [redacted]

Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:37 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:35:06 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 9:01 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Gary Larson [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Polk and Leeland shouldn't be cut off (we were told it was one or the other; Polk was chosen to be disconnected). Surely there's a way. Polk and Leeland are the only continuous routes into downtown from the East End. If it means sacrificing a green space (where you have to cross a feeder to even get there), then there shouldn't be a green space.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:43:35 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:35 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:32:28 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 9:37 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Michael [redacted]
>
> Reason for Contact: Customer Service
> Complaint: No

Comment: The idea is good, but to spend $7 billion just to increase traffic flow by a dismal 20mph is a total waste of time, energy, and money. For that cost, you mind as well build a bullet train down the middle of I-45 from Houston to Galveston that goes 150mph. That would be money well spent.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:28:36 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:31 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:18:16 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 11:04 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Paul [redacted]
>
> [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: TxDOT must preserve or reconstruct the existing Franklin Street ramp for future METRORail and/or BRT service while remaining within TXDOT's existing right of way, as well modify its plans to permit such a connection through the I-45 expansion corridor This would support the goal of allowing for needed connectivity between downtown the 290/610 area.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Monday, July 03, 2017 9:20:50 AM

Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
[redacted]

-----Original Message-----
From: Pat Henry
Sent: Monday, July 03, 2017 9:08 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Wednesday, June 28, 2017 3:43 PM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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Watch us @www.youtube.com/txdotpio

-----Original Message-----
From: [redacted]
Sent: Tuesday, June 27, 2017 5:49 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Mr. Matthew Park[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Yes please do move the I45 it needs to be bigger. Thanks Matt

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Monday, July 03, 2017 9:15:32 AM

Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Monday, July 03, 2017 9:05 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Wednesday, June 28, 2017 3:40 PM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
Watch us @www.youtube.com/txdotpio

-----Original Message-----
From: [redacted]
Sent: Tuesday, June 27, 2017 8:58 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Mr. Robert [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: The need for a public-transit (METRORail or Bus Rapid Transit) connection between downtown and the 290/610 area will be even greater once the high-speed rail station is operational. TxDOT's current plans would demolish the I-10 HOV ramp at Franklin Street (next to the old Post Office) needed for this connection.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:21:59 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:27 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:15:26 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 12:44 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Shareef Rabie<[redacted]
>
> [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I support moving I-45 to run parallel to US-59. There isn't enough space to keep it where it is now. I vote yes to move forward with this excellent project. Thank you.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 10:26:28 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, June 29, 2017 10:21 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 28, 2017 at 1:39:03 PM MST
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 5:25 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Daniel Randazzo [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I would like to aee what seven billion dollars would do to our public transportation situation instead.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:27:50 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:31 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:18:00 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 11:08 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Rosie Rios [redacted]
>
> Reason for Contact: Customer Service
> Complaint: No

Comment: i think this whole construction stuff is all a waste of time making traffic worst than it already is so why move a I-45 from where it has been for a very long long time, it should just stay in place finish the construction yall have started and quit wasting money on things we dont need and spend it on thing we do need, Leave I45 alone.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Monday, July 03, 2017 9:18:45 AM

Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Monday, July 03, 2017 9:08 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Wednesday, June 28, 2017 3:42 PM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
Watch us @www.youtube.com/txdotpio

-----Original Message-----
From: [redacted]
Sent: Tuesday, June 27, 2017 7:03 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Ms. Lynn Rodriguez[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Whie it's impossible to decipher the diagrams on your website, I want to tell you that your plans to cut off the east end of Houston's access to downtown are terrible. You will be inconveniencing the commute downtown for thousands of residents and hurting the revitalization happening this area.

Also comment cutoff date on your website is incorrect

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:45:10 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:36 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:34:56 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 9:19 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Olinda Swinburne [redacted]
>
> [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Connecting the Hardy to 45 itself, before and after 45 would relieve a lot of traffic. And of course city and county can profit from drivers paying to take this alternate route.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 8:23:21 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, June 27, 2017 6:28 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 27, 2017 at 3:16:55 PM MDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Tuesday, June 27, 2017 12:01 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Michael Tompkins[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: The need for a public-transit (METRORail or Bus Rapid Transit) connection between downtown and the 290/610 area will be needed once the high-speed rail station is operational. TxDOT's current plans would demolish the I-10 HOV ramp at Franklin Street needed for this connection. We request that TxDOT modify its plans to permit such a connection.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 10:14:38 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, June 29, 2017 10:11 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 28, 2017 at 10:08:12 AM MST
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, June 28, 2017 11:31 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Stephen Brandau[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Please please please, if you're going to pick between Leeland or Polk going over the new mega freeway, make it Polk. If you stop Polk from crossing over the freeway you're only widening the wall that is the GRB separating the two sides.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 10:17:04 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, June 29, 2017 10:13 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 28, 2017 at 10:09:18 AM MST
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, June 28, 2017 9:14 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Sarah Brents[redacted]
>
> [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Please reconsider cutting the east end residents off from downtown by eliminating access from Polk on the I-45 expansion plan in Houston. The area has seen drastic improvement and property values have increased due to it's close proximity to downtown and attractive businesses/residents for young professionals. Cutting off Polk is detrimental.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 10:23:34 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, June 29, 2017 10:19 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 28, 2017 at 1:35:49 PM MST
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, June 28, 2017 1:40 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Colton Hinson[redacted]
>
> [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I think instead of moving 45 to mirror 59 we need to make an additional elevated that would be a complete bypass of all of downtown from one side of 610 to the other. A majority of the traffic downtown is nothing but a pass through, and having a set of lanes that completely bypass all exits downtown, would be very beneficial.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 10:15:42 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, June 29, 2017 10:13 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 28, 2017 at 10:08:31 AM MST
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, June 28, 2017 11:00 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Estela Ruiz [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Instead of redirecting I-45 to parallel I-69, add express lanes over I-45 as it already exists. This would decrease congestion but not eliminate the current I-45 as it currently exists.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 10:24:20 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, June 29, 2017 10:20 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 28, 2017 at 1:36:41 PM MST
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, June 28, 2017 12:47 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Britney Samson[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Please, please do not close Polk or Leeland or eliminate our access into downtown. My husband and I, both in our early 30s, purchased a home in the East End at Polk & Baird last year. We are first time home buyers and this would simply be detrimental to our commutes. Please consider alternate options. We deserve access to downtown and its offerings

[redacted]

From: Kelly Lark
To: [redacted].
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Monday, July 03, 2017 9:17:10 AM

Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Monday, July 03, 2017 9:06 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Wednesday, June 28, 2017 3:41 PM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Tuesday, June 27, 2017 8:34 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Mr. Philip Simmons [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: We request that TxDOT modify its plans to permit such a connection through the I-45 expansion corridor. Specifically, TxDOT must preserve or reconstruct the existing Franklin Street ramp for future METRORail and/or BRT service while remaining within TXDOT's existing right of way. Do not demolish the I-10 HOV ramp at Franklin Street.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, June 29, 2017 10:13:46 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, June 29, 2017 10:10 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** June 28, 2017 at 10:08:04 AM MST
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, June 28, 2017 11:48 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. David Welch [redacted]
>
> [redacted]
>
> Reason for Contact: Customer Service

Complaint: No

Comment: I am appalled by the expansion of the R.O.W. at the cost of low-income housing communities, valuable downtown apartment properties, and the further physical separation of minority communities from the downtown business district. The only efficient and effective way to handle the movement of more people is to add transit to the corridor.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: DEIS - Railroads Section
Date: Monday, July 03, 2017 9:58:25 AM

Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, July 03, 2017 9:55 AM
To: Kelly Lark; Christine Bergren
Subject: FW: DEIS - Railroads Section

From: Crocker, Maureen [redacted]
Sent: Friday, June 30, 2017 11:19 AM
To: Pat Henry
Subject: DEIS - Railroads Section

3.4.1.2 Railroads

2 Three freight rail lines traverse the general vicinity of the proposed project area:
3 ▪ The Union Pacific Railroad (UPRR) parallels the Hardy Toll Road from north of Beltway 8 to I-610,
4 then parallels the Elysian Viaduct and continues to I-10 and US 59/I-69. The rail line passes
5 under I-10 and US 59/I-69 then veers to the east near Franklin Street.
6 ▪ The Southern Pacific Railroad has two rail lines in the general vicinity of the proposed project
7 area. One rail line runs north-south between I-610 and I-10 on the west side of US 59/I-69 and
8 parallels the UPRR tracks. The rail line has an underpass at I-10 then veers west, paralleling
9 Washington Avenue beyond the study area. Another Southern Pacific rail line enters the
10 proposed project area approximately one-half mile north of the I-10/US 59 interchange and
11 continues westward on the north side of I-10.
12 ▪ The Chicago Rock Island and Pacific Railroad is an east-west rail line paralleling the north side of
13 I-610.

Lines 6 and 9 reference Southern Pacific tracks that are now owned by UPRR.

Line 12 track is owned by the Houston Belt and Terminal Railway (HB&T).

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Comments on DEIS for the NHHIP
Date: Monday, July 03, 2017 10:20:27 AM

Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, July 03, 2017 10:15 AM
To: Kelly Lark; Christine Bergren
Subject: FW: Comments on DEIS for the NHHIP

From: HOU-PIOWebMail
Sent: Friday, June 30, 2017 3:27 PM
To: Pat Henry
Subject: FW: Comments on DEIS for the NHHIP

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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Watch us @www.youtube.com/txdotpio

From: Barry Klein [redacted]
Sent: Friday, June 30, 2017 9:12 AM
To: HOU-PIOWebMail
Subject: Comments on DEIS for the NHHIP

North Houston Highway Improvement Project (NHHIP).

Dear TxDOT:

In response to the Draft Environmental Impact Statement for the NHHIP, would like to see a more through investigation done of costs and benefits that may flow from the No Build Alternative than we see in the DEIS for the North Houston Highway Improvement Project (NHHIP).

For instance, as congestion grows in the No Build Alternative we can expect to see slower speeds on I-45 and thus fewer vehicular accidents that lead to physical injuries and fatalities. I do not think the DEIS shows that outcome of the No Build alternative as a benefit, though it clearly would be.

Secondly, if the capacity of I-45 and the downtown freeway network is not expanded then we are

likely to see less urban sprawl and a larger portion of future growth settle on older parts of the road system in the closer-in areas of Houston and Harris County. Therefore the No Build Alternative will likely preserve more of the Houston and county tax base than alternatives that make travel easier to the northern parts of the region including adjoining Montgomery County which is competing with Harris County for regional growth.

Thirdly, the projected taking of 331 commercial locations and 1200-plus residential units (single family and apartments) will mean a loss of property tax and sales tax revenue that may never be recovered. The DEIS does not squarely address this risk, nor does it discuss the reduced tax revenue from properties that are not taken for the project but would still be impacted by a loss of customers and potential buyers.

Fourthly, The DEIS does not make an effort to measure or quantify the shrunken quality of life that will be an unavoidable outcome from years of unpredictable congestion that will result from the many years of construction, including loss of safety lanes, narrowed travel lanes, and the frequent changes in travel lanes road users will have to adapt to.

Fifthly, The DEIS does not deal with the safety and economic consequences of a terrorist attack or thousand year flood event (See "Off The Charts" Allison-type storm: [redacted]) on the expanded freeway section placed below grade in the Central Business District. I ask that the FEIS investigate those possibilities.

Lastly, speaking more generally, besides the direct impacts of the project I would like to see indirect and cumulative effects fully explored; by this I mean (borrowing from the 2009 TxDOT document, **Guidance on Preparing Indirect and Cumulative Impact Analyses**, page 3**)** "growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate in the regional economy, and the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions."

I ask that the Final Environmental Impact Statement for the NHHIP include discussion of all these concerns.

Barry Klein
[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: EPA Comments for the North Houston Highway Improvement Project DEIS
Date: Wednesday, July 05, 2017 3:11:35 PM
[redacted]

Patty and Cristie,
Comment….
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Meyers, Stephanie [redacted]
Sent: Wednesday, July 05, 2017 1:07 PM
To: Kelly Lark
Cc: Houston, Robert
Subject: EPA Comments for the North Houston Highway Improvement Project DEIS

Ms. Lark,

Thank you for the opportunity to comment on the North Houston Highway Improvement Project DEIS. If you have any questions, please contact me. A hard copy will arrive by mail in a few days.

Sincerely,

Stephanie Meyers
Environmental Scientist
U.S. Environmental Protection Agency
[redacted]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

[redacted]

July 5, 2017

Pat Henry, P.E.
Director of Project Development
Texas Department of Transportation
Houston District Office
P.O. Box 1386
Houston, TX 77251-1386

Re: North Houston Highway Improvement Project; Draft Environmental Impact Statement; Harris County; US 59/I-69: At Spur 527 to I-45 at Beltway 8 North; Control 0912-00-146

In accordance with our responsibilities under Section 309 of the Clean Air Act (CAA) and the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the Texas Department of Transportation (TxDOT) Draft Environmental Impact Statement (DEIS) for the North Houston Highway Improvement Project (Project). The purpose of the Project is to create additional roadway capacity to manage congestion, enhance safety, and improve mobility and operational efficiency on Interstate Highway 45.

EPA's review identified a number of potential adverse impacts to economically disadvantaged communities and community resources, and historical resources. Furthermore, we request additional information be added to the final EIS regarding environmental justice communities, and coordination or consultation with the appropriate federal and State agencies. For these reasons, we have rated the overall Draft EIS as "Environmental Concerns – Insufficient Information" (EC-2). The EPA's Rating System Criteria can be found at https://www.epa.gov/nepa/environmental-impact-statement-rating-system-criteria.

EPA recommends that these issues be addressed in the Final EIS. We appreciate the opportunity to review the Draft EIS, and have enclosed detailed comments which clarify our concerns. Please send our office one copy of the Final EIS. If you have any questions or concerns, I can be reached at [redacted], or contact Stephanie Meyers of my staff at [redacted].

Sincerely,

Robert Houston
Chief, Special Projects Section
Compliance Assurance and
Enforcement Division

DETAILED COMMENTS ON THE
TEXAS DEPARTMENT OF TRANSPORTATION
DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR THE NORTH HOUSTON HIGHWAY IMPROVEMENT PROJECT

BACKGROUND: The North Houston Highway Improvement Project involves the addition of four lanes on a portion of Interstate Highway 45, and the rerouting of Interstate Highway 45 in the Downtown Houston area. These proposed transportation improvements will provide additional capacity to accommodate project travel demand, help manage congestion, improve mobility, and enhance safety for travelers.

ALTERNATIVES ANALYSIS

TxDOT has designated three segments for the proposed project, each with its own separate alternatives. Alternatives advanced for further evaluation are referred by TxDOT as the "Reasonable Alternatives". Since the DEIS has not identified a preferred alternative for each segment, EPA has ranked the Reasonable Alternatives for each segment from least impactful/damaging, to most.

- Segment 1 – EPA ranks the alternatives in the following order: Alternative 7, Alternative 4, Alternative 5. Alternative 7 has the lowest number of single and multi-family homes displaced within environmental justice communities (around 77 displacements compared to 153 for Alternative 4 and 169 for Alternative 5), and Alternative 7 impacts less streams and wetlands.
- Segment 2 – EPA considers all Reasonable Alternatives for Segment 2 as having nearly the same minimal environmental impacts.
- Segment 3 - EPA ranks the alternatives in the following order: Alternative 10, Alternative 11, and Alternative 12. Alternative 10 has significantly less displacements of homes within environmental justice communities (roughly 625 less displacements than Alternatives 11 and 12), and Alternative 12 has the highest number of displacements (around 909 homes compared to 900 for Alternative 11). Alternative 12 also has the greatest impacts to streams (around 10,109 linear feet compared to 8,741 linear feet for Alternative 11, and 9,393 linear feet for Alternative 10). Lastly, Alternative 10 will impact the lowest number of historic resources (5 buildings) all of which will remain intact, whereas Alternative 11 will impact 6 historical buildings, demolishing 3 of the 6, and Alternative 12 will impact 9 buildings, demolishing 5 of the 9.

ENVIRONMENTAL JUSTICE

The DEIS states the project area includes residential, commercial, industrial, public institutions, and parks/open space. Potential impacts to community resources include displacement of residences and business, loss of community facilities, isolation of neighborhoods, changes in mobility and access, and increased noise and visual impacts. All alternatives considered would require new right-of-ways which would displace homes, schools, places of worship, businesses, and

other resources. All alternatives will have high adverse impacts to minority or low-income populations.

Recommendation:

- To supplement the applicable requirements for considering and analyzing impacts to environmental justice populations for the proposed action EPA recommends TxDOT utilize the following reports/guidance:
    - *Promising Practice Report*, available at https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf.
    - *Environmental Justice: Guidance Under the National Environmental Policy* Act available at: http://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf

WETLANDS

The DEIS refers to the use of culvert extensions at various water body crossings when roadway improvements require new right-of-way.

Recommendation:

- EPA recommends the consideration of spanning structures in lieu of the planned culverts in order to limit impacts to aquatic resources. Spanning structures assist with maintaining full hydrologic exchange and aquatic access, and prevent upstream impoundment or downstream down-cutting of these streams.

CONSULTATION AND COORDINATION

The Draft EIS does not have adequate information about consultations pursuant to Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act. EPA understands that TxDOT is or will engage with the Texas State Historic Preservation Officer at the Texas Historical Commission, and the appropriate field office of the U.S. Fish and Wildlife to complete the required consultations under the above mentioned statutes.

From: Pat Henry
To: [redacted]
Subject: Fwd: TxDOT Internet E-Mail
Date: Monday, July 10, 2017 1:29:25 PM

Sent from my iPad

Begin forwarded message:

From: HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
Date: July 10, 2017 at 10:08:42 AM CDT
To: Pat Henry <Pat.Henry@txdot.gov>
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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Watch us @www.youtube.com/txdotpio

-----Original Message-----
From: [redacted]
Sent: Friday, July 07, 2017 4:36 PM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Ms. Guadalupe Fernandez [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Please make sure that all of this construction doesn't take as long as the US-290 construction has been taking....

In the interim, please expand metro rail to reach to both airport as it will be a nightmare

to traverse downtown during this construction.

From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: FW: NHHIP Comments FW: Comments on TxDOT North Houston Highway Improvement Project
Date: Thursday, July 20, 2017 11:22:54 AM
[redacted]

From: Kelly Lark [redacted]
Sent: Thursday, July 20, 2017 10:36 AM
To: Matthews, Patty
Subject: NHHIP Comments FW: Comments on TxDOT North Houston Highway Improvement Project

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, July 20, 2017 9:43 AM
To: Kelly Lark; Christine Bergren
Subject: FW: Comments on TxDOT North Houston Highway Improvement Project

---

From: HOU-PIOWebMail
Sent: Thursday, July 20, 2017 8:16 AM
To: Pat Henry
Subject: FW: Comments on TxDOT North Houston Highway Improvement Project

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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Watch us @www.youtube.com/txdotpio

From: Ian Hlavacek [redacted]
Sent: Wednesday, July 19, 2017 11:35 AM
To: HOU-PIOWebMail
Cc: [redacted]
Subject: Comments on TxDOT North Houston Highway Improvement Project

TxDOT representatives and other interested stakeholders:

Please find attached my comments on the North Houston Highway Improvement Project and the Downtown Loop Realignment segment. I have major concerns about the disproportionate negative impacts of the project on Houston's inner city neighborhoods. If these impacts can be mitigated or avoided, I believe this project has a real potential to positively impact the Houston region for many generations to come.

I look forward to working with you on the continuing development of this project. Please let me know if you have any questions.

Sincerely,
Ian Hlavacek, PE
[redacted]

[redacted]

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386

Comments on North Houston Highway Improvement Project

To whom it may concern:

Thank you for this opportunity to provide formal comments on the North Houston Highway Improvement Project and the Downtown Loop Realignment. I applaud TxDOT for pursuing innovative transportation projects like the Downtown Loop Realignment, but I have major concerns about the current designs. These projects will profoundly impact transportation and development in the Houston region for the next 50-100 years, and it is critical that we get the details right.

The Downtown Loop Realignment has the potential to decrease regional transportation delays, improve roadway safety, and increase connections between communities. However, the costs – both direct project delivery costs as well as community impact costs – will be substantial. More distressingly, it appears that most of the negative externalities and indirect costs of the project will be born primarily by residents and businesses in the East End.

Some of these impacts appear to be unavoidable. The depressed freeway section proposed to run along the east side of Downtown will require demolishing a significant amount of private property in the EaDO neighborhood. The impacted property owners have worked hard over the past few years to create a vibrant community with residences, restaurants, bars, and entertainment venues, and their progress to date has been remarkable. A lot of that effort will be annihilated instantly with this project. Unfortunately, the current project vision appears to fundamentally require this real estate for successful implementation.

However, other impacts to the East End appear to be avoidable. Balancing the costs associated with the project will require avoiding those impacts wherever possible and mitigating them elsewhere. In these comments, I will present what I see as several major impacts that I believe can be avoided. I encourage TxDOT to explore these ideas fully and consider options for mitigation where appropriate. I believe that doing so will result in a better product that will more comprehensively serve the region for generations.

Issues with the Downtown Loop Realignment

Outside of the direct project costs – which are projected to be in the billions of dollars – the negative externalities of the proposed Downtown Loop Realignment are numerous and significant:

- Destruction and eminent domain takings of prime real estate in the EaDO community
- Removal of Pierce Elevated, thereby eliminating major East-West connectivity option
- Lack of Polk Street connection, thereby eliminating major East-West connectivity option
- Lack of provision for westbound Leeland Street connection into Downtown, thereby eliminating major East-West connectivity option
- Removal of East-West connectivity options will concentrate traffic on local roads and increase congestion in neighborhoods
- Increased roadway congestion will make streets less supportive of healthy modes of transportation like walking and biking
- Potential decrease in local roadway safety by relying on high-speed frontage roads to provide local connectivity

Traffic models have shown that the freeway realignment will benefit roadway capacity and safety for freeway drivers. However, the combination of this and other TxDOT projects will have the net effect that fewer local Houston drivers will be able to utilize the freeway system for many of the trips that they currently make and will thus be unable to enjoy the operational benefits.

Ultimately, the freeway projects will largely benefit suburban drivers coming into and passing through the inner-city neighborhoods; on the other hand, the projects stand to destroy local properties, increase local travel times, increase local traffic congestion, decrease local roadway safety, and diminish local prospects for supporting walking, bicycling, and transit usage.

To ensure that this project serves the entire region and its diverse communities, the final design will need to distribute the project benefits and costs more fairly to all impacted populations. For the East End, this will require maintaining and enhancing east-west, cross-town access, which is currently slated to be significantly degraded.

History of East End Transportation

To understand why the removal of any East-West connectivity options is highly undesirable, and why it is critical to maintain all existing options, it is helpful to review the history of transportation between Downtown and the East End.

Downtown and the neighborhoods around it were originally constructed with a seamless, structured grid roadway system. Distinctions between these communities existed primarily by what people and businesses did, not by external physical boundaries. Grid roadway networks efficiently handle traffic by:

- Providing many route options for every origin-destination pair
- Dispersing traffic over a wide roadway network so that no road becomes particularly congested
- Supporting healthy modes of transportation like walking and biking by providing safe routes for these vulnerable road users

Figure 1 shows an aerial of Downtown and its grid roadway network in 1953. The only freeway at the time was the Gulf Freeway, shown in the lower right corner of the image. Numerous roadways provided connections between Downtown and its surrounding neighborhoods, including the East End.

Figure 1 Road Network in 1953

Over several decades, the grid network that tied together and strengthened the inner-city communities of Houston has slowly disintegrated on all sides of Downtown – especially for the East End.

Between Pierce Street on the south and Runnels Street on the north, there are approximately 23 potential crossing locations between Downtown and the East End for the proposed IH-45 project. However, the crossings are not all equally useful or desirable. In this analysis, roadway crossings are categorized as followed:

- BLUE: Highly desirable crossings; roadways extend at least 5 blocks into both Downtown and the East End. These crossings are important for regional connections.
- ORANGE: Local crossings; roadways extend at least 5 blocks in either Downtown OR the East End but only extend 3-5 blocks on the other side. These crossings provide local connections that are important for providing alternate routes and for tying neighboring communities together.
- RED: Blocked crossings; roadways either do not cross the proposed freeway, or they extend for 2 or fewer blocks on either side of the proposed freeway.

Using Google Earth historical aerial photography, it is possible to track the change in access type over the years. The chart below shows the distribution of the 23 access streets at 4 specific years and identifies the land use changes that resulted in the shift.

Year	What Happened	Blue	Orange	Red
1978	-	13	6	4
1989	GRB	11	5	7
2008	Minute Maid Park GRB Expansion	9	3	11
2017	Dynamo Stadium	7	3	13

By 1978, some access roadways were already blocked on one side or the other by either IH-45, railroads, or gaps in the local street network. However, over 50% of access roads served regional connections (BLUE), and only 17% were fully blocked (RED).

Gradual changes in land use and associated abandonment of street right of way accompanied construction of the George R Brown Convention Center, Minute Maid Park, GRB expansion, and Dynamo Stadium. As it stands today, only 7 of the 23 crossings provide any kind of regional connectivity (BLUE), and over 50% of crossings are blocked (RED).

The evolution of access between Downtown and the East End is summarized in the images on the next page.

Existing Roadway Connections

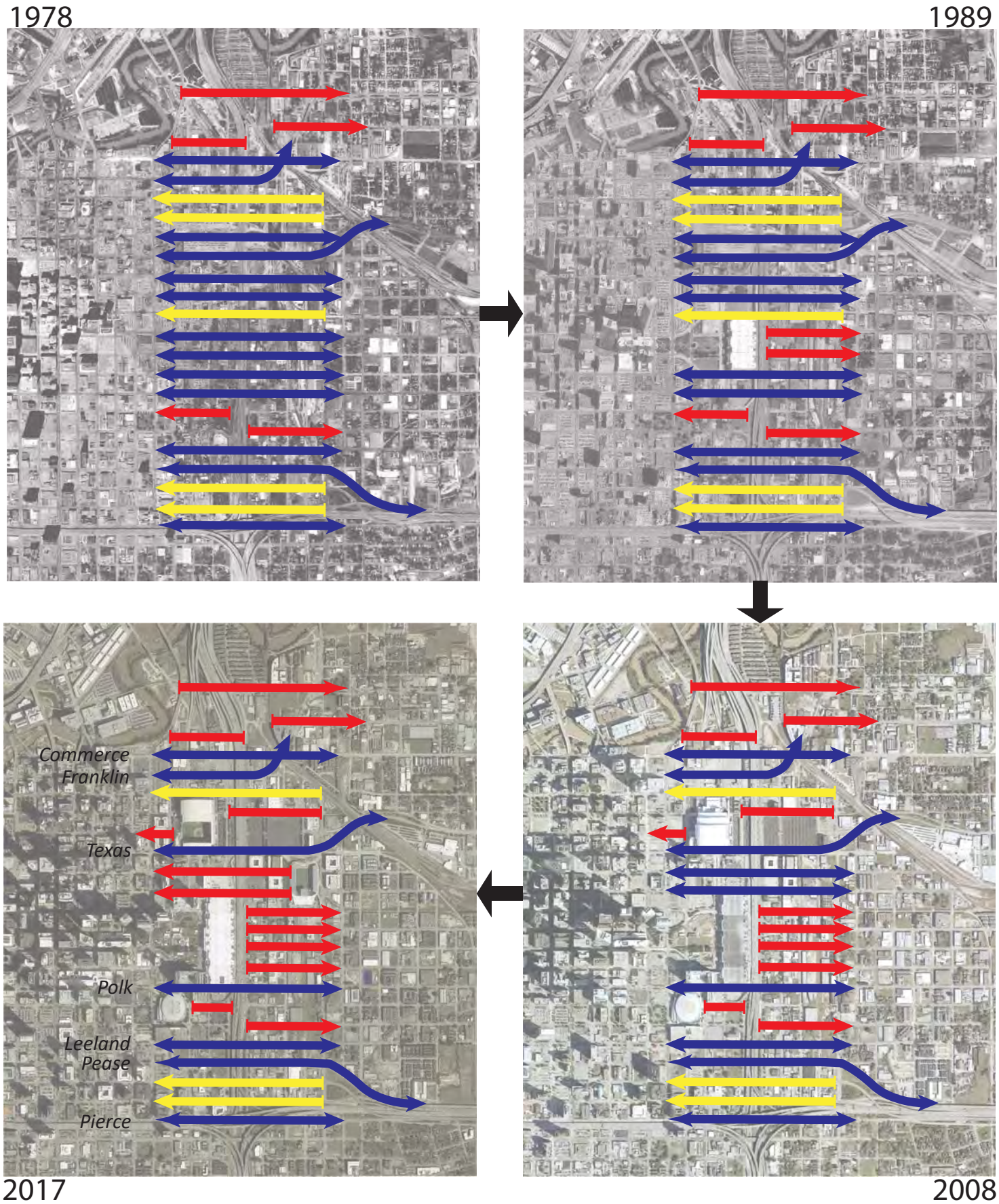
The list below summarizes the existing connectivity characteristics of the various streets that drivers on either the Downtown or East End side could conceivably believe would connect them from one neighborhood to the other. Currently, only seven street provide full access. However, even these streets provide varying levels of regional connectivity. Furthermore, it is important to remember that Downtown streets are one-way; therefore, none of these streets provide direct, logical access in both directions, thereby further increasing the important of all of them.

Roads that provide full access between Downtown and East End (BLUE)

These roadways are important access points and extend at least 5 blocks into both Downtown and the East End.

- **Commerce.** Dead-ends 1.2 miles to the east at Drennan Street and 0.6 miles to the west at Milam Street. As such, it does not provide a deep connection into the East End, and it does not provide access across Downtown to the neighborhoods on the west side. Commerce crosses the West Belt freight rail line at-grade; traffic must stop for passing trains.
- **Franklin** *(via Navigation/Canal/Jensen).* Provides access to the far north side of the East End; provides an important connection to the neighborhood on the west side via Washington Avenue. An underpass is provided under the West Belt freight rail line.
- **Harrisburg/Texas/Capitol.** These streets provide an important connection in the East End as well as across Downtown to Memorial; however, traffic movements are complicated by light rail operations and are especially complex for westbound traffic, which must enter Downtown via a

Figure 2 Evolution of Access



circuitous route utilizing Prairie Street, Bastrop Street, Texas Avenue, Hamilton Street, and finally Capitol Street. An underpass provides access under the West Belt freight rail line.

- **Polk.** Provides a connection deep into the East End and provides access across Downtown to Dallas Street. Traffic operations are complicated at Avenida de las Americas because of unusual roadway geometries. An underpass is provided under the West Belt freight rail line.
- **Leeland.** Provides a connection deep into the East End; however, it dead-ends at Louisiana Street 0.8 miles to the west. It crosses the West Belt freight rail line at grade; traffic must stop for passing trains.
- **Pease.** Mainly provides cross-town access for IH-45, directly serving ramps east of Emancipation Avenue and west of Brazos Street. East End traffic can utilize the northbound IH-45 frontage road; however, traffic operations are complicated at Emancipation Avenue because of interactions with the freeway ramp and at Scott Street because of interactions with the light rail.
- **Pierce**. One-way eastbound only; provides access to far south side of Downtown and the East End.

Roads that provide partial access between Downtown and East End (ORANGE)

These roadways provide local access into and out of Downtown and extend at least 5 blocks in either Downtown OR the East End but only extend 3-5 blocks on the other side.

- **Congress**. This road dead-ends on the east at Emancipation Avenue.
- **Jefferson**. This road serves an off-ramp for the Gulf Freeway on the west side of Downtown and on-ramp at Emancipation Avenue, effectively dead-ending on either side for local access.
- **St. Joseph Parkway**. This road serves an off-ramp from the Gulf Freeway at Emancipation Avenue and an on-ramp on the west side of Downtown, effectively dead-ending on either side for local access.

Roads that do not provide access between Downtown and the East End (RED)

These roadways either do not cross the proposed freeway, or they extend for 2 or fewer blocks on either side of the proposed freeway.

- **Runnels**. Currently dead-ends on the west at McKee Street; under the proposed plans, it will dead-end at the West Belt Freight rail line, west of Jensen.
- **Canal Street**. Dead-ends west of Franklin at the West Belt Freight Rail line. Vehicles can utilize Franklin Street to enter downtown; however, that access is being counted for Franklin Street.
- **Ruiz Street**. Dead-ends at Crawford on the west and Chartres on the east.
- **Preston Street**. Dead-ends at Hamilton on the west and Emancipation on the east.
- **Prairie Street** *(downtown side)*. Dead-ends at La Branch on the east.
- **Capitol**. Dead-ends at the Dynamo Stadium. Traffic is complicated by light rail operations.
- **Rusk**. Dead-ends at the Dynamo Stadium. Traffic is complicated by light rail operations.
- **Walker Street**. Dead-ends at Chartres on the west and Dowling on the east.
- **McKinney Street**. Dead-ends at Chartres on the west; crosses West Belt Freight Rail line at-grade.
- **Lamar Street**. Dead-ends at Chartres on the west and York on the east.
- **Dallas Street**. Dead-ends at Chartres on the west and Velasco on the east.
- **Clay Street**. Dead-ends at Jackson on the west and Hutchins on the east.

- **Bell Street**. Dead-ends at Chartres. On downtown side, provides connection from Leeland, but that access is being counted once for Leeland.

Importance of Polk Street

It should be clear with the degradation of the once-robust grid network in the area that every street that provide full access (BLUE) is of utmost important to the regional transportation network.

Polk Street is a particularly important access road for several reasons. It provides cross-Downtown access, serves high-frequency bus lines, will serve a high-comfort bicycle facility, and provides direct access to important Downtown destinations.

Polk provides cross-Downtown access.

Currently, East End residents utilize the Pierce Elevated to access neighborhoods on the west side of Downtown via connections to Allen Parkway and Memorial Drive. With the proposed removal of the Pierce Elevated, drivers need alternate ways to access those neighborhoods. Very few of the streets crossing IH-45 make the entire connection across Downtown. Polk is one of the few that do.

Figure 3 shows the ability of various roads to provide cross-Downtown access. Out of the seven roads identified as providing significant access between Downtown and the East End, only three connect the East End to the neighborhoods west of Downtown: Navigation, Harrisburg, and Polk. All three of these roads provide imperfect connections (e.g. Navigation/Franklin and Polk are eastbound only in Downtown; the westbound movement along Harrisburg into Downtown is convoluted; Polk has a challenging geometry at Avenida de las Americas); therefore, the importance of having all three options increases in importance.

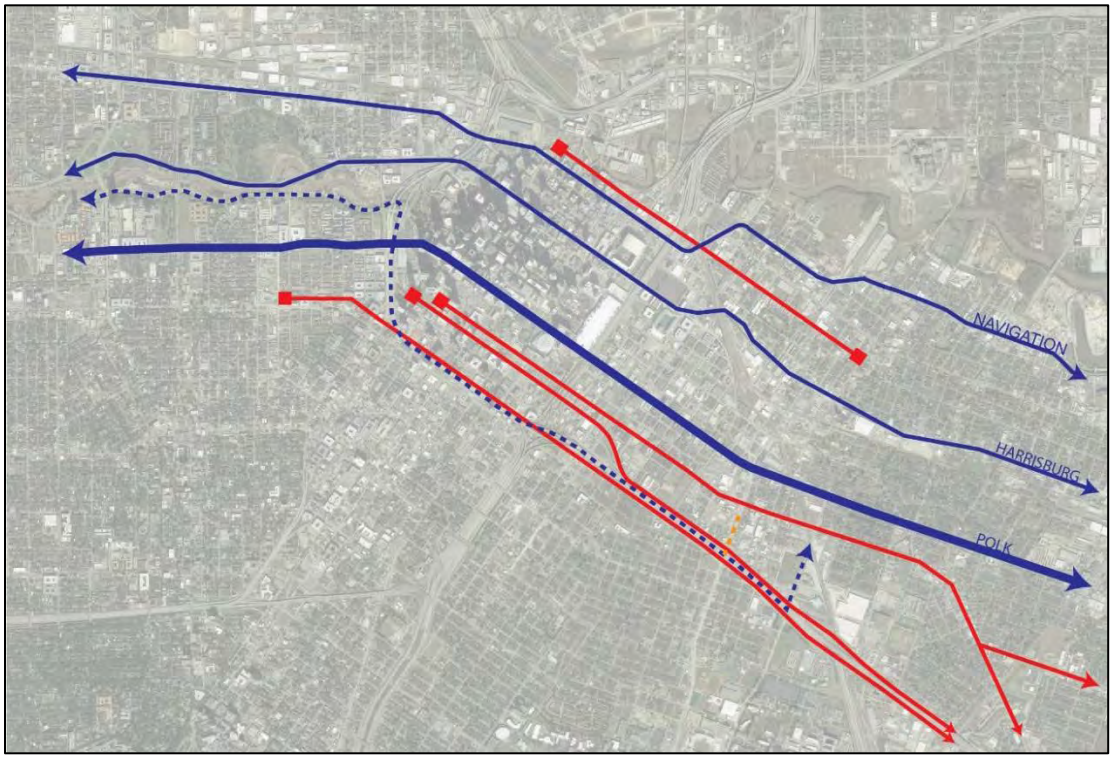


Figure 3 Cross-Downtown Access

The solid red lines in *Figure 3* show where the other four full-access roadways dead-end, limiting their ability to provide cross-downtown access. Additionally, the East End's current primary access to the neighborhoods west of Downtown—the Pierce Elevated connection to Allen Parkway/Memorial Drive—is shown in dotted blue. The East End will lose this option for regional mobility entirely with the removal of the Pierce Elevated, and all East End drivers currently utilizing that route will have to find alternative routes primarily on surface streets through Downtown. This shift will result in an automatic and significant traffic demand increase on these roadways.

Other routes will provide cross-Downtown access through combinations of other roadways, especially with the proposed north-south frontage roads. However, they will all require detours involving additional, unintuitive turning movements, which will further increase travel times for East End drivers over the increases already expected with the removal of the Pierce Elevated.

Polk serves high-frequency bus lines

METRO runs high-frequency bus lines (the 40 and 41) on Polk. These buses may experience excessive delays, especially during peak periods, if a straight connection across the freeway is not provided. They already experience some operational difficulties entering and exiting Downtown because of the need to utilize Avenida de las Americas to access Lamar Street and Dallas Street.

Polk will serve a high-comfort bicycle facility

The City of Houston is planning to construct a high-comfort, signature bicycle facility along Polk Street (see image on next page). The facility will connect the Lamar green bike lane in Downtown to bike lanes in the East End. When constructed, it will be the only designated, high-comfort bicycle facility between Downtown and the East End. It is expected to be utilized by bicyclists of all ages and skill levels; therefore, providing a logical, easy, and safe crossing into and out of Downtown is imperative.

The high-comfort bicycle lane along Lamar Street is proposed to continue into the East End along Polk Street

Polk provides direct access to Downtown destinations

Polk is the most direct route to numerous important destination in Downtown. For example, Discovery Green is a park of regional importance that is tantalizingly close to East End neighborhoods but that is walled off by the George R Brown Convention Center. The GRB itself is an important destination, as is the Toyota Center. Many people drive and bicycle along Polk to reach these destinations; others still park in EaDO and walk along Polk into and out of Downtown.

Problems with the Proposed Polk Street U-Turn

The IH-45 concept proposes to provide a U-Turn for Polk traffic on the proposed frontage roads to maintain access. This is an insufficient and potentially dangerous proposal to preserve Polk access.

The northbound frontage road directly serves a proposed off-ramp from US-69. This off-ramp will be the primary access point for Downtown, the GRB, Toyota Center, and Discovery Green for people coming from the south along IH-69 and SH-288. This traffic will likely be very heavy, very fast, and constant throughout the day, every day of the week – and those vehicles will all be passing by Polk Street and utilizing the same U-Turn that drivers on Polk Street are expected to use. It is unreasonable to expect that roadway users along Polk will be able to safely and efficiently find a suitable gap in the frontage road traffic, merge in with the traffic, and cross several lanes in just 2 blocks to be able to utilize the closest U-Turn.

Additionally, the difficult traffic operations associated with this U-Turn are not limited to just private automobiles. Polk Street serves many modes of travel: high frequency bus lines, bicycles (with current bikes lanes and upcoming high-quality bike lanes), and pedestrians. These modes of transportation will have to negotiate the challenges of the proposed intersection of Polk Street and the frontage road. The mixing of these multiple modes at this single location will greatly complicate and endanger traffic operations for all modes.

At the very least, this intersection will need to be signalized. But signalization would not rectify the fact that the U-Turn will create a new detour for one of the very few roads that provide access between Downtown, the neighborhoods west of Downtown, and the East End.

Design of the Frontage Roads

As discussed above, the proposed frontage roads will become an essential component of the local roadway network. As a result, they will need to be designed unlike any other frontage road in the Houston area. Whereas most frontage roads are designed first and foremost to serve high-speed freeway traffic, these frontage roads must safely and efficiently serve adjacent businesses, numerous side streets, and a fully multimodal local traffic mix composed of buses, bicycles, and pedestrians. The frontage roads should be designed to encourage speeds that are compatible with an urban context, in the range of 20-30 MPH instead of 40-50 MPH.

Although encouraging these kinds of urban speeds on one-way frontage roads can be challenging, there are several tools that can be helpful, including:

- **Narrower lanes**, such as the 11-ft City of Houston standard instead of the 12-ft TxDOT standard, can slightly lower vehicle speeds as well as decrease the distance pedestrians must traverse when crossing the road.

- **Raised intersections**, which are constructed at the same level as the pedestrian realm, act like speed humps to moderate travel speeds and further improve safety for pedestrians by making them more visible when crossing the road.
- **Right number of lanes**, depending on capacity needs for particular segments instead of a standard cross section for the entire corridor. Providing more lanes than needed can encourage higher vehicle speeds and increase pedestrian crossing distances. The fewest number of lanes required for meeting capacity needs should be provided on every block.
- **Curb extension/bulb-outs** to decrease pedestrian crossings distances and encourage lower vehicle speeds at intersections where on-street parking is provided.
- **Other traffic calming strategies,** including standard speed humps and speed cushions.

Encouraging urban speeds on the frontage roads will be critical for maintaining the feel of EaDO. The businesses in EaDO that are currently served by St. Emanuel Street will open directly onto the proposed northbound frontage road under the proposed conditions. St. Emanuel feels like an urban street with on-street parking, low vehicle speeds, and bidirectional travel, and maintaining this roadway feel will be critical for maintaining the integrity of the neighborhood. Shifting to a standard high-speed frontage road will fundamentally alter the feel of EaDO and make it feel less safe and less amenable to the type of inter-business pedestrian travel that currently exists and helps strengthen and define the area.

Appropriate frontage road speeds will also be critical for intersection safety. If direct access into/out of Downtown is not provided on Polk, Leeland, and other streets, vehicles will be forced to make U-turns onto the frontage roads. These U-turns will require negotiating with frontage road traffic and will be unsafe with standard 40-50 MPH frontage road speeds.

Many people will also be walking and bicycling across the frontage roads between Downtown and the East End. Many of these individuals will have to cross mid-block without the assistance of a traffic signal and will have to judge and identify appropriate gaps in frontage road traffic. Identifying an appropriate gap in high-speed traffic can be exceptionally difficult, and the consequences for misjudging such a gap can be disastrous. Finding gaps in 20-30 MPH traffic can be much easier and the consequences much less severe.

Importance of Pierce Elevated

The freeways in Houston have had profound impacts on transportation patterns and land use development in the region. The Pierce Elevated is no exception. When it was constructed in 1967, it not only provided a direct connection for long-distance travel along IH-45, it also provided connectivity options for local traffic (see dotted line in Figure 3). Whether this local travel option was originally intended or desired, the availability of this option has been ingrained in regional transportation patterns. Furthermore, its availability has enabled the dismantling of other East-West transportation options over the years through land use changes such as the construction of the GRB and Dynamo Stadium. These land use changes have cemented the importance of the Pierce Elevated for local connectivity.

The removal of the Pierce Elevated at this point would undermine the regional transportation and land use structure that has grown up around it and that relies on the connectivity it provides. For residents of the East End – as well as for drivers from Galveston, Clear Lake, and other destinations to the south along IH-45 – the Pierce Elevated is one of the most important, heavily-used routes to access:

- West Downtown destinations, including the Theater District and City Hall
- Buffalo Bayou Park, which has recently been renovated and has become a regional destination
- Memorial Park/Memorial Drive
- Montrose, especially destinations in the northern parts such as the Waugh Whole Foods
- River Oaks
- The Heights
- Washington Ave
- Allen Parkway

The reverse route is just as important for drivers coming from those communities, enabling them to access EaDo, the Greater East End, and destinations south along the Gulf Freeway.

As a result, the removal of the Pierce Elevated will substantially increase travel times for all drivers traveling between neighborhoods west of Downtown and those east/southeast of Downtown. The removal would force those drivers to utilize local streets in the East End and Downtown, increasing traffic congestion in those areas. The increased local traffic volumes would degrade the ability of these neighborhoods to create safe and attractive urban streets that support walking and bicycling.

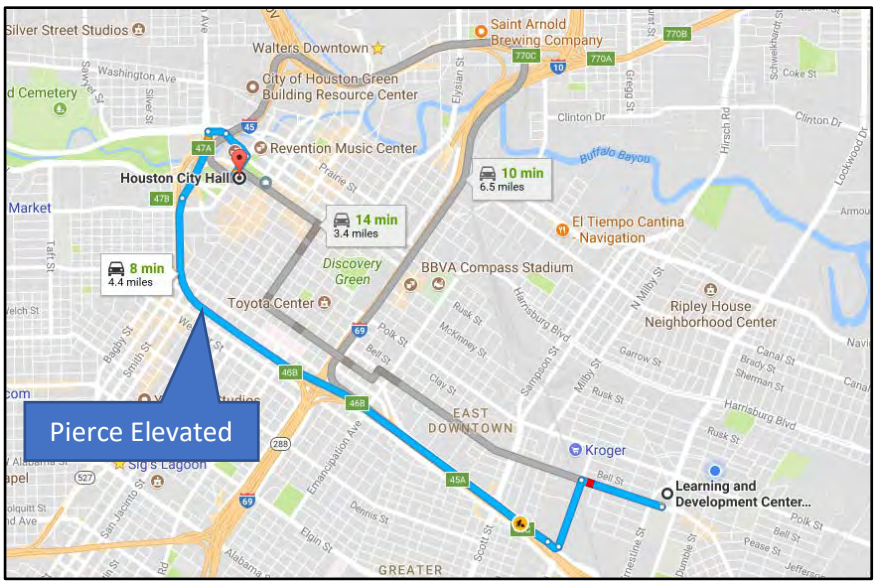
The images on the next page show Google Maps route recommendations to various destinations from the City of Houston Learning and Development Center, a relatively centrally-located destination in the East End at the intersection of Lockwood Drive and Leeland Street. For each of these origin/destination pairs, Google has determined the Pierce Elevated to be the preferred route. It is worth noting that many of the secondary route recommendations also utilize the Pierce Elevated, as do the reverse commute recommendations.

Although maintaining the Pierce Elevated or a similar structure is important for continuing to accommodate cross-town travel, it does not necessarily need to look like it does now. For example, it would no longer need to accommodate freeway traffic and would thus not require 3 lanes and a shoulder in each direction. Cross town traffic could likely be accommodated with 1-2 lanes in each direction, and the remaining space could be repurposed for other uses including bike lanes, trails, or elevated park space. The park space could look something like New York's High Line park or Paris' Promenade Plantée and could become a defining feature of Houston.

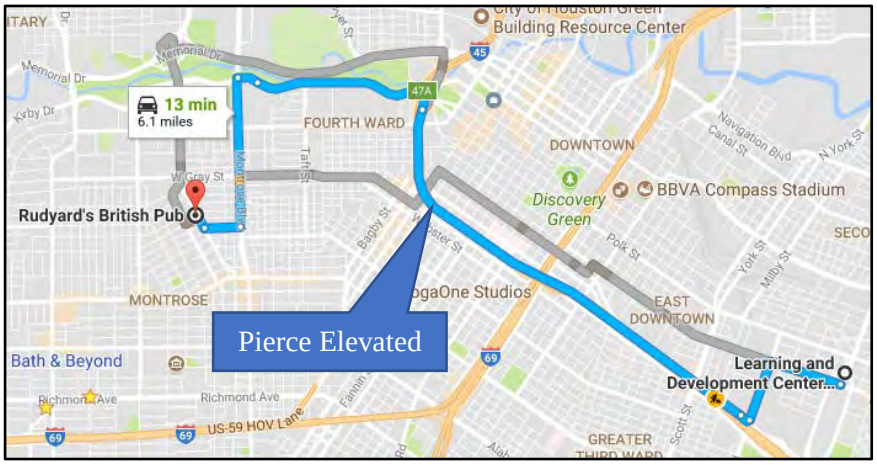
Combined Impacts of Other TxDOT Projects

The Downtown Loop Realignment project is not the only ongoing or upcoming TxDOT project that will impact local traffic patterns in and around Downtown. Additionally, TxDOT is currently reconstructing the section of IH-45 South near Downtown to eliminate unsafe traffic freeway weaving operations. As part of this project, the northbound ramps at Cullen Street and Scott Street onto IH-45 will no longer provide connections to IH-69/US-59 South or SH-288 South. These ramps are currently major freeway access points for many people in EaDO, the Second Ward, the Third Ward, and the Greater East End.

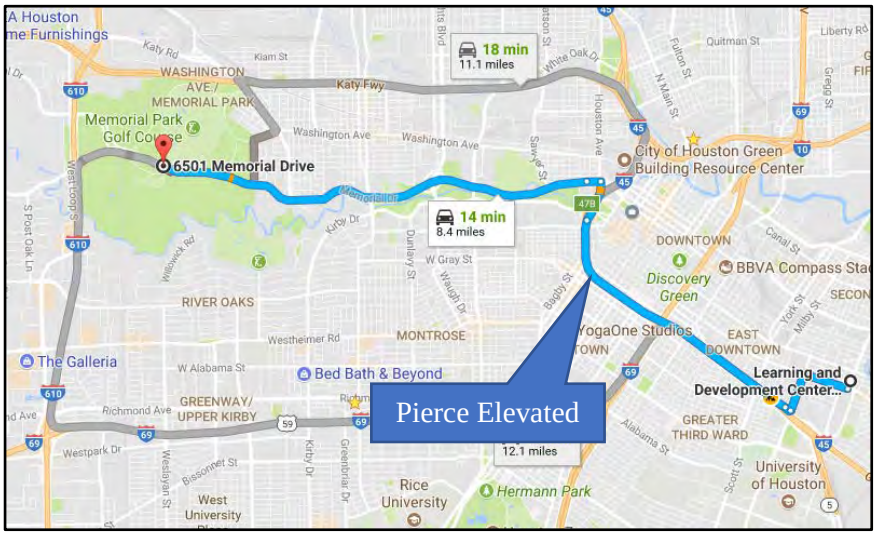
Once the project is complete, the sole ramp to IH-69/US-59 South and SH-288 South for the East End communities will be provided at the northeast intersection of Cullen Street at IH-45. Access to the ramp will only be provided from the south on Cullen Street and the IH-45 Northbound Frontage Road (NBFR). Local traffic will be unable to access the ramp from the north along Cullen Street.



Google Map Route: East End to City Hall



Google Map Route: East End to Montrose



Google Map Route: East End to Memorial Park

The net impact of this ramp configuration on local traffic will be the redistribution of freeway traffic onto local streets through neighborhoods to the south for access along the IH-45 NBFR or to the west to access the freeway system via Downtown access points. For many drivers who currently use the ramps at Cullen or Scott, the Downtown access points will be preferable. These drivers will be diverted to the same select few roads that other drivers are using to access Downtown destinations, and they will have to contend with the same U-Turn challenges at the proposed frontage roads.

In short, the two TxDOT projects will work in tandem to divert vehicles from the freeway system to local streets that serve residences, businesses, and multimodal travel and that offer the sole but imperfect access routes into Downtown and destinations on the west side of Downtown.

Leeland Street Connection

Assuming the project proceeds as currently proposed and access into/across Downtown is diminished, the importance of Leeland Street increases as a route for cross-town transportation. Currently two bridges exist for Leeland Street across US-59; one serves eastbound traffic and the other connects westbound Leeland to Bell Street in Downtown. Bell Street provides a circuitous, indirect connection onto West Dallas using a series of local roadways west of Smith Street; eastbound Leeland Street starts at Louisiana Street and does not provide access through Downtown for origins west of Louisiana Street.

Under the Downtown Loop Realignment plan, the westbound connection from Leeland to Bell is not proposed to be reestablished. Westbound traffic on Leeland would need to use the proposed frontage road to access other streets into Downtown. In effect, the project would push traffic from other East-West access routes onto Leeland Street; it would then remove the direct access that Leeland provides and force all traffic on Leeland Street to negotiate with high-speed frontage road traffic to access circuitous routes into Downtown.

It is not sufficient to claim that this new problem will need to be solved by the City of Houston because Leeland is a local street. If a TxDOT project is creating a new problem, the TxDOT project must also solve that problem. City of Houston taxpayers should not be responsible for mitigating TxDOT projects.

How Much Park Space is Needed?

One of the purported benefits of the Downtown Loop Realignment is the potential construction of park space on up to 10 blocks above the freeway. It is hard to argue that additional park space is not typically beneficial – but it is likely that the park space in this area would be far less beneficial than the same amount of park space in many other parts of the City.

It is not clear that EaDO is particularly lacking in park space in the first place. Discovery Green is a major regional park directly on the other side of the GRB from these blocks. Additionally, several blocks of Hutchins Street adjacent to Dynamo Stadium have been converted into open space, and the East Downtown Management District is currently in the process of converting several blocks of Bastrop Street right-of-way into park space.

On the other hand, providing too much park space, particularly in this area, will be challenging to maintain as a welcoming space for all instead of becoming a campsite for the homeless. Strategic park programming has helped make Discovery Green a success and will be critical to the success of any park space on these blocks; however, the more park space provided in an area, the more difficult activity

programming becomes. For example, consider James Bute Park at the nearby intersection of McKee at Runnels. It suffers from underutilization because of challenges related to maintenance, lack of access, and chronic homeless populations. If we think we can make ten blocks of additional park space appealing, perhaps we should prove it first with the park space that we already have.

In terms of benefit to the local community, the additional park space would not seem to offset the destruction of actively redeveloping private property or the removal of transportation connections. If the proposed park space comes into conflict with providing local transportation options, the transportation options should prevail.

Conclusion

Thank you for providing me the opportunity to comment on the Downtown Loop Realignment conceptual plan. Although the plan is grand in scale and shows an eagerness to explore innovative solutions, I ultimately believe the current design would not be a cost-effective use of valuable taxpayer resources or even necessarily a net boon to the Houston region.

In summary, my recommendations to increase the positive impact of the project and improve the equitable distribution of costs and benefits are:

1. Maintain direct access into/out of Downtown along Polk Street.
2. Maintain direct access into/out of Downtown along Leeland/Bell streets.
3. Maintain the Pierce Elevated for local east-west travel. Consider repurposing extra pavement for bike lanes, trails, and/or elevated park space.
4. Design proposed frontage roads for vehicle speeds compatible with an urban context.
5. Conduct a full, multi-modal traffic analysis that consider all proposed impacts to the local road network. Include at minimum an analysis of:
    a. Travel times between key local destinations and communities
    b. Impacts to multi-modal transportation components, including walking, biking, and transit.
    c. Local roadway safety, including interaction of high-speed frontage road traffic with local traffic making any U-turns that would be required by the proposal

    The analysis should use all available projections for land use changes within the Houston region to ensure that this project is the right project for serving the community for 50-100 years.

    The report should provide recommendations for fully mitigating all identified impacts. In short, it should guarantee both that overall projects benefits outweigh project costs and that costs and benefits are fairly distributed to all impacted communities.

I believe with these recommendations, the Downtown Loop Realignment project can benefit both suburban commuters as well as inner city residents, business owners, drivers, transit users, bicyclists, and pedestrians.

Please let me know if you have any questions. I'd be happy to discuss any of these issues and thoughts in more detail.

Respectfully,

Ian Hlavacek, PE

CC Congressman Gene Green, Congressional District 29
Senator Sylvia Garcia, Texas State Senate District 6
Representative Carol Alvarado, Texas State House District 145
Mayor Sylvester Turner, City of Houston
Council Member Ellen R. Cohen, Mayor Pro Tem, City of Houston District C
Council Member Dave Martin, City of Houston District E
Council Member Karla Cisneros, City of Houston District H
Council Member Robert Gallegos, City of Houston District I
Council Member Mike Knox, City of Houston At-Large 1
Council Member David Robinson, City of Houston At-Large 2
Council Member Michael Kubosh, City of Houston At-Large 3
Council Member Amanda Edwards, City of Houston At-Large 4
Council Member Jack Christie, City of Houston At-Large 5
East End Management District
East End Chamber of Commerce
Downtown Management District
East Downtown Management District
Superneighborhood 64 & 88
Eastwood Civic Association

From: Pat Henry
To: [redacted]
Subject: Fwd: I-45 North freeway Expansion Polk street
Date: Monday, July 10, 2017 1:29:04 PM
[redacted]

Sent from my iPad

Begin forwarded message:

From: HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
Date: July 10, 2017 at 10:08:18 AM CDT
To: Pat Henry <Pat.Henry@txdot.gov>
Subject: FW: I-45 North freeway Expansion Polk street

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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Watch us @www.youtube.com/txdotpio

From: Hulsey, Carla - CNL [redacted]
Sent: Monday, July 10, 2017 10:04 AM
To: HOU-PIOWebMail
Subject: FW: I-45 North freeway Expansion Polk street

Hello, please see comments regarding the I45 North expansion project below.

Cordially,

Carla Hulsey
Deputy Chief of Staff
Council Member Mike Knox
City Council At-Large Position 1
[redacted]

From: April Baker [redacted]

Sent: Sunday, July 09, 2017 10:24 PM
To: CNL At Large 1 [redacted]
Subject: I-45 North freeway Expansion Polk street

To Whom It May Concern:

Polk street is a major street that people use on a day to day basis. This new plan to close Polk and make it a part of the way that North I-45 is going will change the community of East End and change people's day to day routes. We need to keep Polk Street from becoming another dead end toward Downtown Houston and the East End community. Polk Street is a very important access road for several reasons. It provides cross-Downtown access, serves high-frequency bus lines, will serve a high-comfort bicycle facility, and provides direct access to important Downtown destinations.

I have lived in the East End my whole life and with all the changes that have happened, roads closing off, new metro rails etc.. some of these things have helped the people of Houston and some have not helped anyone at all but the builders. I am excited to hear of new changes for Houston, but I believe that this expansion/turning Polk street in to a dead end street is not going to help the community of East End or the Downtown area. With the high level of the bike community and people needing to get into downtown for buses it will just be another cut of street that they can not get to downtown. Please find other ways that we can keep Polk street from becoming a dead end street.

Sincerely,

April Baker

[redacted]

From: Pat Henry
To: [redacted]
Subject: Fwd: Comments 45/59 Hwy Construction - Houston EADO Neighborhood
Date: Monday, July 10, 2017 1:28:21 PM
[redacted]

Sent from my iPad

Begin forwarded message:

From: HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
Date: July 10, 2017 at 10:00:31 AM CDT
To: Pat Henry <Pat.Henry@txdot.gov>
Subject: FW: Comments 45/59 Hwy Construction - Houston EADO Neighborhood

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Tharen Simpson [redacted]
Sent: Sunday, July 09, 2017 11:28 PM
To: HOU-PIOWebMail
Subject: Comments 45/59 Hwy Construction - Houston EADO Neighborhood

Attached please find our comments on the proposed 45/59 Hwy construction affecting EADO.

Thank You.

Tharen Simpson
Rusk Street Investmets
[redacted]

[redacted]

RUSK STREET INVESTMENTS LLC

[redacted]

July 7, 2017

Director of Project Development
Texas Department of Transportation
P O Box 1386
Houston, TX 77251-1386

Via email: HOU-piowebmail@txdot.gov

Dear Director,

I am writing to comment on concerns I have about the proposed 45/59 construction, the portion that affects the EADO area (east of Chartres). My business is located at 2410-2420 Rusk, which is directly adjacent to Chartres and the DOT has proposed taking the land from Chartres to St. Emanuel. I also have a business at 801 St. Emanuel, which will be affected.

Use of Property during buyout and before construction:

Issue – Loss of Tax Revenues
Solution – Lease back to tenants directly to continue revenues

It is my understanding that consideration is being given to lease back the property after the buyout for the period prior to construction. It is also my understanding that there has not been a decision made as to whether it will be leased back to the tenants or the landowner from which it was purchased. The real estate taxes which the land owner pays for the property from Chartres to St. Emanuel and from Rusk St. to Walker St. is $276,563 annually. The MB taxes the state collects for MB Gross Receipts tax at 6.7% and the MB Sales tax at 8.25% amount to $854,827.43 for the past 12 months for five (5) tenants only. This does not take into account the Sales tax revenue remitted by those tenants on food nor Sales tax revenue collected for those tenants without a MB license, but only a Beer/Wine license. Using the construction time frame on HWY 290 completion which started in 2013 and is not projected to be completed until 2018 – five (5) years – the revenue loss on MB taxes alone to the state for these 5 tenants in EADO would be a minimum of $4,274,137 given they have no increase in sales. I believe, therefore, that economically it would be advantageous to lease the property back to the current tenants at the time of buyout – the landowner should not be able to release the land they no longer own and collect bumped up rents from the tenants. It is also economically advantageous for the State to continue to collect the nearly $5 million in MB taxes by keeping the tenants in control so that these revenues continue.

Infrastructure Concerns:

We do not believe that any construction activities including buyouts should occur before all the infrastructure needs have been addressed and a written plan is presented on how these will be accomplished, including a time table.

Water and Sanitary Systems:

Issue – No written and approved plans
Solution – Research and submit plans for approval to the City Engineers

The current water main for most all of EADO is located at the intersection of St. Emanuel and Rusk. We have been told repeatedly that the DOT recognizes it needs to be moved, but no plans have been presented. This water main affects the properties that will be purchased by DOT as well as the adjacent properties that will not be purchased thru eminent domain. Until the plans have been presented and approved by the authorities in control of these, it would be detrimental for the businesses that will remain.

Parking:

Issue – Loss of Existing Parking
Solution – Lease the current property to the City of Houston for controlled parking

The DOT will be buying out the one and only existing parking lot in EADO. It is located on the square block of Chartres to St. Emanuel and Rusk to Texas. This is the only parking lot that serves EADO. The parking in EADO has been an issue from inception. The only other parking are two lots owned by Houston Sports Authority which are three blocks North of EADO and utilized for Astro's games. While the TIRZ has attempted to buy land to build parking to accommodate the EADO businesses and Dynamo stadium, it was instructed to sit back until Houston First completed their building which included a parking lot. Their building is now completed, however, until the DOT issues are resolved for what streets will remain open for access into EADO (see below) nothing can be considered. To resolve, we suggest the DOT purchase thru eminent domain the parking lot and lease it back to the City of Houston for controlled parking. City of Houston has diminished funds and this would assist in providing funds to the City; and the current land owner is charging prohibitive rates from $40 to $100 per space whenever there is a special event such as Astros and Dynamo games.

Freeway Drainage:

Issue – Hwy 59 will be underground and the drainage issues have not been resolved.
Solution – Prepare environmental and drainage plans and have approved by the engineer.

While underground roadways have been built in Dallas; Houston is closer to sea level than Dallas. It is our understanding that DOT has acknowledged the issues but no studies have been performed or approved by an engineer. This study and approved plans should be developed before construction begins. Buying

out the land and not being able to start (and timely complete) construction is detrimental to the businesses existing in EADO.

Access to EADO:

Issue – Loss of Polk Street/Loss during construction on Rusk for access to Dynamo Stadium
Solution – Readdress the entry points from Downtown into EADO

Currently the main two entries into EADO are Rusk Street and Polk. The plans currently call for Polk to be closed and substitute Leeland and for Rusk to be opened after all construction. It is our understanding that the entrance into Dynamo will be moved from the front to the back where the players and staff currently enter. The moving of the Dynamo entrance completely shuts Rusk St off and all of the businesses on Rusk and St Emanuel. Five years of construction will completely shut these businesses down. It will also hurt attendance at the Dynamo games. We suggest that Rusk remain open at all times.

As to Leeland – you need to walk the area. Leeland is far south of EADO. The pioneers to the EADO restructuring were Lucky's Pub and Warehouse Live – which are on St. Emanuel between Rusk and Walker. These businesses were the pioneers in 2005 and 2007 from which the concept of EADO was borne. Prior to this time the area was known as Old China Town and the Warehouse district. It was full of crumbling buildings without utilities and many of the businesses were 'houses of pleasure'. The areas from Polk to Commerce have been revitalized and are apartments and reputable businesses where the structures have been rebuilt (by the tenants not the land owners) into viable business entities bringing in not only tax revenues, but people from all parts of Houston. However, south of Polk and on towards Leeland, is a completely different story; it is filled with falling down empty buildings covered in graffiti and those buildings that may be occupied, either legally or otherwise are gang oriented. It is unsafe to drive south of Rusk towards Leeland at night. If there is no other south entry point available for access into EADO, then the area needs to be totally cleaned up BEFORE construction commences with the buildings demolished, sidewalks installed/repaired and adequate street lighting.

<u>Buyouts</u>:

Issue: Moving/Relocating Tenants
Solution: Shared buyout negotiations between DOT with the Tenants and Landowners

For the reasons stated earlier, Buyouts should not be conducted without having the Tenants have a seat at the table when numbers are discussed. Construction, in its' self, will be disruptive to the neighborhood and relocating tenants to "another location" will not be easy or in some cases, even possible. The tenants that "began the EADO area" or "the reconstructing of Old Chinatown" are the ones that put out the money to build and improve the neighborhood; and relocating tenants from adjacent to the Dynamo Stadium and near Minute Maid – is going to be an impossible job. It took 5 years plus for these tenants to start breaking even; moving a business from either of these areas into another area that has no draw or is saturated with other bars/restaurants is not going to work. None of the tenants from Chartres to St Emanuel / from Rusk to Walker had buildout money from the landowner. It is all one land owner (including the sole parking lot in EADO) and the tenants paid for every infrastructure improvement

including connecting to the Water Main at St. Emanuel and Rusk with their funds, not the landowner's funds.

Summary:

I respectfully request that these issues be reviewed and resolved before any construction and/or buyouts are started. It is imperative that the construction not totally wipe out the EADO neighborhood and that during the lengthy five-year plus construction period, our business and the other businesses in EADO be able to continue. While we understand travel time on Hwy 45 & 59 is a concern, the restructuring of highways should include a plan not to destroy an entire neighborhood and maintain the taxpayer's rights to continue their source of income as well as minimize the removal of tax revenues to the State.

Sincerely,

Tharen K. Simpson

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Monday, July 17, 2017 11:51:42 AM

Patty,
Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Monday, July 17, 2017 11:50 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Monday, July 17, 2017 11:35 AM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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Watch us @www.youtube.com/txdotpio

-----Original Message-----
From: [redacted]
Sent: Saturday, July 15, 2017 1:37 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Ms. Kathrine Kerns[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: The project the make the 59 and the 45 fwy, run parallel and to do away with the Pierce Elevated is a big waste of taxpayers money. It will not elevate traffic, and will cause many businesses to be displaced. It will ruin the downtown district, and make much more streets flood. Please scrape this plan immediately. Spend this money elsewhere.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Monday, July 17, 2017 11:50:56 AM

Patty,
Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Monday, July 17, 2017 11:49 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Monday, July 17, 2017 11:01 AM
To: Danny Perez; Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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Watch us @www.youtube.com/txdotpio

-----Original Message-----
From: [redacted]
Sent: Monday, July 17, 2017 9:22 AM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Ms. Shari Thomas[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Regarding segment 3 of the I45 North and More project, please do not close Polk street and instead consider an alternative.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

From: Kelly Lark
To: [redacted]
Subject: FW: NHHIP Comment
Date: Monday, July 17, 2017 11:47:18 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, July 17, 2017 11:27 AM
To: Kelly Lark; Christine Bergren
Subject: NHHIP Comment

Below comment was received through Salesforce from [redacted]

I am writing to complain about the waste of taxpayer money in regards to the construction of Segment 3 of the North Houston Highway Improvement Project. The project continues a disturbing trend at TxDOT that gives supreme precedence to automobile traffic rather than developing other transportation solutions to address Houston's urban growth. Date of Occurrence: Location: Houston

[redacted]

HOUSTON-GALVESTON AREA COUNCIL

July 21, 2017

Pat Henry, P.E.
Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386

RE: North Houston Highway Improvement Project (CSJ No. 0912-00-146)

Dear Mr. Henry:

The North Houston Highway Improvement Project (NHHIP) is a transformative project intended to enhance the region's mobility, economy and quality of life. The Houston-Galveston Area Council (H-GAC) is happy to support TxDOT's efforts in this endeavor. The Transportation Policy Council (TPC), likewise, has signaled its support for this project through their actions last February to contribute funding to the NHHIP's initial segment along IH-69/US 59 south of Downtown and Midtown.

Although this is a highway project, the NHHIP will have significant impacts on regional transit and bicycle/pedestrian connectivity as well. H-GAC will continue to support collaboration between TxDOT and the City of Houston, METRO and other organizations to ensure that this project provides mobility benefits for all modes and users as its design progresses. H-GAC also expects to explore this project's potential for future high-capacity transit (HCT) through its recently-created High Capacity Transit Task Force.

Our staff has reviewed the updated schematics and DEIS and has generated a list of remarks for your agency's consideration. These comments have been shared with, and reviewed by, the Technical Advisory Committee and the Transportation Policy Council.

As a participating agency, we look forward to continuing to work with TxDOT as this project progresses.

Sincerely,

Alan C. Clark
Transportation Manager and MPO Director

[redacted] [redacted]

ACC/tbg
Attachments

cc (via e-mail): Hon. Matt Sebesta, Chairman, Transportation Policy Council
Carrin Patman, Chairman, Metropolitan Transit Authority Board of Directors
Quincy Allen, TxDOT
Bill Rudnick, TxDOT
Andy Mao, TxDOT
Carlos Swonke, TxDOT

H-GAC Comments to TxDOT
North Houston Highway Improvement Project (CSJ No. 0912-00-146)
July 2017

H-GAC appreciates the efforts TxDOT staff has taken to refine the design of this project and acknowledges that these refinements address at least some of the remarks conveyed to TxDOT in May 2015. The following remarks are in response to the revised schematics and DEIS released in April 2017.

1. The design sequesters motorists on IH-45 for a significant distance as they travel around downtown. For example, traveling northbound on IH-45 from the Gulf Freeway, there appears to be a distance of about 3.25 miles between the St. Joseph Parkway/Pease Street exit into downtown and the following exit, to IH-10 westbound. Has TxDOT given thought as to how to assist or re-route motorists along this stretch of IH-45 during emergencies (e.g. accidents, jackknifed trailers, etc.)? For example, can emergency access gates, like those placed along HOV lanes, be provided between the IH-45 and IH-69/US 59 mainlanes in the trench east of downtown?

2. There is not a direct connector between IH-45 northbound and IH-10 eastbound; it appears that motorists making this connection are expected to first exit onto IH-69/US-59 northbound and then exit onto IH-10 eastbound (and, due to the current ramp reconfiguration project, northbound motorists will need to be aware of this back at Elgin/Lockwood). Is it physically and geometrically possible to address both this concern as well as the one raised in the first point by creating a direct connector between IH-45 northbound and IH-10 eastbound?

3. When compared to the existing configuration, the revised schematic appears to reduce some of the direct access points for motorists on IH-45 to enter downtown (e.g. the elimination of the Pierce Elevated means that northbound motorists from the Gulf Freeway will no longer be able to access the northern and western sides of downtown via the Memorial Drive exit). This places a premium on the importance of clear and definitive signage to effectively inform approaching motorists as to how and where to access downtown.

4. There is some general language on page 7-2 of the DEIS document regarding bicycle and pedestrian pathways, but the revised schematics do not appear to address bicycle and pedestrian connectivity in detail. As the design progresses, H-GAC strongly encourages TxDOT to continue to work with the City of Houston, management districts and other stakeholders to ensure that bicycle and pedestrian connectivity across the reconstructed freeway is preserved and even, where possible, enhanced. For example, as Holman has been identified by the City of Houston as a bike route on either side of the IH-69/US 59 trench, an elevated bicycle and pedestrian bridge to provide connectivity should be considered, if physically feasible.

5. As this project will have at least some effect on METRO's transit operations, H-GAC also strongly encourages TxDOT staff to work closely with METRO staff to minimize disruptions to

transit operations, both during and after construction, and to collaborate on opportunities to accommodate the possibility of future high-capacity transit within the corridor, especially along Segments 1 and 2.

6. The closure of Runnels makes some of the intersection improvements and grade separations as identified in the GCRD West Belt Study and H-GAC's East End Mobility Study, especially as they relate to Navigation Boulevard, even more critical. TxDOT is encouraged to cooperate with the City of Houston, the Gulf Coast Rail District, and the Greater East End Management District to ensure that these improvements are accommodated as the new design is put in place.

7. The DEIS states on page ES-20 that "[c]hanges in freeway access on I-45, I-10 and US 59/I-69 will likely affect existing traffic patterns in neighborhoods." These effects will require further analysis, especially as they relate to areas such downtown, Midtown, Greater Third Ward, the East End and the Near Northside. H-GAC encourages TxDOT staff to continue to work with the City of Houston as well as management districts, Super Neighborhoods, and other organizations to address issues such as motorist wayfinding and traffic control on local streets surrounding and connecting to the project.

8. H-GAC is appreciative of TxDOT's efforts to reduce the impact of the freeways on the surrounding community, reconnect neighborhoods, create opportunities for economic development and improve quality of life by creating freeway deck parks in Midtown, east downtown and north of downtown, and will support efforts in advancing these projects.

9. The DEIS indicates that this project is likely to have disproportionately high and adverse impacts on Minority and Low-Income communities and historic neighborhoods. H-GAC has expertise in addressing such environmental justice concerns, and is prepared to support TxDOT's evaluation of these potential direct, indirect and cumulative impacts.

10. As a result of this project, several freeway segments which are currently at or above grade will be reconstructed below grade. This places extreme importance on the need for adequate rainwater pumping, drainage control and runoff management infrastructure and capacity to ensure that these segments do not flood during extreme weather events.

11. As it is a dynamic activity center, downtown Houston has been and continues to be the location for significant new investment by both the public and private sector. TxDOT is encouraged to coordinate with both public and private interests to minimize and mitigate the effects of this project on other construction and development activities.

12. The new freeway configuration will cross multiple active freight railroad lines, including those owned by Union Pacific and BNSF. H-GAC encourages TxDOT to maintain close cooperation with the freight railroads to ensure that freight operations are not adversely impacted during construction and, where possible, even improve the safety and capacity of these railroads.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Museum Park Super Neighborhood comments - IH45 North and More
Date: Friday, July 28, 2017 3:37:20 PM
[redacted]

Patty,
Comment…
May be a duplicate.
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:36 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Museum Park Super Neighborhood comments - IH45 North and More

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:31:06 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: Museum Park Super Neighborhood comments - IH45 North and More**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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> **From:** Kathleen O'Reilly [redacted]
> **Sent:** Wednesday, July 26, 2017 1:01 PM
> **To:** HOU-PIOWebMail
> **Subject:** Museum Park Super Neighborhood comments - IH45 North and More
>
> Good afternoon,
> Please find attached the Museum Park Super Neighborhood comments regarding the TXDoT
> IH45 Environmental Impact Statement. We appreciate the opportunity to participate in this transformational project.

Mr. Quincy Allen, P.E.
[redacted]

Re: North Houston Highway Improvement Project – Draft Environmental Impact Study Comments
July 19, 2017

Dear Mr. Allen,

We appreciate the time that you and your team recently spent discussing the IH45 North and More Project with us as representative of Museum Park to address concerns specific to Museum Park. It was a helpful conversation, thank you. The Museum Park Super Neighborhood submits the following comments regarding the schematic design of the North Houston Highway Improvement Project as presented at the May 11th, 2017 public hearing. We support the efforts being made through the project design to minimize negative impacts on adjacent neighborhoods, including the depression and capping of the freeway in the Wheeler Station area.

We appreciate the opportunity to provide our input and look forward to continued engagement with the design process. We also support the comments submitted by Midtown Management District and the IH45 Coalition that focus on the broader impact to Houston.

We look for this project to improve mobility across all transportation modes within the city, and to improve mobility on surface streets for all modes of transportation, whether people or engine-powered, and appreciate your efforts to do so. We appreciate that TXDoT has agreed to continue maintain the continuity of our important surface street connections and esplanades that contribute to Houston's evolving green space and linear park system, and certainly to the graciousness of Museum Park. These particular streets including Main, Fannin, San Jacinto, Caroline, Austin, and LaBranch are essential connections between the vibrant areas surrounding the Central Campus of Houston Community College and Midtown to several of Houston's important destinations including Hermann Park, cultural and faith institutions, and the 3000+ residential properties.

We respectfully request that TXDoT consider the following comments from Museum Park Super Neighborhood regarding the IH45/US 59 improvement project:

- We again appreciate TXDoTs commitment to bridging the areas of US59 being suppressed in Museum Park. Unfortunately, experience at Dallas' Klyde Warren Park has proven that disconnected segments, as planned between Caroline and Fannin, are problematic for many reasons.

- With the proposed reconfiguration of I69 at Wheeler Transit Station, there is an opportunity to improve multi-modal circulation, access to the transit center and plan for future capacity needs with the University Corridor and US 90A transit connections. We ask that TXDoT coordinate with City and

METRO to ensure this area is designed to maximize future transit and development opportunities. The Deck Park Cap at this location provides an opportunity for public and private investment to develop a Transit Oriented Development. TxDOT should actively engage in the development and implementation of the Wheeler Area Park Cap and related street and transit connections.

The NHHIP proposes to move the freeway below grade in this section, reducing noise and visual impacts along the border of Midtown and the Museum District and benefiting the prospect of development. The Museum Park Livable Center Study outlines this opportunity that can be envisioned soon since this is the first project where construction is expected to start as soon as 2020. However, details including ramps, bridges, and street connections will need to be worked out to enable the greatest potential for transit-oriented development around the station.

We appreciate you meeting with the city, METRO and stakeholder to discuss options and look forward to working with you to identify the design that improves circulation and accessibility for all modes of transportation around the Wheeler Transit Center.

We also request that this cap be designed to accommodate landscaping and program needs. Museum Park is committed to working with TXDoT to provide design concepts in a timely manner.

- To create continuity of the historic street grid as it currently exists, we request that the segment bridging Main to east of Fannin be connected to the segment bridging San Jacinto to Caroline. Having this surface area retained as it exists now is critically important in this intensely pedestrian area surrounding the METRO Transit Center.

- Please evaluate options to maintain the Blodgett connection from San Jacinto to Main St. This is a useful connection and very helpful to the bus operations at the Transit Center. With the redesign of the San Jacinto on-ramp to east side of street, this should be achievable.

- IH-69 exit to Main Street near Wheeler TC should be designed to allow improved pedestrian and bicycle connectivity and safe crossings as identified in Houston Bike Plan/METRO Bike & Ride studies.

- We ask that the bridges planned over Austin, LaBranch, and Almeda be designed to accommodate all modes of mobility including people walking and bicycle riders. We ask that these bridges be designed to accommodate green scape including trees. Museum Park is committed to providing design concepts to TXDoT in a timely manner.

- The current plan calls for a left turn lane on Caroline at Wheeler, reducing the green space of our beautiful esplanades. We see no reason for this additional turn lane and ask that it be eliminated from the design, and not implemented.

- The planting of anything green softens the impact of this large infrastructure project. Please landscape the walls of the dropped roadway similar to the area on US59 between Hazard and Shepherd using fig ivy or plantings even more environmentally beneficial.

- We think it likely that noise walls will be needed adjacent to residential areas in Museum Park along 59. If necessary, this additional level will add landscape opportunities. We request that this landscaping be similar to the noise walls that are currently in place on the segment of US59 towards Dunlavy.

- As currently proposed, the primary access to and egress from the SH 288 Managed Lanes or Toll Lanes would be provided on Chenevert Street south of Elgin, adjacent to the Houston High School for International Studies and Baldwin Park. Presence of the existing freeway ramps disrupt the neighborhood fabric and introduce unsafe vehicle speeds in a residential area. Please consider other options including connecting the SH 288 Managed/Toll Lanes to the SH 288 main lanes near Alabama or connecting to Hamilton and Chartres that serve as the frontage road along this section of the freeway.

In general, the project should improve traffic safety with reduced speed limits as freeway traffic approaches the city street network. All surface streets should be designed as complete streets, not freeway frontage roads. Roadway alignments and the project scope should allow for street trees and urban-sided sidewalks and high comfort bikeway consideration. The design of all structures should be high-quality and compatible with the surrounding urban and historic fabric.

We are coordinating and collaboration with the City of Houston Planning and Development Department. They also believe the North Houston Highway Improvement Project opens significant opportunities in the Wheeler transit station area for transit oriented development, work force housing open space and for improving mobility in the area.

The Planning Department has discussed working with Metro, Midtown Management District and others on a detailed study of the area and these opportunities. A timeline for this effort hasn't yet been established but it is understood that a study must be initiated quickly in order to inform the design of the TXDoT improvements.

Once again, thank you for the opportunity to offer input into the NHHIP project and your willingness to consider measures to reduce the highway's impacts on it neighbors. We hope incorporating the comments into the Final EIS and design will improve the project and the quality of life of our stakeholders.

Sincerely,

Kathleen O'Reilly

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Segment 3 of the TxDot Downtown Loop System
Date: Friday, July 21, 2017 3:23:49 PM
[redacted] [redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 21, 2017 3:18 PM
To: Kelly Lark; Christine Bergren
Subject: FW: Segment 3 of the TxDot Downtown Loop System

From: HOU-PIOWebMail
Sent: Friday, July 21, 2017 3:03 PM
To: Pat Henry
Subject: FW: Segment 3 of the TxDot Downtown Loop System

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: John McLeod [redacted]
Sent: Thursday, July 20, 2017 8:53 AM
To: HOU-PIOWebMail
Subject: Segment 3 of the TxDot Downtown Loop System

Hello,

I oppose Segment 3 of the TxDot Downtown Loop System. TxDot needs to make the following modifications to their current design:

- Keep Pierce Elevated or some form or it for easy east to west route without having to go through the downtown street lights.
- Reduce amount of lanes going through the East Side of Dowtown.
    - Current project would remove current businesses on Chartres St, between Polk and Commerce St. As well as take possible development land from the east end and turn it into

freeway lanes. Txdot currently shows total freeway lanes going from 9 to approximately 20 lanes depending on location. These are underground lanes with the street level turning into a park, if funded by others.

- TxDot should not accommodate George R. Brown Convention Center by moving freeway further east around the GRB as this also negatively impacts the East side.

Instead, please make incentives for a grocer in EaDo. It is extremely needed.

Thanks,

John Michael McLeod

[redacted]
PROJECT - BIGFOOT

Controls System Engineer
[redacted]

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[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 21, 2017 3:22:12 PM

Patty,
Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Friday, July 21, 2017 3:17 PM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Friday, July 21, 2017 2:56 PM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Thursday, July 20, 2017 5:04 PM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Ms. Jeanneth Orellana[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Make the following modifications to Segment 3: 1.Keep Pierce Elevated or some form of it for an easy east to west route. 2.Reduce amount of lanes, keep ROW ~212', going through the East Side of Downtown. Current project would remove businesses on Chartres St between Polk and Commerce St as well as take possible development land from the east end.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100] <http://www.dot.state.tx.us/txdot100/>

From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: FW: NHHIP Comments FW: Public Comments for the North Houston Highway Improvement Project
Date: Tuesday, December 26, 2017 8:48:38 AM
[redacted] [redacted]

Lauren – I was going through some emails, is this in our comments folder & matrix?

Let me know, and if not it needs to be added

Patty

From: Kelly Lark [mailto:Kelly.Lark@txdot.gov]
Sent: Friday, July 21, 2017 3:21 PM
To: Matthews, Patty
Subject: NHHIP Comments FW: Public Comments for the North Houston Highway Improvement Project

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 21, 2017 3:13 PM
To: Kelly Lark; Christine Bergren
Subject: FW: Public Comments for the North Houston Highway Improvement Project

---

From: HOU-PIOWebMail
Sent: Friday, July 21, 2017 2:54 PM
To: Pat Henry
Subject: FW: Public Comments for the North Houston Highway Improvement Project

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Alicia Nuzzie [redacted]
Sent: Friday, July 21, 2017 10:51 AM
To: HOU-PIOWebMail

Subject: Public Comments for the North Houston Highway Improvement Project

To Whom It May Concern:

On behalf of Houston High-Speed Rail Watch (HHSRW), we would like to submit public comment on the North Houston Highway Improvement Project. Our letter is attached.

Should you have any questions about our letter, or difficulty opening the attachment, please feel free to contact me at [redacted].

Thank you,

Alicia Nuzzie
Lead Organizer
Houston High-Speed Rail Watch
[redacted]

[redacted]

Houston High-Speed Rail Watch

[redacted]

July 21, 2017

Director of Project Development
Texas Department of Transportation - Houston District
P.O. Box 1386
Houston, TX 77251-1386

To Whom it May Concern,

Houston High-Speed Rail Watch (HHSRW) is a volunteer coalition of neighborhood leaders formed in 2015 to monitor the development of the proposed Houston to Dallas high-speed rail project and ensure that it would not negatively impact our neighborhoods. We are submitting public comments for the North Houston Highway Improvement Project. HHSRW has serious concerns about this reconstruction project with regard to right-of-way availability for modes of transportation other than automobiles.

For the past several years, Texas Central Partners (TCP), a private company, has been working to connect Houston to Dallas via high speed rail. TCP plans to locate its Houston end terminus for the high-speed rail project near METRO's Northwest Transit Center.

HHSRW, along with several transportation agencies including METRO, are working on a strategic plan for connectivity to downtown for both high-speed rail riders and transit center riders. We propose using existing freeway corridors to avoid disrupting communities. An elevated lane for Bus Rapid Transit (BRT) or METRO light rail will travel the median of I-10 between TCP's end terminus and downtown using the existing HOV ramp by the old post office on Franklin. The current North Houston Highway Improvement Project plans do not consider this connectivity, and in fact, would preclude it, since the plans call for the demolition of the HOV ramp. We strongly recommend that the HOV ramp be reconstructed to support BRT and/or METRO light rail. Our intent is to maintain the Franklin connection so it will tie in with METRO's existing purple and green light rail lines.

We know TxDOT's primary focus is building highways for auto drivers, but BRT, light rail, bikes and other forms of existing travel need to be considered in the North Houston Highway Improvement Project to facilitate long-term transportation goals for the City of Houston and Greater Houston area. We ask that TxDOT be open to incorporating all methods of transportation as they finalize the plans for this massive undertaking.

A copy of our proposal and map for our idea is included for your review.

Sincerely,

The Members of Houston High-Speed Rail Watch
(Coalition Members and Neighborhood Affiliations Following)

Alicia Nuzzie
Lead Organizer - Houston High-Speed Rail Watch
Oak Forest /Central NW Super Neighborhood Council

Evan Michaelides
Member - Houston High-Speed Rail Watch
First Ward

Monirah Bacnik
Member - Houston High-Speed Rail Watch
West End

Ricky Miller
Member - Houston High-Speed Rail Watch
Bayou Bend

Julie Grothues
Member - Houston High-Speed Rail Watch
Inwood Forest

Penny Leas
Member - Houston High-Speed Rail Watch
Oak Forest

Tami Merrick
Member - Houston High-Speed Rail Watch
First Ward

If the Proposed Texas Bullet Train or High-Speed Rail (HSR) Project Comes to Houston: A Smart Connectivity Proposal to Downtown

What is Houston High-Speed Rail Watch?

Houston High-Speed Rail Watch is a group of civic leaders who live in neighborhoods along the Union Pacific (UP) and Burlington Northern Santa Fe (BNSF) rail lines. We have been monitoring the proposed Texas Bullet Train or Houston-to-Dallas high-speed rail (HSR) project since early 2015, when the routes originally presented for HSR to reach downtown Houston threatened many established neighborhoods. Our membership includes representatives from Inwood Forest, Oak Forest, Garden Oaks, Independence Heights, West End, First Ward, Sixth Ward, and Super Neighborhoods 5, 12, 22, and 51. Our mission is to advocate for smart connectivity between Houston's high-speed rail station and downtown and to protect established neighborhoods. We are very active in following and researching details and updates regarding HSR. We invite you to join our efforts by supporting and advocating for our position.
For more information about our group and work, please visit www.houstonhsrwatch.org.

Executive Summary

If the proposed Texas Bullet Train or HSR plans were to move forward, we are advocating for an elevated METRORail (light rail line) that would run down the center lanes of I-10 to connect HSR's end terminus near the Northwest Transit Center with downtown. We believe this light rail connection would unify scattered strands of Houston's public transportation network and facilitate connectivity to downtown for HSR riders, without adversely affecting neighborhood communities. It would also serve Houston-area commuters and promote a reduction of cars on the road. Plus, with a modest number of stops, it becomes an express rail line attractive to both local commuters and high-speed rail riders traveling into downtown.

Background on the High-Speed Rail (HSR) Project

In late October 2014, Houston communities learned studies were being conducted by a private company, Texas Central Railway (TCR), now Texas Central Partners (TCP), and the Federal Railroad Administration (FRA), to investigate ways to build HSR that would connect Dallas and Houston. There were several routes considered, including routes that would take the rail into downtown Houston following the Burlington Northern Santa Fe (BNSF) and Union Pacific (UP) rail lines. These routes, if followed into downtown Houston, would have been extremely damaging to many Houston neighborhoods.

From November 1, 2014 to January 9, 2015, a public comment period was held where hundreds of residents expressed opposition to HSR going into downtown Houston via their neighborhoods. A corridor analysis was then conducted by the FRA to determine the most viable route and stop. Through this analysis, TCP concluded they would build the rail line along the so-called Hempstead Utility Corridor (US 290) and locate a Houston station in the area of the I-10/610/290 exchange close to the Northwest Transit Center. This is still the current plan, but final approval by the FRA through their Environmental Impact Statement (EIS) has not been released.[i] Though TCP maintains construction will begin in 2017, the FRA Draft EIS has been pushed back and is currently expected to come out in December 2016 or early 2017. Because of this, it is estimated that the final EIS statement will not be published until mid-to-late 2017. It is only after this final EIS statement is released that TCP can begin construction.

HSR Needs Connectivity to Downtown Houston

Although there is still a push from some groups and entities to extend HSR into downtown Houston, the FRA concluded that going downtown via the BNSF or UP routes through neighborhoods would not be economically and environmentally feasible. The FRA also concluded the I-10 corridor would be too difficult for HSR to travel into downtown due to the turn radius and design needed to make the proposed HSR route continuous, safe and timely.

Since Houston has multiple commercial centers rather than a single dominant central business district, a stop near the I-10/610/290 exchange and Northwest Transit Center makes sense. It enables business riders, TCP's core ridership, to easily get to other key areas of our city like the Energy Corridor, Galleria area, and Uptown Park. However, given a significant number of riders may need to go downtown, connectivity to downtown becomes an issue. Recognizing this, neighborhood leaders have come together, attended transportation meetings to learn more about various proposals, taken input from government transportation agencies, and agreed on a plan that we believe would benefit all Houstonians while preserving our neighborhoods[ii].

Taking HSR from NW Transit Center Area to Downtown Via METRORail (Light Rail)

In recent years, the Metropolitan Transit Authority of Harris County (METRO) has made an enormous investment in expanding light rail in the City of Houston. Several lines bringing people into and around the city are well established, and ridership on this mode of transportation is increasing. We believe extending existing METRORail lines to the proposed HSR end terminus at I-10/610/290 would transport HSR riders downtown while serving the Houston community as a whole.

METRORail's Purple and Green lines currently terminate at the Theater District stop downtown. To reach an HSR station in the vicinity of the Northwest Transit Center, these lines could be extended to I-10 using the existing HOV ramp located near the downtown Post Office, route north in the I-45 expansion corridor within existing right-of-way, and continue elevated above I-10's center lanes to HSR's end terminus. A few elevated stations along the way could serve local riders. This plan would connect a portion of the city that has yet to be linked to METRORail, provide additional local commuting options, and offer a much needed connection for HSR riders traveling to downtown Houston.

Conclusion

In light of the Houston-to-Dallas HSR project, Houstonians must consider sensible ways to incorporate a new NW-Downtown connection into the City's existing transportation network. Mass transit options should be available to move people to where they want and need to go in ways that would help all Houstonians, while still preserving our communities and neighborhoods. Extending METRORail's Purple and Green lines down the I-10 corridor will accomplish this goal.

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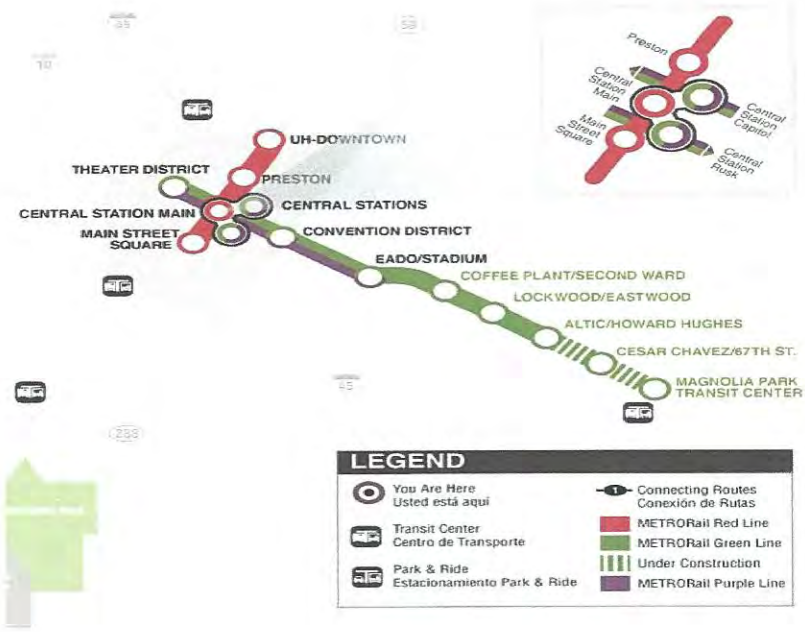
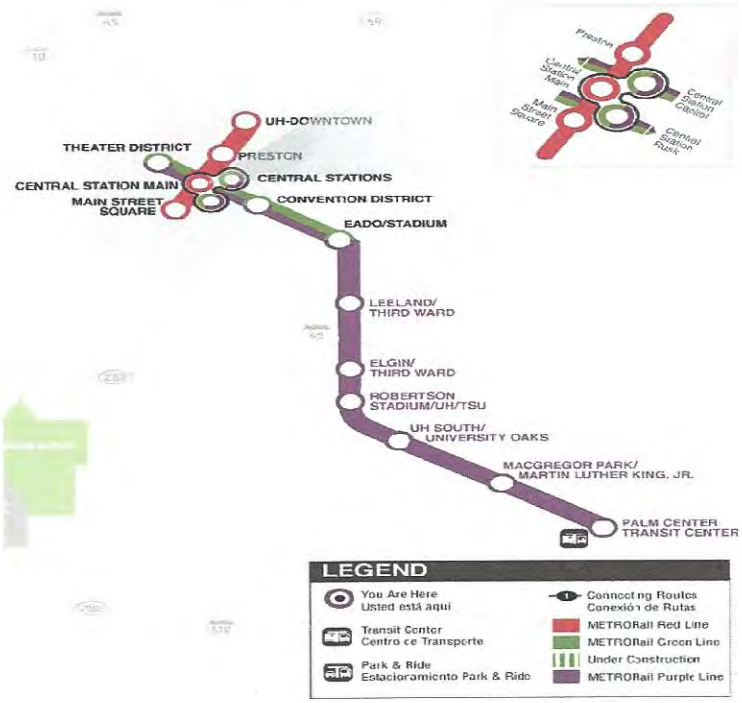
[i] For any major transportation project in the United States to begin, the project must undergo a screening to see if it meets the standards and guidelines under the National Environmental Policy Act (NEPA). If the project does not comply with NEPA standards, it will not receive federal clearance to move forward. Environmental Impact Statements (EISs) are assessments of the likelihood of impacts from various alternative courses of action and are required from all Federal agencies as part of the NEPA requirements.

[ii] Transportation meetings attended: Houston City Council, City of Houston's Transportation, Technology and Infrastructure Committee, Gulf Coast Rail District board meetings, METRO board meetings, Houston Galveston Area Council's (HGAC) Transportation Policy Council, HGAC's Technical Advisory Committee, and public meetings hosted by Texas Central Partners.

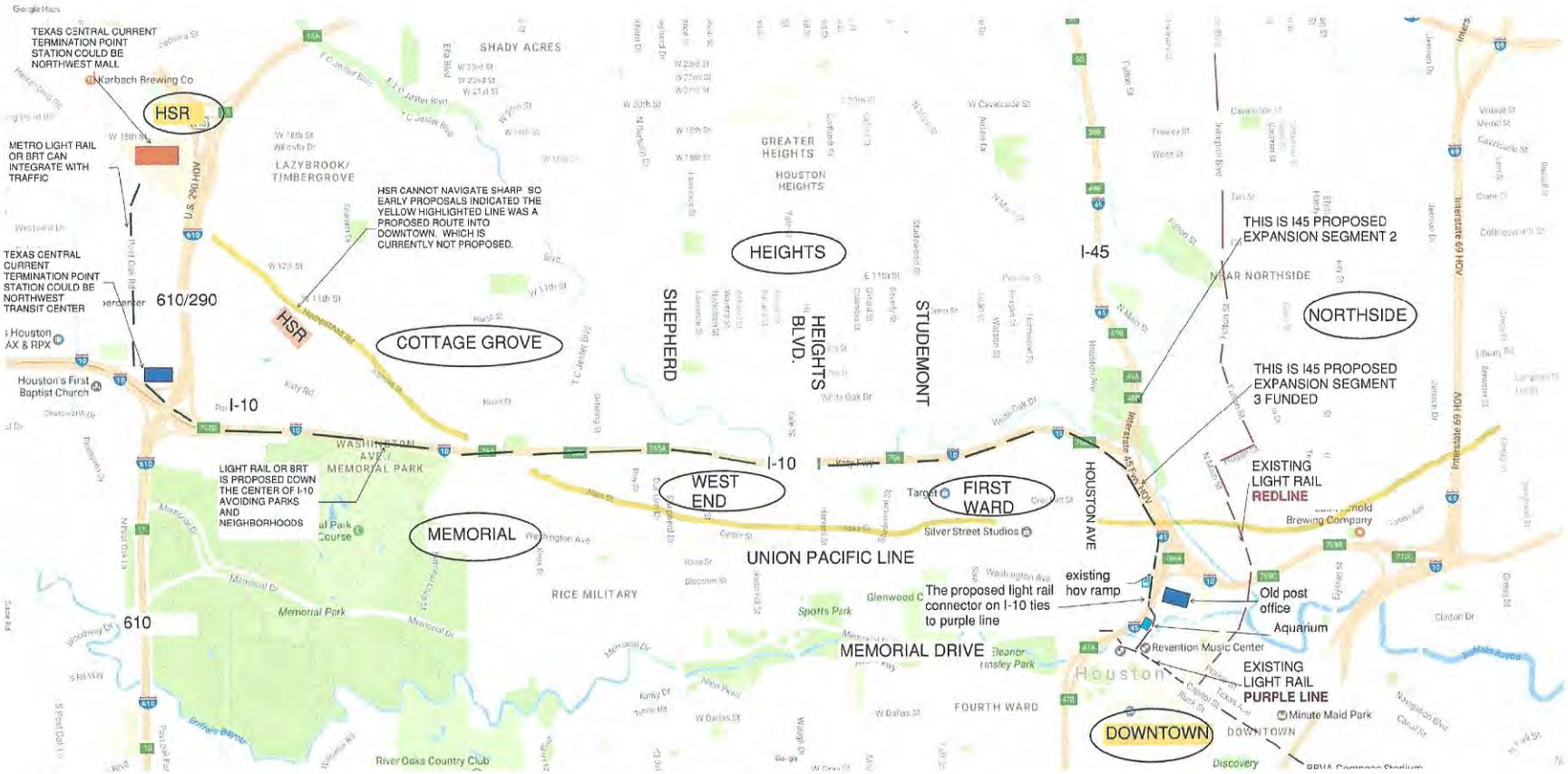
METRORail's Existing Green Line



METRORail's Existing Purple Line



[redacted]



RAIL WATCH - HIGH SPEED RAIL ROUTING DIAGRAM - W/ PROPOSED ALTERNATE

Bus Rapid Transit (BRT) OR Metro Light Rail (LRT) connection to downtown in lieu of HSR

LEGEND

- HIGH SPEED RAIL STATION
- BRT OR LIGHT RAIL PROPOSED (**BLACK**)
- EXISTING LIGHT RAIL (**RED LINE**)
- EXISTING LIGHT RAIL (**PURPLE LINE**)

WHY?

Metro Light Rail or Bus Rapid transit in 1-10 Hight Speed Corridor will solve the transit connection from Downtown to West Houston and alleviate future proposals routing Gulf Coast Regional Rail (heavy freight train) through residential communities.

WHY?

Because Metro Light Rail or Bus Rapid Transit can provide a rapid commuter solution from the HSR station To Downtown. Simultaneously it can serve as a commuter transit system for Houston's commuters connecting Northwest Transit Center with Downtown.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Wednesday, July 26, 2017 7:44:00 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, July 25, 2017 4:18 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 25, 2017 at 2:24:31 PM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Saturday, July 22, 2017 3:38 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: [redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Please don't move either I-45 or US 59 (I-69). I don't believe that there will be a good return on investment for the problems such a move will cause in the interim.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Wednesday, July 26, 2017 7:44:58 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, July 25, 2017 4:18 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 25, 2017 at 2:18:51 PM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Saturday, July 22, 2017 3:11 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Evan Michaelides [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: TxDOT's current plans demolish the I-10 HOV ramp at Franklin Street (next to the old Post Office) needed for a METRORail or BRT connection between downtown and the planned high-speed rail station in the 290/610 area. I request that TxDOT preserve or reconstruct this ramp for future METRORail or BRT service while remaining in its current ROW.

[redacted]

Florence I. Clark

[redacted]

July 24, 2017

Mr. Quincy Allen, P.E.
Houston District Engineer
Texas Department of Transportation
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

We write to you as a coalition of Houston neighborhood, civic, parks, transportation, quality of life and historic preservation groups. All of our organizations have worked for many years to improve our city. And although we all fully recognize the need for thoughtful infrastructure and mobility improvements for our growing region, we share strong concerns that TxDOT's North Houston Highway Improvement Project is being designed in a manner that runs counter to our work and to what makes Houston great – our diverse neighborhoods, our parks, our connections to one another, and our bayous.

Our groups believe that this project must be evaluated in the context of Mayor Turner's drive for Complete Communities, particularly given the unfortunate legacy of highway projects that split communities, especially low income neighborhoods. The project must serve Houston's current and future economic development needs – not just from the perspective of developed land which will permanently come off the tax rolls and be unavailable for commerce and industry – but also from the perspective of all those qualities which make our city a desirable place to live.

We understand from TxDOT's "purpose and need" statement that the I-45 expansion must be viewed in a regional context. Some of the traffic the project is estimated to carry will have its destination inside the City of Houston, but much of it will have regional destinations. For this reason, it is critical that TxDOT delivers a project that leaves Houston in a <u>better</u> position than before, and takes care to ensure that the I-45 expansion does not negatively impact the city in order to deliver benefits to surrounding areas.

We believe that while the I-45 expansion may offer regional mobility benefits, it must also be evaluated against the broader goal of intra-city and neighborhood mobility. To serve Houston's interests, at a minimum, the project should improve mobility across all transportation modes within the city, and it should improve mobility on surface streets for all modes of transportation, whether people or engine-powered.

Our concerns have grown as we have closely reviewed the Draft Environmental Impact Statement (DEIS) that TxDOT has made available for public comment. Many organizations within this coalition participated in the scoping process for the proposed project in 2015, as did the City of Houston. The DEIS does not reflect far too many of the scoping suggestions made by both the City and our organizations during that public comment

period. Furthermore, despite these suggestions, TxDOT has made very few commitments in response to those scoping comments.

The proposed rebuilding and rerouting of I-45 / I-10 at the expense of numerous neighborhoods, signature parks, and Houston's evolving linear park system represents the kind of single-purpose, massive highway project that most American cities are actively dismantling, not building. Projects such as this divide and often have the effect of destroying communities. This potential for division is not adequately addressed in the Draft EIS. At a time when Houston seeks to build complete communities, TxDOT takes a single purpose approach to land use in Houston. Where the DEIS does disclose certain impacts, it transfers the necessary mitigation of these impacts to others. Furthermore, the DEIS does not adequately identify which other entities will be responsible for mitigation or the agreements reached with those third parties. Other than passing references to Metro and the Houston Bike Plan, it largely fails to put the Highway Improvement Project into a comprehensive transportation plan context. Consideration of integrating mass transit, local streets and pedestrian / bike routes, and new linear parks being built around the city are not contemplated in the Draft EIS.

We have set forth below general comments and examples of how this project does not meet Houston's transportation, neighborhood and quality of life needs. We have also attached a detailed list of the specific issues we urge TxDOT to address. In our comments, we have broadly characterized these deficiencies across several areas:

- Disproportionate impact to low-income communities
- Impact to economic development opportunities
- Impact to parks and recreation areas
- Poorly conceived highway/urban interfaces
- Noise impacts
- Air quality impacts
- Visual impacts
- Impacts on walkability and cycling
- Water quality and flooding impacts

We understand the North Houston Highway Improvement Project's automobile benefits, but the project will have significant impacts on communities, multi-modal safety and the environment that the draft EIS does not adequately address. Given the substantive deficiencies in the DEIS, it should be supplemented and the public process kept open until such time as TxDOT fully addresses the impacts as summarized in this letter and its attached detailed comments.

Disproportionate Impact to Low-Income Communities

The DEIS clearly states that the proposed project will have a "disproportionate impact on low-income and disadvantaged communities". A plain reading of the DEIS indicates that these impacts include visual, noise, air pollution, and the splitting of communities.

Executive Order 12898 requires that Federal agencies make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority populations and low-income populations. The Federal Highway Administration delegated to TxDOT their Federal and NEPA compliance responsibilities; the document fails to explain how this responsibility is being fulfilled by TxDOT.

The DEIS makes clear that the project will displace dozens of single family homes, many hundreds of multifamily housing units (many of which are public housing), thousands of jobs, houses of worship, schools and social services. These impacts will occur largely in low income black and Hispanic communities. The project will exacerbate physical barriers between neighborhoods, and between neighborhoods and downtown, and again, most of these affected communities are low income.

The proposed project further separates low-income neighborhoods from opportunities. For example, Polk Street's connection to downtown will be eliminated, despite its important role as a critical east west connector between Downtown and routes to the East End and Third Ward for vehicles, pedestrians and bicyclists.

On the segment between 610 and Beltway 8, which includes the edge of the historic Acres Homes neighborhood, TxDOT proposes widening I-45. Unlike higher income areas of town, or even in the areas between I-10 and 610, TxDOT does not propose to build the highway below grade.

The U.S. Census Bureau shows the largest share of people who bike, in large car dependent cities like Houston, are in lower-income brackets. Given the immediate surrounding neighborhoods and the location of our Bayou Greenways, current and future bicycle infrastructure, bicycle connectivity is of paramount concern for these low-income communities (see below for more detail).

Impact to Economic Development Opportunities

The proposed project will take significant amounts of private land currently on Houston's tax rolls and will eliminate the possibility of economic activity on a permanent basis. These include high value real estate in the EaDo area and many other acres of land across the city. TxDOT estimates an annual $789,000 residential property tax loss, $1.2 million business property tax loss, $1.0 million other property tax loss, and $5.2 million potential sales tax loss. These losses do not account for degradation of property values due to visual and noise impacts. Discounting these losses at the City of Houston's cost of capital of approximately 4%, the present value of these losses is on the order of $200 million, again, without accounting for the loss in value to adjacent properties due to noise and visual impacts.

The DEIS does not propose any mitigation strategy for these impacts, other than the possibility of platforms upon which to build parks costing hundreds of millions of dollars, paid for by unidentified third parties, that may enhance nearby property values.

Impact to Parks and Recreation Areas

The DEIS simply ignores or dismisses the impact of the project on parks, recreation and open space, and dramatically underestimates the impact to Houston's bayou parkland. Using TxDOT's May 2017 Schematic to estimate Bayou Greenway and parks impacts, Houston will lose approximately 27 acres of current open space. These impacts are not disclosed or contemplated in the DEIS. The following tables estimate the park and recreation area impacts of the proposed project.

	Freeway to be Added	Freeway to be Removed	Net Total
White Oak Bayou Greenway / Freed Park	22 ac	4 ac	18 ac

Little White Oak Bayou Greenway	13 ac	3 ac	10 ac
Buffalo Bayou Greenway / Downtown Parks	4 ac	5 ac	-1 ac
		Net Loss of Greenway	**27 ac**

Detailed Breakdown of Park Impact (acreages are included in the above Greenway calculations)

	Freeway to be Added	**Freeway to be Removed**	**Net Total**
Freed Park	0.17 ac	-	0.17 ac
Linear Park	2.35 ac	0.01 ac	2.34 ac
Sam Houston Park	0.63 ac	-	0.63 ac
Sabine Promenade	0.13 ac	-	0.13 ac
		'Current' Parkland Impacted	**3.27 ac**

Existing Trails (By Others) Lost by Freeway Expansion

	Trail Removed
Little White Oak Bayou Greenway	0.2 mi

As TxDOT points out in the DEIS, "Section 4(f) of the Department of Transportation Act of 1966 prohibits the Secretary of Transportation from approving any program or project that requires the "use" of 1) any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance as determined by federal, state, or local officials having jurisdiction thereof..." This project has considerable impact on such areas.

White Oak Bayou Greenway

The White Oak Bayou Greenway is part of Bayou Greenways 2020, a $220 million public/ private investment by the City of Houston to provide continuous linear parks and recreation areas, with hike/bike trails, along 150 miles of Houston's major waterways. The White Oak Bayou Greenway extends over 15 miles from the city limits to UH Downtown where a federally funded TIGER project, currently under construction, is connecting White Oak Bayou Greenway to Buffalo Bayou Park. That TIGER project also includes neighborhood connections to Main St. and Leonel Castillo Community Center, plus bike wayfinding to the transit centers on Fulton. It represents the kind of complete community effort that Houston is working toward and for which federal funds are currently being deployed.

The 1,100 feet of White Oak Bayou Greenway from the current I-45 overpass at UH Downtown west to Hogg Park are completely open to the sky and the bayou except for small under crossings at the railroad bridge and Hogan Street. The linear park features wildflowers and a hike / bike trail maintained by the Houston Parks Board (HPB). It offers amazing views of downtown for most of its length. The impact to this visual resource and to the Greenway itself is not described in the DEIS. All that sense of open space will be significantly impacted by the North Houston Highway Improvement Project. The project will extend seven new highway over-passes above the Greenway's widest stretch. The new overpasses would create an overwhelming new visual and audible intrusion onto the landscape. Moreover, additional lanes parallel to the bayou encroach further into the south side of the Greenway to the point where they impose on the bayou itself.

The DEIS appears to suggest that if the project maintains just the hike / bike trail, no impact results. That ignores the impact to the Greenway and open space itself of which the hike / bike trail is just a component. The project eliminates that open space. While some freeway will be removed by the project, HPB estimates a net increase of 18 acres of open space effectively covered by the project in just the stretch between UH Downtown and Hogg Park. That open space will be lost forever. Because the DEIS fails to identify the impact, it fails to offer alternatives or mitigation to minimize that impact as required.

Little White Oak Bayou Greenway

The project will remove and/or impair greenspace that now de facto serves the community as a place of respite and even as an active park with informal trails. Houston has active plans to take that acreage and make it a greenway park. The DEIS does not discuss this impact. The final EIS should address acreage of open land lost on Little White Oak, both to be covered and impaired.

Little White Oak Bayou represents a prime opportunity to extend open space connectivity north from White Oak Bayou Greenway to Woodland and Moody Parks and beyond up to Halls Bayou and ultimately Acres Homes. This connection between Acres Homes and downtown would benefit many of the underserved communities directly impacted by the North Houston Highway Improvement Project. Through most of Segment 2 the project follows the course of the Little White Oak Bayou. The 20 lanes of the new I-45 will eliminate 10 acres of open space along Little White Oak Bayou. It is imperative that the project fully embrace the ecological values and open space potential offered by Little White Oak Bayou. The DEIS must be supplemented with specific design features to preserve this potential.

The DEIS suggests that lack of immediate funding for some of these related projects relieves the North Houston project from addressing or mitigating impacts it creates. That is not the point. The project has an obligation to fit within larger identified Houston land use initiatives, not become another single purpose barrier to larger land use schemes. Attachment 1 contains specific segment by segment comments on these impacts.

Woodland, Sam Houston and Other Parks

The DEIS identifies less than an acre of impacts to City of Houston parks. It dismisses that impact as related to marginal greenspace rather than the "use of facilities". HPB calculates the total loss of open space in City parks at 3.27 acres (see attached). In a letter to the City of Houston's Parks and Recreation Department dated February 24, 2017, TxDOT is seeking a "de minimus" certification from the City of Houston for these impacts. The City of Houston, to date, has not concurred with this conclusion. Our coalition would not support such a conclusion. As with the Bayou Greenways, the DEIS dismisses the impact to green space and open space as non-existent if the project does not impact other features of the park.

The DEIS ignores the noise and visual impact to all of these parks. Although currently below grade at Woodland Park, I-45's constant din of freeway noise is already part of the fabric of a Woodland Park visit. With an added upper deck, above grade, the noise will be even more oppressive and incessant.
In recent years, the Sabine Promenade/Buffalo Bayou Park area has undergone a nearly $90 million enhancement. TxDOT's plan for this area is not appropriate since it encourages faster turn movements in a location where people should be driving slowly to be aware of people walking and biking. In addition, given the visibility of downtown from Buffalo Bayou, standard TXDOT freeway standards are not appropriate. Furthermore, nearby Sam Houston Park is one of Houston's most important historical destinations, featuring the oldest building on its original construction site in Houston and the oldest surviving

building in Harris County. Sam Houston Park is also a State Archaeological Landmark and contains four buildings designated as Registered Texas Historic Landmarks. One of these buildings is also registered under the NRHP. The DEIS fails to mention the visual and noise impact to this showcase of Houston's heritage. The DEIS fails to disclose whether or not these properties are registered under the NRHP, and whether the Texas SHPO has or has not concurred with the effects of the project.

Deck Parks

The DEIS makes reference to potential deck parks while clearly absolving the project from any responsibility in funding and creating the parks. Many of our organizations have been involved over the years in raising private and public funds to expand parks in Houston and provide other amenities. These deck parks discussed in the DEIS can only be designed if the capping greenspace is designed to account for the weight of the parks. These designs must be created and paid for as part of the highway project, or TxDOT's suggestion of decking is meaningless.

It will be difficult to raise private and public money for deck parks if TxDOT is permitted to destroy the open spaces unlocked by the Bayou Greenways Initiative. The project exacerbates divides created in Houston by freeways by creating a massive trench with double freeway width on the east side of downtown. A proposed deck park there appears to be approximately 30 acres in area adjacent to the convention center. Klyde Warren Park is a great asset for Dallas but it is comparatively small at five acres and provides a limited connection over one freeway at a cost of over $100,000,000. Projecting similar costs for Houston, a deck park would cost more than $500 million. Without full funding, the deck park proposal has limited meaning and **attempts to shift the cost from the proponent of the project to the community impacted**. In doing so, it fails to mitigate the impact created by the project. Houston already has major fundraising initiatives before it to improve and expand its current park system. Diverting those efforts to cover up an expanded freeway expansion by the state would be very difficult, especially given the strong need to improve parks across the city. Furthermore, by failing to analyze the impacts of the project "with and without deck", TxDOT makes a full evaluation of the impacts of the project impossible to achieve.

Because of these deficiencies in the DEIS, our organizations request that TxDOT conduct a Supplemental Draft EIS under applicable Federal law as carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated 12-16-2014, and executed by FHWA, in order to properly measure park and open space impacts, options and to propose reasonable mitigation strategies.

Poorly Conceived Highway/Urban Interfaces

TxDOT does an enviable job of designing highways for efficient flow of traffic, a track record for which the Department is justifiably proud. Nevertheless, over the years TxDOT has done a very poor job of ensuring that its projects integrate with an urban context where traffic slows from 65 to 30 MPH. The cumulative result over the years has meant that in Houston freeways become barriers between neighborhoods, dump freeway traffic into residential areas with very serious impacts, eliminate pedestrian walkability, erect barriers to bicycle access, and create many unsafe conditions for motorists and non-motorists alike.

In its comments to TxDOT in May of 2015 as part of TxDOT's scoping process, the City of Houston's Planning Department pointed out that "The City of Houston has adopted a Complete Streets policy to ensure streets are constructed for all users of the system. The City also required the streets should be built using Context Sensitive Design guidelines as those recommended in the *ITE - Design Walkable Urban Thoroughfares: A Context Sensitive Approach* and *NACTO – Urban Street Design Guide*, and others." Since the project location is within an urban area of the

city, including Downtown, any future engineering design should meet these guidelines. Unfortunately, multiple streets have been shown with sweeping, large radius turns. Several of these match the existing roadway curb lines which may have been designed at a different time for different users. TxDOT should not ignore the opportunity to modernize its approach and correct these outdated designs as it expands I-45.

In its comments during the 2015 scoping process, the Houston Parks Board suggested that "the termination of the proposed spur at Allen Parkway should be designed in order to accommodate safe pedestrian crossings at that intersection and in a way that drivers are reminded that they are entering a park." TxDOT has ignored this suggestion.

There is no indication that TxDOT intends to design the project's highway-urban interfaces taking into account Houston's Complete Streets policies. Section 7.3 of the DEIS includes no reference to these criteria or to the City's scoping comment.

Noise Impacts

The DEIS states that the I-45 expansion will have noise impacts. The brunt of these noise impacts will be borne by low-income communities like Acres Homes, Near Northside, Brook Smith Addition and the Fifth Ward.

Nevertheless, TxDOT avoids making any affirmative commitments to mitigate noise impact, and instead sets forth obtuse language about neighborhood choices that will enable TxDOT to avoid sounds walls in the future. The DEIS sets forth countless ways to avoid having to construct noise barriers. In some instances, TxDOT can claim low residential density claiming that abatement is reasonable when "there was more than 50 percent residential land use, otherwise abatement was not considered feasible and reasonable" – thus excluding any neighborhood with many empty lots. In other instances, TxDOT carves out another exemption by stating that "traffic noise barriers would be located along the outside of the frontage road/right-of-way where barriers could be continuous, without gaps for driveways or streets." Note that TxDOT has not followed this practice in high income areas like Bellaire. We request that TxDOT ensure that low income areas and park users are afforded the same deference as other parts of town with populations that have higher household incomes.

The DEIS is silent with respect to noise impacts on parks and recreation areas, another reason why we believe that TxDOT should conduct a Supplemental Draft EIS to disclose the impact on parks and recreation areas. Failing to do so would violate the terms of its MOU with the FHWA that delegated Federal responsibility for analyzing such impacts under Section 4(f).

Air Quality Impacts

The DEIS states that the project "would be included in the Statewide Transportation Improvement Program (STIP)/Transportation Improvement Program (TIP) and RTP, and the STIP/TIP and RTP would conform to the State Implementation Plan (SIP)." Purportedly, this inclusion would assure that the project is in compliance with air quality under the Clean Air Act (CAA) and environmental justice under Title VI of the Civil Rights Act of 1964 and Executive Order 12898. As TxDOT is well aware, air quality impacts are notoriously complex.

This group requests that TxDOT incorporate in its Final Environmental Impact Statement all of the information gleaned from TCEQ studies of air quality impacts along Houston's highways (see http://www.houstonchronicle.com/news/houston-texas/texas/article/State-to-measure-air-pollution-along-freeways-4769770.php for more information.

Our coalition is particularly interested in the incorporation of this air quality analysis given the close proximity of the project to low income areas, schools, and churches, as well as the project's many interfaces with Houston's signature Sabine Promenade and Buffalo Bayou Park and White Oak Bayou.

Visual Impacts

TxDOT adopts the assumption that "most viewers do not pay full attention to the I-45 corridor because the presence of the transportation infrastructure has become integrated into their routine" and that therefore "the sensitivity of the residential viewer ranges from low to moderate depending on the location of the viewer." To our organizations, it is inconceivable that the visual impact of a highway expansion of this scope and magnitude, creating one of the largest highways in the United States, does not rise beyond the level of "low to moderate."

The DEIS seems to imply that "most viewers" are residents or daily commuters that travel along I-45; it fails to recognize in this visual impact analysis that many users are from out of the region, and that tourists, visitors or new-comers to Houston would experience this visual effect for the first time.

In fact, the terrible appearance of I-45 has for many years been recognized by the business and civic communities of Houston as a major first-impression problem that negatively affects the city's ability to attract visitors, events and job relocations to Houston. I-45 as the main airport corridor gateway is recognized as the most important viewshed in Houston from an economic development perspective, yet it's widely understood that businesses explicitly instruct potential new hires not be transported from the airport on I-45 because of its unsightly character. While TxDOT has utilized federal grants over the last number of years to add trees and landscaping along area freeways, TxDOT offers no plan here to integrate context sensitive design elements to ensure that the I-45 project is a visual asset, not a concrete scar across the community.

A part of the impact, it must be said, has the potential to be positive in the corridor: the removal of a number of billboards. TxDOT makes no mention of how they are to be removed. The cost of removal must be entirely part of the project. TxDOT makes no mention of its plan at all in the DEIS, no mention of the number of billboards to be removed, when or how they are to be removed or the cost of removal. The full cost of total removal of the billboards must be included in the project and not be transferred to local government. Nor should the removed billboard structures be forced on other stretches of Houston freeway through relocation.

The DEIS states that "elevated lanes in the center of I-45 would create an additional visual barrier and potentially alter the existing visual conditions of the area." In another section of the DEIS, TxDOT claims that "the vividness of this landscape unit is moderately low. The areas containing Moody Park, Little White Oak Bayou, and the historic cemeteries provide a distinct viewshed within this landscape unit. The overall visual quality of this landscape unit is moderate."

Apparently because the quality of these park and historic cemetery landscapes is "moderate" in TxDOT's estimation, additional impact does not merit further attention. By this logic, because Houston's scenic beauty is relatively limited, further impacts are entirely acceptable.

TxDOT fails to consider the visual impact of the I-45 expansion on historic structures in Sam Houston Park. TxDOT's DEIS has no information with respect to how the new highway will be lit and how that lighting scheme will affect adjacent, low income neighborhoods, making an evaluation of such impacts impossible at this stage. In terms of impacts on other historic resources, the project segment between 610 and I-10 impacts several historic neighborhoods. Three designated historic districts are located along I-45 south of North Main

Street. The project's effect on the National Register-listed Near Northside Historic District on the east side of I-45 must be addressed as part of the review process along with potential impacts on two city-designated historic districts on the west side of I-45: Germantown and Woodland Heights. Both of the city-designated districts are potentially eligible for listing in the National Register. The Brooke Smith Addition on the west side of I-45 and the north side North Main Street is also potentially eligible for listing in the NRHP. The project's potential impact on historic resources in the First Ward, on the west side of I-45 south of I-10, should also be considered, particularly the National Register-listed Jefferson Davis Hospital (1925).

TxDOT's visual impact analysis concludes by saying that "because significant adverse impacts are not anticipated, this resource is not anticipated to be analyzed further in the detailed cumulative impacts analysis."

Our group disagrees with TxDOT's DEIS conclusions on visual impact, and requests that in the final EIS, TxDOT include detailed visual simulations from the roadway, from all the perspective of affected parks and recreation areas, neighborhoods, cemeteries, and historic structures. These analyses should include information on daytime and nighttime visual impacts. Tree and landscape plantings impact the visual nature of the freeways and air quality, runoff, and water quality. TxDOT should address how landscape and tree planning, Green Ribbon and other funds will be used within this project, and should address whether special actions being taken to accumulate the required expenditures as mitigation within this specific project or whether or not the funds will be spent throughout the region.

Impacts on Walkability, Cycling and Other Transportation Modes

In scoping comments prior to the preparation of the DEIS, both the City of Houston's Planning Department and the Houston Parks Board commented on the dangers of "the proposed 15' shared use lane along frontage roads due to safety concerns arising from the speed differential between bicycles and other vehicles in these environments. Bicycle accommodations should be provided in the form of a 10' shared use path or protected bike lane." TxDOT ignored this comment in the DEIS; we can find no evidence to an analysis performed on this important safety issue.

The City of Houston requested that TxDOT ensure all bridges across the freeway and street crossings under the freeway provide for a minimum 6' unobstructed sidewalk, and that NACTO criteria are incorporated in all highway/surface street intersections. There is no indication in the DEIS that such criteria will be incorporated into the project, and we can find no reference to an analysis performed on this important accessibility issue.

For example, as the City of Houston noted in 2015, many intersections in Segment 1 are proposed with suburban intersection design considerations. This segment falls within an urban area and all intersections should be designed to improve pedestrian and bicycle accessibility. To this end, an intersection design that incorporates a free flow right turn lane with a pedestrian island creates an unsafe environment for pedestrians since many drivers do not yield to pedestrians at such intersections. There is no indication that TxDOT has incorporated ideas like this in the DEIS.

As another example, a wider freeway through the Near North Side will create a significant community impact further dividing the Woodland Heights and Near Northside communities. Eliminating North Street removes a very practical, low volume, multi- purpose crossing of the current I-45. A deck park may help mitigate the further divide and loss of connectivity resulting from the project but only if the deck and park are fully funded by the project, and the park is not separated from the community by the high speed access roads set forth in the DEIS (see above for general discussion of Deck Parks).

As the site of many fatal accidents in Houston, access roads should be designed to be safe. Twelve foot lanes, three one-way lanes, and high design speeds, mixed with entering and exiting traffic, does not make for a safe road. The DEIS does not explain why high speed designs and high volumes are required on these roads. The Final EIS should explain why TxDOT has made these trade-offs of faster highway access at the expense of public safety.

Flooding Impacts and Water Quality Impacts

The DEIS recognizes that "potential impacts on surface water quality from the proposed project would be primarily related to storm water discharges into streams and drainageways that traverse" the project. Unfortunately, the DEIS analysis of water quality impacts falls into the same trap as the visual impact analysis. The latter suggests that because Houston is generally unsightly, making it a bit less attractive is not of great consequence. The water quality analysis basically says that Houston's bayous are hopelessly polluted, so a bit more pollution is not impactful.

The DEIS recognizes that Buffalo Bayou, Little White Oak and White Oak Bayou are classified by TCEQ as "impaired streams", and that "the discharge of storm water runoff into these drainage features" (i.e., in our parlance, bayous), would be unavoidable. Further, it argues that because White Oak, Buffalo and Little White Oak are impaired, TxDOT has a lesser burden to protect existing water quality. Because these streams are impaired, TxDOT should have a greater obligation not to harm them further—especially since TxDOT itself is already contributing to the problem with its current practice of dumping freeway water directly into Houston's bayous.

Any Houstonian who has walked along a bayou underneath a freeway in Houston knows exactly what this means – **every time it rains, or even when it's windy, tons of trash are dropped into our waterways, and flow into Galveston Bay, an important estuary for the greater region.**

TxDOT's DEIS sets forth that it will meet stormwater discharge requirements during construction. Nowhere is it clear how TxDOT will prevent the flow of the thousands of tons of trash that are transported from freeways to bayous during Houston's frequent "gullywashers".

Needless to say, the project will produce much more impervious surface with the potential to increase flooding and accelerate pollutants into the natural waterways. The DEIS should more clearly define creative strategies to minimize those potential impacts. Those strategies may include wet bottom detention basins that can filter water and roadside drainage filters to capture trash at its source. That work could be further expanded to include recreation and additional water quality functions.

Waterways affected by the project are already listed as impaired waters. We ask that TXDOT model the runoff and stormwater discharges into Buffalo, White Oak, Halls and Little White Oak Bayous in order to meet state requirements that prohibit the addition of any pollutant load into impaired waters and focus instead on improving those waters through the additional application of more rigorous best management practices for stormwater and runoff. Similarly, please further adopt and disclose the best management practices and plans that will be adopted, including source controls, to avoid further discharge of trash into these waterways.

Some of TxDOT's more recent flood control structures have made good strides in integrating the landscape with detention. Others have not. The detention basins planned on either side of Little White Oak Bayou, south of Patton, require thoughtful planning so that water edges are accessible to wildlife, and pedestrian and bicycle trails connect both to the existing bike trail going north along Little White Oak Bayou from Calvacade

and to Moody Park to the southeast. The detention basin recently constructed in the Heights stands out as an example of lost opportunity, where despite extensive community involvement, citizen input and repeated requests from local City Council members, TxDOT built a detention pond with a single use that is completely isolated from the surrounding community – this in one of the highest land value areas of the City of Houston.

Despite requests to this effect during the scoping period in 2015, TxDOT has rejected the possibility of wet bottom detention areas unless someone else maintains them. We request that TxDOT further explain in the Final EIS why it should not have the responsibility for doing everything possible to deliver into Houston's bayous cleaner water from the highways it maintains and owns.

Conclusion

The I-45 Expansion Project is a once-in-two-generations project that needs to be executed very carefully to avoid the serious impacts to the community at large that the current plan represents Without a truly comprehensive review of the project, the DEIS fails in its fundamental purpose to inform the design and decision making process required before creating such a serious impact on the City of Houston.

We urge TxDOT to go back and take the hard look required under NEPA to more fully address the issues outlined here. The undersigned organizations stand ready to work directly with TxDOT on the North Houston Highway Improvement Project to produce the best possible result for the greater Houston area, but that work can only proceed from a planning document that fully acknowledges the impacts of the project and seeks to identify ways to improve it.

Thank you for your careful consideration of these issues.

Sincerely,

Florence I. Clark

CC: Bob Harvey, President & CEO, Greater Houston Partnership
Karla Cisneros, District H

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Midtown Management District Comments on TxDOT NHHIP
Date: Wednesday, July 26, 2017 7:52:53 AM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Tuesday, July 25, 2017 6:35 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Midtown Management District Comments on TxDOT NHHIP

Sent from my iPad

Begin forwarded message:

> **From:** Quincy Allen <Quincy.Allen@txdot.gov>
> **Date:** July 25, 2017 at 6:07:09 PM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: Fwd: Midtown Management District Comments on TxDOT NHHIP**
>
> Sent from my iPad
>
> Begin forwarded message:
>
> > **From:** Michelle Ashton [redacted]
> > **Date:** July 25, 2017 at 4:35:25 PM CDT
> > **To:** "Quincy.Allen@txdot.gov" <Quincy.Allen@txdot.gov>
> > **Cc:** "Douglas, J. Allen" [redacted], amar mohite
> > [redacted]
> > **Subject: Midtown Management District Comments on TxDOT NHHIP**
> >
> > Dear Mr. Allen,
> >
> > Please find attached Midtown Management District Board of Director's comments on the TxDOT NHHIP. Please let me know if you have any questions or concerns. Thanks and have a great evening.
> >
> > Sincerely,
> > Michelle

July 25th, 2017

Texas Department of Transportation
Attn: Quincy Allen, TxDOT Houston District Engineer

RE: Midtown Management District Comments on TxDOT NHHIP

Dear Mr. Allen,

Midtown Management District's (MMD) Board of Directors submits the following comments regarding the schematic design of the North Houston Highway Improvement Project as presented at the May 11th, 2017 public hearing. We support the efforts being made through the project design to minimize negative impacts on adjacent neighborhoods, including the depression and capping of the freeway in the Wheeler Station area and the retirement of the Pierce Elevated. However, we have some concerns about particular design elements that we believe should be reconsidered in order to provide the most beneficial project possible. We appreciate the opportunity to provide this input and look forward to continued engagement with the design process.

1) SH 288 Managed Lane Access

As currently proposed, the primary access to and egress from the SH 288 Managed Lanes would be provided on Chenevert St. south of Elgin St., adjacent to the Houston High School for International Studies and Baldwin Park. We believe this configuration is suboptimal for everyone involved. Drivers using the Managed Lanes will more likely be destined for Downtown than Midtown, or may be trying access another freeway to continue on. Either way, ending up on Chenevert St. will introduce unnecessary delay and confusion. Neighboring residents are already displeased with the presence of the existing freeway ramps which disrupt the neighborhood fabric and introduce unsafe vehicle speeds in a residential area. The proposed design would set this problem in concrete for another 50 years.

MMD's Board requests that TxDOT consider tying the Managed Lanes into the frontage roads (Hamilton St./ Chartres St.) between McGowen St. and Elgin St. Doing so would make access much more intuitive, improving the chances of success for the Managed Lane project. The Managed Lanes would gain an advantage over the main lanes in terms of moving the access point closer to Downtown. It would also give drivers headed toward Downtown or other connecting freeways a more convenient route for doing so than Midtown surface streets.

We understand that there are geometric challenges associated with this change. However, we feel there are feasible alternatives that would realign the ramps near Elgin St. by reconfiguring currently proposed exits to and from Chenevet St. and Hamilton St. One option to evaluate is to maintain the Tuam St. bridge as a bicycle and pedestrian connection but not traffic. This would allow the express lane ramps to pass over Tuam St. with less clearance, allowing them to tie into the frontage roads between Tuam St. and McGowen St. While Tuam St. would no longer allow passage of vehicles over the freeway, it would actually become a more comfortable bicycle and pedestrian route due to lower traffic volumes. This is consistent with the identification of Tuam St. as a shared bikeway in the Houston Bike Plan.

As part of the removal of the ramps from the neighborhood, Midtown requests that the grid of local streets be reconnected including Francis St., Chenevert St., and Holman St. Re-gridding the streets would create surplus land that TxDOT could sell for redevelopment or dedicate to the development of affordable housing as part of the replacement for Clayton Homes. Connecting Holman St. through to Hamilton St. would obviate the need for the freeway-style ramps connecting to Chenevert St. south of Holman St. Removing them would be more consistent with the context of the neighborhood while improving safety, reducing right-of-way acquisition, and creating more surplus right-of-way.

2) Heiner St. Bayou Access

While the planned project will remove the I-45 main lanes from the west side of downtown, the planned "downtown connectors," their ramps and related surface streets will have significant impacts on Buffalo Bayou, Sam Houston Park, Fourth Ward and Midtown. The existing I 45 right-of-way along Heiner St. between the Fourth Ward and Downtown is 300 feet wide and accommodates six elevated freeway lanes, four elevated ramp lanes, and five frontage road lanes with associated shoulders. In the proposed configuration, the facility through this section will only have five freeway connector lanes with shoulders and six frontage road lanes. This presents the opportunity to use the leftover space to create a transformational linear park connecting Midtown to Buffalo Bayou.

The greenway would connect at the northern end into the trail system of Buffalo Bayou Park and the extension of the Lamar St. separated bike lane, giving Midtown residents a high-comfort bike route to Downtown jobs and destinations. A connection under/across the downtown connector at Andrews St. would also improve Downtown access from Midtown and the Fourth Ward. At the south end, the greenway would link to the Bagby St. streetscape and the proposed Brazos St. bikeway extending through Midtown.

MMD’s Board requests that the proposed Downtown Connector be designed with the minimum footprint possible in order to allow as much right-of-way as possible to be reserved for a linear park connection. We also request that a bicycle and pedestrian connection across the Downtown Connector in the vicinity of Andrews St. be incorporated into the design.

Given the opportunity to connect 4th Ward, Downtown and Midtown, we strongly encourage TxDOT to design the Downtown Connector appropriately for the dense, urban, mixed-use context of the area. We applaud TxDOT for reconfiguring the roadway network in this area, and encourage further evaluation if the Downtown Connector could be pushed north to end near W. Dallas St. and Allen Pkwy. This will allow for the historic street grid to be reconnected in the area south of W. Dallas St. Based on recent workshop with the Downtown District and Fourth Ward it is our understanding that such design concepts may be feasible.

3) Wheeler Transit Center Area

The area around METRO's Wheeler Transit Center has the potential to be a hub of activity in Midtown but thus far has been hindered by the elevated freeway and the uncertainty around future infrastructure plans like the University Line. The NHHIP proposes to move the freeway below grade in this section, reducing noise and visual impacts along the border of Midtown and the Museum District and benefiting the prospect of development. The Museum Park Livable Center Study outlines this opportunity that can be envisioned soon since this is the first project where construction is expected to start as soon as 2020. However, details including ramps, bridges, and street connections will need to be worked out to enable the greatest potential for transit-oriented development around the station.

We appreciate you meeting with the city, METRO and stakeholder to discuss options and look forward to working with you to identify the design that improves circulation and accessibility for all modes of transportation around the Wheeler Transit Center.

4) Connections to Adjoining Neighborhoods

Midtown is pleased that connections to our neighbors in Downtown and Museum Park stand to improve considerably in the proposed design. We wish to ensure that the project bridges the gap to the Third Ward to our west, as well. We request that the proposed bridges between Midtown and the Third Ward be designed in a way that improves multimodal connectivity. This means including space for bike lanes on Almeda St., Alabama St., McGowen St., Tuam St. (should the bridge retain a vehicular purpose), and Gray St. as specified in the Houston Bike Plan. It also means making sure sidewalks across the bridges are wide enough to provide comfortable separation from traffic. On the bridges crossing the wide 59-288 trench, including landscaping or shade structures would improve what can now be a scorching 500-foot tightrope walk along the existing bridge sidewalks.

Elgin St. could be the focus of the most extensive bike/ped treatments in order to create a linkage between Baldwin and Emancipation Parks. While capping the freeway may not be realistic in this segment, an extra wide bridge with landscaping and art could create the feel of a park connection on top of the freeway, helping Midtown residents

access the amazing new recreational facilities in development at Emancipation Park and Third Ward residents reach the tranquil groves in Baldwin Park.

5) Pierce Elevated

MMD is excited about the opportunity created by the realignment of I-45. We are exploring options with the city and adjacent neighborhoods on the best solution that would meet the goals of the city and our neighborhoods regarding the retirement of the Pierce Elevated. We look forward to working with you over the next few years to discuss options along this corridor since this is the last phase of the NHHIP Segment 3 project.

6) Proposed bridges across I 69 and SH 288

It is not clear if TxDOT has studied the impact and needs to the local roadway network and roadway capacity to the same level of the freeway itself. The bridges across the freeway should be designed based on capacity considerations of the existing roadway and the city's roadway classification identified in the Major Thoroughfare and Freeway Plan. A number of bridges across the freeway are oversized. For example, Caroline St. functions as a local or minor collector street. with on-street. parking and is designated as a neighborhood bikeway. It is shown on the schematic widened to 4 lanes plus dedicated left turn lanes at Wheeler St.

Wheeler St. across I 69 needs to be designed to accommodate a future University Corridor transit line consistent with METRO's current long range plan. Roadway capacity on other bridges should be designed to the context and the classification of the street. Additionally, all bridges should have wide sidewalks instead of the minimum standards and incorporate dedicated bike facilities.

7) Other considerations

The project's design should recognize that this is one of the most densely populated and historic areas of Houston. The freeway surface should be design to reduce road noise with solutions such as grooved pavement to mitigate noise impact on the adjoining neighborhoods. The project should improve traffic safety with reduced speed limits as freeway traffic approaches the city street network. All surface streets should be designed as complete streets, not freeway frontage roads. Roadway alignments and the project scope should allow for street trees and urban-sided sidewalks and high comfort bikeway consideration. In general, the design of all structures should be high-quality and compatible with the surrounding urban and historic fabric.

Midtown's residents reflect the diversity of Houston with both baby-boomers and millennials calling Midtown home. Residents, businesses, and visitors enjoy a sustainable, walkable community with a thriving arts and entertainment scene and green oases. Since 2012, Midtown Houston has experienced 50% population growth with almost 10,000 Houstonians now calling it home. We would like to ensure that all intersections of frontage roads and city streets be designed to enhance safe accessibility of people of all ages and abilities, and all users of the roadway. We hope TxDOT will continue to coordinate with MMD through the design phase of the project and especially the construction phase given the likely impacts to our residents and businesses.

Once again, thank you for the opportunity to offer input into the NHHIP project and your willingness to consider measures to reduce the highway's impacts on it neighbors. We hope incorporating the comments into the Final EIS and design will improve the project and the quality of life of our residents.

Thank you,
Matt Thibodeaux
Executive Director, Midtown Management District

cc: Allen Douglas, Midtown Management District Board Member and Board Chair

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: North Houston Highway Improvement Project - DEIS Comments
Date: Monday, July 31, 2017 9:48:28 AM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, July 31, 2017 9:47 AM
To: Kelly Lark; Christine Bergren
Subject: FW: North Houston Highway Improvement Project - DEIS Comments

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From: HOU-PIOWebMail
Sent: Friday, July 28, 2017 10:35 AM
To: Pat Henry
Subject: FW: North Houston Highway Improvement Project - DEIS Comments

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
Watch us @www.youtube.com/txdotpio

From: Donna Bennett [redacted]
Sent: Tuesday, July 25, 2017 5:07 PM
To: HOU-PIOWebMail
Subject: North Houston Highway Improvement Project - DEIS Comments

I am submitting my general comments and examples of how this project does not meet Houston's transportation, neighborhood and quality of life needs. Please see attached document for details.

Regards,
Donna Bennett

[redacted]

July 27, 2017

Mr. Quincy Allen, P.E.
Houston District Engineer
Texas Department of Transportation
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

I am submitting my general comments and examples of how this project does not meet Houston's transportation, neighborhood and quality of life needs.

I understand the North Houston Highway Improvement Project's automobile benefits, but the project will have significant impacts on communities, multi-modal safety and the environment that the draft EIS does not adequately address. Given the substantive deficiencies in the DEIS, it should be supplemented and the public process kept open until such time as TxDOT fully addresses the impacts as summarized in this letter and its attached detailed comments.

- The Deck Park in Segment 2 (at N. Main) should be fully funded by TxDOT as part of this project. By providing the decking itself during construction, TxDOT will help bring together the neighborhoods on both sides of I-45. The Deck Park estimated cost is about $100 million which amounts to only about a 1% increase cost to TxDOT expenses for the entire project. {Current projected construction costs ONLY are at least $7 billion without condemnation costs!)
- Prevent dividing communities especially low-income neighborhoods from opportunities
- All new bridges should have separated bike & pedestrian sidewalks with designs approved by community, with signature bridges for the area, compatible with the historic fabric of the neighborhood
- Ensure there is bike continuity and connectivity to existing and planned bikeways.
- Implementing green sound walls versus concrete walls where increased traffic noise exists
- Provide infrastructure for future mass transit, high speed rail and other transit modes
- Disproportionate impact to low-income communities
- Negative impact to parks and recreational areas
- Negative impacts on walkability and cycling

Impacts on Walkability, Cycling and Other Transportation Modes

In scoping comments prior to the preparation of the DEIS, both the City of Houston's Planning Department and the Houston Parks Board commented on the dangers of "the proposed 15' shared use lane along frontage roads due to safety concerns arising from the speed differential between bicycles and other vehicles in these environments. Bicycle accommodations should be

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As the site of many fatal accidents in Houston, access roads should be designed to be safe. Twelve foot lanes, three one-way lanes, and high design speeds, mixed with entering and exiting traffic, does not make for a safe road. The DEIS does not explain why high speed designs and high volumes are required on these roads. The Final EIS should explain why TxDOT has made these trade-offs of faster highway access at the expense of public safety.

Deck Parks

The DEIS makes reference to potential deck parks while clearly absolving the project from any responsibility in funding and creating the parks. Many of our organizations have been involved over the years in raising private and public funds to expand parks in Houston and provide other amenities. These deck parks discussed in the DEIS can only be designed if the capping greenspace is designed to account for the weight of the parks. These designs must be created and paid for as part of the highway project, or TxDOT's suggestion of decking is meaningless.

Poorly Conceived Highway/Urban Interfaces

TxDOT does an enviable job of designing highways for efficient flow of traffic, a track record for which the Department is justifiably proud. Nevertheless, over the years TxDOT has done a very poor job of ensuring that its projects integrate with an urban context where traffic slows from

65 to 30 MPH. The cumulative result over the years has meant that in Houston freeways become barriers between neighborhoods, dump freeway traffic into residential areas with very serious impacts, eliminate pedestrian walkability, erect barriers to bicycle access, and create many unsafe conditions for motorists and non-motorists alike.

In its comments to TxDOT in May of 2015 as part of TxDOT's scoping process, the City of Houston's Planning Department pointed out that "The City of Houston has adopted a Complete Streets policy to ensure streets are constructed for all users of the system. The City also required the streets should be built using Context Sensitive Design guidelines as those recommended in the *ITE - Design Walkable Urban Thoroughfares: A Context Sensitive Approach* and *NACTO – Urban Street Design Guide*, and others." Since the project location is within an urban area of the city, including Downtown, any future engineering design should meet these guidelines. Unfortunately, multiple streets have been shown with sweeping, large radius turns. Several of these match the existing roadway curb lines which may have been designed at a different time for different users. TxDOT should not ignore the opportunity to modernize its approach and correct these outdated designs as it expands I-45.

In its comments during the 2015 scoping process, the Houston Parks Board suggested that "the termination of the proposed spur at Allen Parkway should be designed in order to accommodate safe pedestrian crossings at that intersection and in a way that drivers are reminded that they are entering a park." TxDOT has ignored this suggestion.

There is no indication that TxDOT intends to design the project's highway-urban interfaces taking into account Houston's Complete Streets policies. Section 7.3 of the DEIS includes no reference to these criteria or to the City's scoping comment.

Impact to Parks and Recreation Areas

The DEIS simply ignores or dismisses the impact of the project on parks, recreation and open space, and dramatically underestimates the impact to Houston's bayou parkland. Using TxDOT's May 2017 Schematic to estimate Bayou Greenway and parks impacts, Houston will lose approximately 27 acres of current open space. These impacts are not disclosed or contemplated in the DEIS.

Thank you for your careful consideration of these issues.

Sincerely,

Donna Bennett

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Letter to Mr. Quincy Allen RE: North Houston Highway Improvement Project Draft Environmental Impact
Date: Friday, July 28, 2017 8:00:10 AM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, July 27, 2017 4:04 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Letter to Mr. Quincy Allen RE: North Houston Highway Improvement Project Draft Environmental Impact

Sent from my iPad

Begin forwarded message:

> **From:** "Clint Harbert" [redacted]
> **To:** "Pat Henry" <Pat.Henry@txdot.gov>
> **Cc:** "Roberto Trevino" [redacted] "Camille Grazda" [redacted], "Sofia Simien" [redacted], "Document Control" [redacted], "Edmund Petry" [redacted], "Ujari Mohite" [redacted]
> **Subject: FW: Letter to Mr. Quincy Allen RE: North Houston Highway Improvement Project Draft Environmental Impact**
>
> Pat – Please find attached comments on the North Houston Highway Improvement Project Draft Environmental Impact Statement. We look forward to further coordination in your preparation of the FEIS. The originals were posted today and will be delivered to TxDOT.
>
> ---
>
> **From:** Sofia Simien
> **Sent:** Thursday, July 27, 2017 3:53 PM
> **To:** Quincy Allen (Quincy.allen@txdot.gov) <Quincy.allen@txdot.gov>
> **Cc:** 'sonja.trojan@txdot.gov' <sonja.trojan@txdot.gov>; Clint Harbert [redacted]
> **Subject:** Letter to Mr. Quincy Allen RE: North Houston Highway Improvement Project Draft Environmental Impact

Good afternoon Sonja,

Attached is a letter with two attachments for Mr. Allen from Mr. Lambert, hardcopy to follow.

Thank you

Sofia Simien
Executive Asst. to the President & CEO
Metropolitan Transit Authority of Harris County
([redacted]

Board of Directors

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President & Chief Executive Officer

Thomas C. Lambert

July 25, 2017

Mr. Quincy Allen, P.E.
[redacted]

DCN: 17.CP.ML00003
FBS: 75.030.4.1

RE: Comments on the North Houston Highway Improvement Project Draft Environmental Impact Statement

Dear Quincy:

The Metropolitan Transit Authority of Harris County (METRO) appreciates the opportunity to review and provide comments on the North Houston Highway Improvement Project Draft Environmental Impact Statement (NHHIP DEIS). METRO has a longstanding relationship with the Texas Department of Transportation (TxDOT) in improving mobility in the North Freeway corridor, and was pleased to accept the role of Cooperating Agency when invited by TxDOT. Historically, METRO partnered with TxDOT on the North Corridor Alternatives Analysis which led to the extension of the METRORail Red Line to Northline Transit Center and laid the groundwork for the NHHIP.

In our role as a Cooperating Agency for the NHHIP DEIS, METRO has worked with TxDOT through the scoping process, conceptual development and development of the NHHIP DEIS. METRO staff has reviewed the NHHIP DEIS and associated schematic drawings with respect to current and future transit operations and are pleased to see that TxDOT has incorporated many conceptual design change requests to better accommodate future transit improvements and operations. While the proposed project offers opportunities for increased mobility and improved transit operations with the inclusion of the Managed Express (MaX) Lanes and associated direct connects, we have identified additional issues that will need to be addressed in the Final Environmental Impact Statement (FEIS). We have also been working directly with you to incorporate project needs at the Wheeler Transit Center to ensure future operations. We look forward to continuing our partnership as the FEIS and Record of Decision are prepared and finalized. A matrix is attached with specific comments; however, below are our primary concerns

1. The short-term impacts of the construction on transit operations, as well as the long-term impacts of the proposed project need to be addressed more fully in the FEIS. The effects of the NHHIP project on bus stops, bus routes, deadhead trips, layover space, and MaX lane access, as well as HOV/HOT lane access to other corridors should be specified and proposed mitigation measures identified, as appropriate. Operational costs to the agency have not been documented.

2. The proposed improvements alter access into and out of Downtown for autos, buses, and pedestrians. Changes to downtown access and its effects on METRO operations and access to our facilities should be more fully detailed. METRO has numerous local and commuter routes that are directly and indirectly affected by changes in access. METRO encourages as much connectivity as possible across the reconfigured IH 45 and IH 69/US 59 facility, especially along Polk Street, which is currently the only through street under IH 45 between Rusk Street to the north and the Leelend/Bell Street pair to the south. Deviation impacts created by these changes are not documented.

   The elimination of the Pierce Street and St. Joseph Parkway connections to/from IH 45 will make access to the Downtown Transit Center more complex and increase operating costs. METRO would like for TxDOT to further explore connections to Pierce/St. Joseph operating pairs and a new connection at Memorial/Rusk/Capitol for future Bus Rapid Transit connections to our Green and Purple lines.

3. During construction, the proposed improvements may alter access for the Green and Purple light rail lines traveling eastbound along Texas Avenue and the Red line traveling northbound along North Main Street. Though METRO and TxDOT are coordinating heavily on the Red line at Wheeler, very little documentation is available for the Green and Purple operational impacts in both the short and long-term.

4. The access into and out of the Wheeler Station Transit Center needs to be preserved and enhanced, as appropriate, with the proposed improvements. Depressing IH 69/US 59 adjacent to the facility eliminates the bus lane exit onto Fannin Street and truncates Blodgett Street, which will have a significant effect on METRO's ability to optimize the use of the transit center and could limit future high capacity transit opportunities.

   METRO is working with the City of Houston, TxDOT and others to examine opportunities that include traffic and bus operation options at the Wheeler Transit Center. METRO looks forward to further coordination with TxDOT at this location via the joint study being led by the City of Houston. METRO agrees that TxDOT should incorporate recommendations to improve overall traffic operations at Main and Wheeler as part of this project.

5. METRO will continue to work with TxDOT and the City of Houston to explore the potential for inclusion of high capacity transit operating the NHHIP footprint. As agreed, METRO is preparing conceptual engineering to support decision making in the segment between Downtown and Beltway 8.

The NHHIP has the potential to affect METRO's transit operations and we want to work closely with TxDOT staff to minimize disruptions to our operations, both during and after construction, and to accommodate any future high-capacity transit in the corridor. METRO appreciates the opportunity it has been afforded as a Cooperating Agency to provide comments on the schematic drawings in early project development. We look forward to continuing our partnership in developing the NHHIP project and ask that we be included in the 30 percent, 60 percent, and 90 percent design reviews to ensure that both agencies are fully informed of the project refinements and impacts as the project progresses. In addition, METRO would also like to participate in the development of construction staging plans to better ensure minimized disruption of light rail, bus and HOV service as construction advances.

Again, we look forward to a constructive partnership on this project to enhance access and mobility for all modes of travel. Feel free to contact me at 713-615-6409 if you have any questions or wish to discuss METRO's concerns.

Sincerely,

Thomas C. Lambert
President & CEO

cc: Pat Henry, Director of Project Development, TxDOT
Thomas Jasien, Deputy Chief Executive Officer
Roberto Treviño, P.E., EVP, Planning, Engineering & Construction
Clint Harbert, AICP, Vice President, System & Capital Planning

Attachment

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: DEIS for North Houston Highway Improvement Project (NHHIP)
Date: Friday, July 28, 2017 3:32:10 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:18 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: DEIS for North Houston Highway Improvement Project (NHHIP)

Sent from my iPad

Begin forwarded message:

> **From:** "HOU-PIOWebMail" <HOU-PIOWebMail@txdot.gov>
> **To:** "Pat Henry" <Pat.Henry@txdot.gov>
> **Subject: FW: DEIS for North Houston Highway Improvement Project (NHHIP)**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Phan, Lynn - MYR [redacted]
Sent: Wednesday, July 26, 2017 5:26 PM
To: HOU-PIOWebMail
Cc: Quincy Allen; Hunter, Marvalette - MYR; Walsh, Patrick - PD; Crocker, Maureen - MYR; Kelly, Bill - MYR; Ozuna, Jesse - MYR; Icken, Andy - MYR; Weatherford, Jeffrey - PWE; Haddock, Carol - PWE; Murphy, Brenda - MYR; Weatherspoon, Veronica - MYR
Subject: RE: DEIS for North Houston Highway Improvement Project (NHHIP)

Dear Director Lark:
For your convenience, please see attached City of Houston comments in one document. Feel free to contact me if you have any questions.

Lynn Phan
[redacted]

From: Phan, Lynn - MYR
Sent: Wednesday, July 26, 2017 5:09 PM
To: 'HOU-piowebmail@txdot.gov' <HOU-piowebmail@txdot.gov>
Cc: Hunter, Marvalette - MYR [redacted]; Walsh, Patrick - PD [redacted]; Crocker, Maureen - MYR [redacted]; Kelly, Bill - MYR [redacted]; Ozuna, Jesse - MYR [redacted]; Icken, Andy - MYR [redacted] Weatherford, Jeffrey - PWE [redacted]; Haddock, Carol - PWE [redacted]; Murphy, Brenda - MYR [redacted]; Weatherspoon, Veronica - MYR [redacted]
Subject: RE: DEIS for North Houston Highway Improvement Project (NHHIP)

Dear Director Lark:
On behalf of Mayor Turner, please see the attached City of Houston comments on DEIS for NHHIP.

Thank you,

Lynn Phan
City of Houston, Mayor's Office
[redacted]

[redacted]

CITY OF HOUSTON

Sylvester Turner
Mayor

[redacted]

July 25, 2017

TxDOT Houston District Office
Attn: Ms. Kelly Clark, Director of Project Development
P.O. 1386
Houston, TX 77251-1386

Re: DEIS for North Houston Highway Improvement Project (NHHIP)

Dear Director Clark:

Thank you for the opportunity to provide comments on the Draft Environmental Impact Statement (DEIS) for the proposed North Houston Highway Improvement Project (NHHIP). The NHHIP is a potentially transformational project that will provide desperately needed congestion relief through the heart of our city and will strengthen Houston's economy. Given the scale of the project and its location, however, the project must minimize negative impacts and improve, wherever possible, the quality of life of nearby residents and businesses.

I want to highlight here some of my highest priorities for the project:

- Minimize impacts to affordable housing resources. Planning and advanced funding for relocation of affordable homes at their replacement value, as well as relocation assistance to existing residents, should be done in a timely and comprehensive manner. This applies to the 368 units within the Houston Housing Authority Clayton Homes and Kelly Village facilities as well as the Temenos Community Development Corporation facility.
- Minimize traffic impacts on neighborhoods. The project should minimize the negative impact of commuter traffic on primarily residential neighborhoods, such as from the S.H. 288 managed lanes ramps currently proposed to exit onto Chenevert Street in Midtown.
- Minimize negative impacts to neighborhoods. The DEIS states that the preferred alternative will displace many single and multi-family homes, commercial sites, and other institutional and community resources. I am especially concerned by the DEIS's statement that all alternatives would cause disproportionate adverse impacts to minority or low-income populations. The NHHIP should provide strong connections between neighborhoods separated by the freeway; minimize right-of-way impacts to adjacent properties, including displacement of homes and businesses; and mitigate noise, air quality, visual, water quality, and environmental impacts. Unavoidable impacts should be mitigated wherever feasible.
- Accommodate high capacity transit. The NHHIP should minimize dependency on single occupant vehicles that are congesting the City's street grid. This can only be achieved if multimodal consideration of transit and freight are strongly integrated into the proposed design. TxDOT should coordinate with METRO to ensure the NHHIP accommodates the long-range transit needs of the corridor. The proposed MaX Lanes concept should be designed and operated to ensure that reliable and frequent two-way high capacity transit could be operated to connect many regional activity centers.
- Encourage multiple occupancy trips through sensible tolling practices. The "MaX" managed lanes should be operated to encourage shared trips as much as possible. Inappropriate tolling practices on the MaX

Council Members: Brenda Stardig Jerry Davis Ellen R. Cohen Dwight A. Boykins Dave Martin Steve Le Greg Travis Karla Cisneros Robert Gallegos Mike Laster Larry V. Green Mike Knox David W. Robinson Michael Kubosh Amanda Edwards Jack Christie
Controller: Chris B. Brown

lanes would limit the ability of such lanes to carry HOV and high-capacity transit traffic, lessening the congestion relief benefits of the project and burdening the City's street grid that distributes NHHIP trips.

- Maximize greenspace opportunities. The NHHIP creates an exciting opportunity for enhanced greenspace in the heart of Houston by using "caps" placed over a depressed freeway, reimagining the Pierce Elevated Freeway, and in other ways. These proposals present not just enhanced recreational opportunities, but can also improve connections between neighborhoods previously separated by freeways. The City applauds TxDOT for including concrete caps in the NHHIP's base design. Unfortunately, significant portions of existing greenspace, especially along bayous, are impacted by the project, in some cases through additional encroachment of widened elevated freeway. The City would like to explore the development of greenspace opportunities with TxDOT, including the following:
    - We ask TxDOT to mitigate the impacts on existing greenspace through the proposed park caps;
    - Creating active greenspace at the Midtown/Museum District cap and enhancing connections in this area, which could support transit oriented development near the Wheeler Transit Station.
    - Providing active greenspace and connection opportunities at the Downtown/EaDo District and North Main caps;
    - Connecting Sam Houston Park and Buffalo Bayou Park;
    - Greenspace opportunities from surplus right-of-way for the Pierce Elevated structure.
- Fully explore optimal connections between downtown and neighborhoods to the east. The City appreciates TxDOT's close coordination with the City and other partners to identify the best possible connections between downtown and areas east of downtown. For example, the proposed re-routing of Polk Street would result in a less direct connection between these areas. TxDOT should continue working closely with the City and other stakeholders to determine the optimal neighborhood connections across the NHHIP.
- Maximize a multi-modal approach. The project should improve mobility for all modes of transportation, not just automobiles on freeways, and should provide for improvements to the local street network as well as the regional freeway system. The NHHIP should support implementation of the Houston Bike Plan, including accommodating trails along White Oak and Little White Oak bayous underneath the NHHIP and bike facilities on bridges over the NHHIP, and utilize safe pedestrian-oriented design standards appropriate for an urban context.
- Facilitate beneficial redevelopment. The NHHIP should maximize redevelopment opportunities to enhance quality of life and strengthen the City's tax base. This includes coordination on redevelopment of surplus right-of-way and the potential realignment of the UPRR freight rail line that runs east-west through the north side of downtown.

The City's Planning and Development Department will be providing you with a separate working document that provides additional information and alternatives to consider to address the concerns in this letter.

I want to thank TxDOT for their extensive collaboration with the City on the NHHIP, and I applaud TxDOT for their openness to innovative thinking. I encourage TxDOT to continue to engage with the City, stakeholders, and the community on this project. We look forward to your responses to these comments.

Sincerely,

Sylvester Turner
Mayor

ST:pw

cc: Quincy Allen, PE, District Engineer, Texas Department of Transportation

City of Houston Comments
DEIS for North Houston Highway Improvement Project

These comments of the City of Houston's Planning and Development Department on the Draft Environmental Impact Statement (DEIS) for the Texas Department of Transportation's (TxDOT) North Houston Highway Improvement Project (NHHIP) are organized into four sections:

A. General Comments
B. Segment 1
C. Segment 2
D. Segment 3

A. GENERAL COMMENTS

The project will result in significant impacts for local network connectivity for motorists, bicyclists, pedestrians, transit users, and freight. A focus on design of safe intersections, sidewalks, bikeways, transit stops, frontage roads, and connections has the potential to greatly enhance mobility options for all users. This means thinking beyond the direct right-of-way of the project to understand opportunities and impacts on street, bikeway, greenway, and transit networks. It also means working to tie communities together, not separating them further with wide freeways serving as barriers. It also requires careful planning and a greater level of detail than has been provided by the current schematics.

The City's Planning and Development Department previously submitted comments on this project on May 29, 2015, after public meeting #4. We note TxDOT's response letter posted on the project web site and appreciate TxDOT's acceptance of many City requests. In some cases, such as the S.H. 288 managed lanes exit to Chenevert, however, we continue to request that TxDOT explore solutions, and we note these requests in this comment letter. TxDOT should continue to closely coordinate with the City of Houston, METRO and other entities such as Management Districts and TIRZs to ensure that major issues are resolved early in the design phase of the project.

Noise, Air Quality, Water Quality, Aesthetics, and Other Environmental Impacts

The project will have a significant noise, air quality, and environmental impacts on neighboring communities, business, and residents. Plans should designate where noise walls are proposed to mitigate neighborhood impacts. Add landscaping along freeway lanes and frontage roads plus noise walls where appropriate to mitigate for the increased noise traffic created by a wider freeway. Develop a landscape plan and plan for public art and coordinate with the City and stakeholders along the corridor to reduce visual and air quality impacts along the corridor, and to improve water quality.

The NHHIP creates an exciting opportunity for enhanced greenspace in the heart of Houston by using "caps" placed over a depressed freeway, reimagining the Pierce Elevated Freeway, and in other ways. These proposals present not just enhanced recreational opportunities, but can also improve connections between neighborhoods previously separated by freeways. The City applauds TxDOT for including concrete caps in the NHHIP's base design.

Unfortunately, significant portions of existing greenspace, especially along bayous, are impacted by the project, in some cases through additional encroachment of widened elevated freeway. As a result of these impacts, the City asks TxDOT to mitigate the impacts on existing greenspace through development of the proposed park caps.

Economic Development, Displacement, Environmental Justice

The DEIS states that the preferred alternative will require the displacement of many single and multi-family homes, commercial sites, and other institutional and community resources. The DEIS notes that

all alternatives would cause disproportionate high and adverse impacts to minority or low-income populations, yet does not adequately address mitigation for these impacts. Much of the project is in or adjacent to Complete Communities, including Third Ward, Second Ward, Near Northside, and Acres Home. The City is making efforts to improve these neighborhoods so that all of Houston's residents and business owners can have access to quality services and amenities. The City recommends further evaluating design solutions to limit the impact on these communities and businesses where possible.

The project has an excessively wide footprint in Segment 1 in particular, which will cause a significant impact to neighborhoods and businesses. Right of way impacts could be reduced by solutions such as:

1) Grade separating some of the managed lanes in the center of the project;
2) Reducing the number and/or width of frontage road lanes; and
3) In some instances, reducing the separation between main lanes and the frontage roads.

The City of Houston is concerned about the potential loss of sales and property tax revenue that might result from the proposed alternative, which potentially might exceed $130 million annually. This is a significant economic impact both on the City of Houston and for the neighborhoods in the vicinity of the project. The design should be optimized to support high quality development opportunities that are beneficial to the City of Houston and the surrounding communities to mitigate these impacts, especially in areas where the project eliminates significant existing tax base. Please consider ways in which the project could offset the potential loss of revenue to the City by coordinating planning for redevelopment adjacent to the project that would generate new tax revenue for the City.

Indirect Impacts

The DEIS concludes that the project is not expected to induce growth, as most of the area of influence is already developed. It does not acknowledge that much of the surrounding areas are still relatively low density and can accommodate growth. The NHHIP should minimize the encouragement of single occupant vehicle trips. Instead, the NHHIP should encourage shared trips to minimize impacts to the City roadway network, which must distribute these trips. The conclusion in the DEIS that the proposed project is not expected to induce growth should be re-examined.

The City of Houston provides the following comments for consideration in improving the overall project and to address these significant impacts.

1. Utilize context sensitive design guidelines such as the ITE – Design Walkable Urban Thoroughfares: A Context Sensitive Approach and NACTO – Urban Street Design Guide, to comply with the City's Complete Streets policy. While the freeways are designed to FHWA and AASHTO design guidelines, all frontage roads, adjoining local streets and intersections should be designed consistently with the City's Context Sensitive Design Guidelines.
2. Maintain and improve connections between neighborhoods separated by the NHHIP. Avoid reducing street connectivity. Improve connectivity for all modes of transportation, inclusive of people on foot, people on bicycles, transit users, and for freight.
3. The project should optimize the local street network and avoid relocating congestion from freeways to local streets. In some areas, for example, lane configurations on local street crossings of the NHHIP appear excessive, some access roads appear to be designed in excess of necessary capacity, and some local street crossings over the freeway are proposed for elimination, reducing local access and circulation.

4. Current and future bicycle infrastructure and bicycle connectivity must be preserved and enhanced where feasible. Providing for high-comfort bikeway connectivity across and along the proposed project is essential. Improved bicycle connections are needed to address the impact of barriers between neighborhoods, especially between neighborhoods and the Central Business District. In areas where vehicular connectivity may be removed, options should be evaluated to preserve pedestrian and bicycle connectivity.
5. The proposed schematic drawing does not identify sidewalks along sections of the proposed project. In general, sidewalks should be provided along all frontage roads and public streets in all typical sections. Ensure bridge widths throughout the project include sufficient space for quality sidewalks and high comfort bikeways as called for in City of Houston standards and guidelines, rather than be designed to match existing cross-sections or old standards. Ensure all bridges across the freeway and street crossings under the freeway provide for minimum 6' unobstructed sidewalks. Where appropriate, wider sidewalks should be provided since there is a limited buffer between the vehicular lanes and the pedestrian.
6. All lanes on city streets and frontage roads should comply with City of Houston's 11' lane standards and encourage appropriate travel speeds and safe travel. 12' lanes are freeway lane standards and not appropriate for local streets. They encourage excessive speeds through urban area where higher speeds are out of context and unsafe.
7. Define which intersections are proposed with traffic signals and all-way stop control. It is not possible to fully assess whether the design supports safe walkability, bikeability, and transit use without this information. Traffic control recommendations should be developed with multi-modal safety and connections in mind.
8. Design standards for bicyclists and pedestrians need to be set to reflect the Houston Bike Plan's high comfort commitment. Elements like wide outside lanes for bicyclists, which are likely to be eliminated as guidance from the next AASHTO bikeway design guide, should not be included.
9. Protected bikeways or side paths set behind the curb should be designed for all bike connections. Bike lanes should be 6' wide minimum. Wide outside lanes on frontage roads designed as shared bicycle facilities are unacceptable and should not be included in this project. Intersections should be designed for safe crossing to accommodate bikeways and sidewalks.
10. The proposed bicycle lanes along the outside of the frontage roads do not provide adequate protection for cyclists and create more opportunity for bicycle/motorist collisions. Along frontage roads, the bikeways constructed in this project need to sustain a high level of comfort for both motorists and cyclists to create a clear and safe space for both parties to travel. It is recommended any bikeway associated with these roadways be completely separated from vehicular traffic, be positioned behind the outermost curb, be at least 6 feet wide, and be separated from pedestrian traffic.
11. An intersection is the most likely place for a vehicle-bicycle collision. A protected intersection (or Dutch Junction) for bicyclists and pedestrians is recommended and makes travel considerably safer for all parties. This design includes small islands as buffers from right-turning motorists. Green paint is then used to direct the cyclist from one protected lane to the next in a circular fashion moving counter-clockwise. College Station, TX has already completed a similar design and the protected intersection in the Energy Corridor in Houston is planned to be implemented in the fall. Please use these as acceptable examples.
12. Multiple streets have been shown with sweeping, large radius turns. This design makes it difficult for both the motorist and the cyclist to anticipate a potential collision. This project should take the opportunity to minimize these issues, especially in areas where large numbers

of people walking can be expected around Downtown and Buffalo Bayou. Sweeping right turns need to be avoided at all locations.

13. At time of design, the City will coordinate with TxDOT to verify the optimal lane configurations for all City street connections and bridges affected by the NHHIP.
14. In general, creating excess unproductive space should be avoided in street design (e.g., small triangles of isolated land) unless there is clear plan to address the use of the space (e.g. public art projects).
15. Coordinate with the City on how to make detention areas attractive and usable spaces.
16. The City looks forward to coordinating with TxDOT on the proposed deck structures across the freeway. The project should provide safe access to the deck areas across frontage roads.
17. Excessively wide frontage roads present a barrier for local pedestrian and bicycle circulation, and these impacts are likely to fall disproportionately on minority or low-income populations as identified in the Environmental Justice section of the DEIS. Some of the proposed frontage roads may have more lanes than needed. Please provide traffic modeling and justification for any access roads in excess of two lanes.
18. Transit, including how the NHHIP can be designed to support faster transit trips between major activity centers and destinations, should be much more prominently considered in the plan. This should include rail expansion opportunities as well as the potential for an optimized express bus network. METRO is currently updating their long-range capital plan, and this plan may identify recommendations for transit needs along the NHHIP corridor. Upon completion of this plan, the City requests that the project be re-evaluated to accommodate these transit needs.
19. The entire design should be reviewed to ensure optimized bus stop locations have been considered. Stops (and access to stops) must be designed to ADA and METRO standards with room for shelters to support a high quality transit experience.
20. Integrate freight and transit needs into the proposed design. Activity centers are located throughout the region and integrating two-way high capacity transit into the design will benefit both City and regional mobility. The MaX lanes should be operated to incentivize shared trips in multi-occupant vehicles and operated to ensure that reliable and frequent two-way high capacity transit could be operated to connect many regional activity centers. The MaX Lanes should be connected to managed lanes on intersecting facilities such as IH-10 and IH-69 where feasible, enabling a network of transit movement to activity centers through the region. If the potential exists for managed lanes on other facilities, the NHHIP should accommodate a future connection to these lanes as well.
21. The "MaX" managed lanes should be operated to encourage shared trips as much as possible. Inappropriate tolling practices on the MaX lanes, such as inappropriately low toll fares, would diminish the travel time advantage enjoyed by multi-occupant vehicles, limiting the ability of such lanes to carry HOV and high-capacity transit traffic. A reduction in shared-trip vehicles will lessen the congestion relief benefits of the project and burden the City's street network that must distribute the traffic from the NHHIP. Please engage the City as decisions are made regarding tolling.

B. <u>SEGMENT 1.</u>

1. Segment 1 has a significant impact, approximately 212 acres, due to the proposed widening of the roadway. Identify other options and engage the surrounding neighborhoods to limit this impact on the community. The project should provide appropriate mitigation and funding for relocation assistance for displaced residents and businesses.

2. The project has an excessively wide footprint in Segment 1, which will cause a significant impact to neighborhoods and businesses. This is due to a combination of 3 or more lane frontage roads, wide frontage road lanes, wide spacing between the freeway and the frontage roads, and putting the MaX Lanes at grade, rather than elevating them. Consider alternatives which would narrow the footprint of the freeway and reduce the impacts on neighborhoods, including reducing the number of frontage road lanes to two in each direction, reducing the spacing between the freeway and the frontage roads, reducing lane width of the outside lane of the frontage roads, and/or elevating the MaX Lanes.
3. Consider extension and direct connection from IH-45 MaX lanes to Greens Road to serve the Greenspoint area. This would help with redevelopment of the area and support potential METRO limited stop service on the Downtown to Airport Route.
4. In accordance with the Houston Bike Plan, ensure that the Halls Bayou crossing north of W. Mt. Houston is designed to allow trail crossings under the freeway and frontage roads.
5. Connections on Crosstimbers, Victoria/Lyerly, Tidwell Rd., Cortlandt/E Witcher, Rosamond, W. Parker Road, Rittenhouse, etc. need to be designed with features that allow for high comfort and safety at intersections for bicyclists and pedestrians. These are vital connections for pedestrians and bicyclists in Independence Heights, Garden Oaks, Oak Forest and Acres Home areas to reach either Little White Oak Bayou or the METRO Red Line into downtown.
6. The HOV ramp from Airline Dr. to Independence Heights and the Northside communities is being removed. Provide alternative access for these communities to managed lanes.
7. Provide a local street connection between Veterans Memorial and IH 45 southbound frontage road along the METRO T-Ramp.
8. Evaluate how the Airline, Victoria Drive and Northbound IH-45 Intersection would operate safely to people traveling through any mode of travel. Existing configuration should be improved to ensure safety for all users of the roadway.
9. Clarify plan for Werner Street in northeast corner of Tidwell intersection with IH-45. Evaluate if a cul-de-sac with access further north could be better than the proposed T shaped design.
10. The intersections should be designed with special care for safe, comfortable crossings for pedestrians. Most arterials crossing IH-45 are on METRO's bus network, have significant nearby boardings, and will require safe crossings to serve stops for people traveling in both directions.
11. The intersection of Shepherd and IH-45 is directly adjacent to the N. Shepherd Park & Ride. This intersection should be assessed to ensure that is safely traversable by people walking.
12. N. Shepherd Transit Center would be logical extension for METRO Red Line. We encourage consideration of how that connection could be made and to consider that in design so as to not preclude options. For example, consider making West Little York and Parker crossing spans wide enough as these would be potential points for light rail to cross IH-45 to reach N. Shepherd.
13. An intersection design that incorporates a free flow right turn lane with a pedestrian island creates an unsafe environment for pedestrians since many drivers do not yield to pedestrians at such intersections. Additionally, a number of intersections have dedicated right turn lanes. Ensure the traffic counts warrant dedicated right turns. Multi-lane frontage roads are daunting for pedestrians to cross. Please provide traffic modeling and justification for any access roads in excess of two lanes. Coordinate with City of Houston on all intersection designs.
14. Provide traffic modeling and justify the need for a 5-lane frontage road for the portion IH 45 between West Road and Blue Bell Road, a minor collector street.
15. Ensure sufficient clearance across Halls Bayou to allow for adequate natural drainage conveyance, and a pedestrian and bicycle trail along the bayou. These recommendations are consistent with the HCFCD's Halls Bayou study.

16. Coordinate with City of Houston and Houston Parks Board to develop opportunities for parks and open space along Little White Oak Bayou between I 610 and E. Parker Road and Shepherd. Consider developing the detention basin between I-610 and Crosstimbers as a wet bottom basin and publicly-accessible green space tied the bikeway along the bayou. Consider a trash mitigation system that will collect both heavy debris and floating debris.
17. Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Halls Bayou along I 45.
18. All alternatives would result in traffic noise impacts. The current DEIS does not adequately address noise mitigation in Segment 1.

C. <u>SEGMENT 2</u>

1. Ensure that noise impacts, irrespective of existing conditions, are mitigated appropriately with options such as noise/sound walls including the southeast corner of I 610 and I 45 adjacent to Delaney Street.
2. Connectivity in and out of Northside neighborhoods needs to be addressed in a way that it becomes improved, not made worse, by the new design in both Segment 2 and in Segment 3. Clarify the termini of streets like North Ave, Woodland and Farwood. Do they cul-de-sac or connect to frontage roads? Connections appear preferable.
3. Consider extending the IH-610 segment east to allow the Helmers Street connection across the freeway. Helmers would be a useful north-south connection, as it is continues from Fulton Street on the south to Berry Street on the north, a distance of almost 3 miles. Right now the only north-south connections through this area are Fulton and Irvington, and Fulton has METRO Red Line impacts.
4. Assess the option to bring the trail underneath the freight railroad north of Stoke Road. If the trail cannot travel under the freight rail line, integrate the trail into the frontage road design to cross the rail ROW.
5. The entire design should be reviewed to ensure optimized bus stop locations have been considered and stops (and access to stops) would be designed to ADA and METRO standards to support a high quality transit experience. This is most critical for the Cavalcade St. bridge crossing and the operation of the existing Route 44 METRO bus route which travels on a section of Main St. and Houston Avenue impacted by the NHHIP project.
6. Justify the need and provide traffic modeling for the proposed multi-lane frontage road along northbound I 45 between Quitman and N. Main. A single existing lane north of Quitman is expanded to 4 lanes at N. Main Street creating impact on adjacent properties. Additionally, this creates a design that encourages high speed adjacent to the proposed park deck.
7. Add safe pedestrian crossings and bike lanes to cross and continue east on Cavalcade, Patton, and Cottage St-Searle Dr. These streets are to have access to the red line stops at Cavalcade and Moody Park, as well as shops, the MD Anderson YMCA, and the new park.
8. Ensure the proposed deck park near North Main Street is accessible for pedestrians and bicyclists. The multilane frontage roads and U turn ramps create challenges for pedestrian and bicycle access to the proposed deck park. Consider relocation, removal, or by-pass of these U-turn lanes and design of frontage roads to allow safe access to the park space.
9. Although below grade near Woodland Park, the freeway creates noise impacts on Woodland Park. Provide sound mitigation with an additional shielding using tall trees and vegetation.

10. The proposed removal of the North Street bridge introduces a significant impact on the ability of Near Northside residents to access park and recreation facilities west of IH45. Removal of this important local connection should be reconsidered and/or appropriately mitigated.
11. Improve the pedestrian accessibility to Woodland Park along Little White Oak Bayou east of I-45. This could be accomplished through an improved channel conduit under I-45 that would provide a multi-use path along the bayou connecting Woodland Park on the west of I-45 to the hike and bike path along Little White Oak Bayou on the east side of I-45. Improve the greenspace along Little White Oak Bayou east of I-45, with hike and bike trails connecting to Moody Park.
12. Little White Oak Bayou represents a prime opportunity to extend open space connectivity north from White Oak Bayou Greenway to Woodlands Park, Moody Park, and beyond up to Halls Bayou. It also connects neighborhoods like Near Northside, Independence Heights, and Acres Home directly impacted by the NHHIP. It is imperative that the project enhance and not degrade the ecological value and open space potential offered by Little White Oak Bayou. Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Little White Oak Bayou. Create a hike and bike trail along the length of Little White Oak Bayou, east and west of I-45, to provide public access to the channel and to connect the detention ponds, Moody Park, Woodland Park and up to I-610.
13. Ensure that the design allows trail connectivity along Little White Oak Bayou, connecting neighborhoods to parks and open space, wherever it crosses freeways including at the IH-610 to IH-45 N interchange. In accordance with the Houston Bike Plan, this bayou section is an important piece of expanding the high comfort bicycle network that provides connectivity from outside the N Loop 610, under I-45, and into downtown. This bayou is a connector for bicyclists, pedestrians, and naturalists and is unaddressed in this design and crossings (Hogan/Crockett, Houston, Quitman/White Oak Dr., Main St, Patton, Cottage etc.). Allowing full access to Little White Oak Bayou needs to be maintained and carefully designed with high comfort bicycle and pedestrian crossings underneath the NHHIP. The project should replace the existing culvert north of Patton Street with a bridge span designed to allow trails on both sides of the bayou. At the I-610 crossing of the Bayou, a safe bicycle route along the bayou should be included, including a safe crossing of the proposed frontage roads. Please also consider a high comfort bike lane at signalized frontage road intersections.
14. Connect the existing bike trail along Little White Oak Bayou between Enid and Cavalcade, on the west side of I-45, to a new park at the retention pond areas on the east side of I-45 (where Love's Truck stop is currently), and on to the Moody Park/Woodland Park/White Oak Bayou trail. Mitigate for loss of green space along the Bayou in this area and replace the trail with an equivalent trail.
15. In its current condition, Little White Oak Bayou does not extend across I 610 and I 45 in its natural state. Design the freeway such that Little White Oak Bayou is to be maintained as a natural greenway, with the ability to extend multiuse trails along the bayou to connect the Heights, Northside, Acres Home and Independence Heights neighborhoods.
16. Little White Oak Bayou suffers from freeway pollution from both run-off and litter. Current TXDOT plans include detention basins on the east side of the freeway along the Little White Oak Bayou channel. Consider creating detention ponds that are open and unfenced, planted with native plants which filter dissolved pollutants from freeway run-off. Install a trash mitigation system that will collect both heavy debris and floating debris. There are several locations along Little White Oak Bayou where this could be installed and maintained. Ideally it would be located upstream of both Moody Park and Woodland Park.

17. Reconfigure the design of the local network to the new frontage road along I 610 and I 45 on the northeast side of the interchange. Create a two-way T-intersection instead of the proposed one way connection to Reid Road. Evaluate the option to extend Melbourne Street to the I 45 northbound frontage road.
18. The City appreciates the extension of frontage roads under the IH-610 at IH-45 interchange. These roadways and intersections should be designed to also allow safe pedestrian and bicycle crossings. The large radius turn lanes are not typically supportive of safe, comfortable crossings at these locations. Ensure the design maintains safe multi-modal accessibility across the IH 45 and I 610 interchange. This is particularly critical for bicycle and pedestrian access.

D. SEGMENT 3

Segment 3 South: US 59/IH-69

1. Ensure proposed design accommodates future two-way high capacity transit on IH- 69/US 59 with particular focus on Spur 527. Direct or expedited connections from the existing HOV/HOT to Wheeler Transit Center should also be explored.
2. With the proposed reconfiguration of I 69 at Wheeler Transit Center (TC), there is an opportunity to improve multi-modal circulation, increase access to the transit center, create open space, and provide for future transit capacity with the University Corridor and US 90A transit connections. The City has initiated discussions with Metro and the Midtown TIRZ regarding jointly developing a plan for this area. Continue to coordinate with these entities to ensure this area, including the proposed deck park cap, is designed to maximize future transit and development opportunities.
3. The current schematic does not show an exit point for the Wheeler TC driveway. Identify how the design of the street network could minimize train/roadway conflicts (e.g., train does not cross streets in the middle of intersections) while maximizing transit operations and TOD potential. Design should accommodate future two-way express bus service on IH-69 with focus on Spur 527. Direct or expedited HOV connections to Wheeler TC should also be explored.
4. Ensure the Wheeler bridge is designed to accommodate the proposed University Corridor LRT, 4 vehicular Lanes, and pedestrian accommodations.
5. Evaluate options to maintain the Blodgett connection from San Jacinto to Main St. This street provides a useful connection to the bus operations at the Transit Center. With the redesign of the San Jacinto on-ramp to east side of street, this connection should be achievable.
6. The IH-69 exit to Main Street near the Wheeler Transit Center should be designed to allow improved pedestrian and bicycle connectivity and safe crossings as identified in Houston Bike Plan/METRO Bike & Ride studies.
7. Ensure all bridges, including Montrose, La Branch, Austin, and Almeda, are wide enough for safe pedestrian and bicycle crossings.
8. In accordance with the Houston Bike Plan, the project should accommodate a separated pedestrian and bicycle facility along the south side of IH-69 between Graustark and Main Street. Evaluate feasibility and accommodate a grade separated trail extension below Montrose bridge since midblock crossing at the bridge may be challenging.
9. Re-evaluate the loss of the existing downtown connector tied into Franklin to see if it could be better used as part of express bus network or as an alignment for a light rail extension.
10. As currently proposed, the primary access to and egress from the SH 288 managed lanes would be provided on Chenevert Street south of Elgin. This causes negative impacts to the residential area of eastern Midtown. The freeway ramps would disrupt the neighborhood fabric and

encourage unsafe vehicle speeds in a residential area. The design should be reconfigured to connect the 288 managed lane entrance and exit ramps to Hamilton and Chartres that serve as the frontage roads. Doing so would provide a more direct route than Midtown surface streets with fewer impacts to residential areas. If Chenevert connection is maintained, there should be design elements in place to slow traffic through the neighborhood to appropriate speeds. Area south of Baldwin Park should be redesigned to reflect a neighborhood context without sweeping high speed curves in streets. Francis Street could be designed as a T- intersection with Chenevert. This would allow the block between Chenevert, Francis, Jackson, and Stewart to be reassembled as a full city block for green space or development opportunities.

11. The proposed access from Chenevert to the extension of Hamilton Street can be designed as a 2 lane local street. As part of the removal of the ramps from Chenevert, the grid of local streets should be reconnected including Francis, Chenevert, and Holman Streets. Reintroducing the grid of the streets would create surplus land that TxDOT could utilize for the development of affordable housing. Connecting Holman Street through to Hamilton Street would obviate the need for the freeway-style ramps connecting to Chenevert Street south of Holman Street. Removing them would be more consistent with the context of the neighborhood while improving safety, reducing right-of-way acquisition, and creating more surplus right-of-way.
12. Coordinate with the City to consider widening the Almeda bridge to allow simple buffer buildings (e.g. IH-670 in Columbus, OH). This would reduce the view of freeway and make a more seamless commercial corridor experience on this important roadway.
13. Justify why Caroline Street warrants 4 lanes with a dedicated left turn lane at Wheeler Street. Maintain the current 4 lane configuration with a wide median across I 69 to maintain the existing character of Caroline Street. City supports preserving the existing esplanade and does not support removing esplanade to create a dedicated left turn lane.
14. Where frontage roads are proposed, such as between Midtown and Museum Park or between Downtown and the East End, please define which intersections would be proposed for signalization or all-way stop control. This will greatly impact people's ability to cross at these locations, especially those walking or biking. Please consider all of these intersections for either a signal or all-way stop control.
15. Tuam Street is a local street and does not warrant a 4 lane cross section. Redesign as 2 lanes with left turn lanes and dedicated bike lanes.
16. Re-evaluate the need for 5 lanes on McGowen Street. Two lanes with dedicated left turn lane and bike lanes may be adequate based on the existing and projected capacity. Revise the design of Hamilton and McGowen to remove the free flowing right turn lane.
17. The proposed Chartres Street at McGowen Street location should be redesigned to limit ROW taking on new residential development.
18. Redesign the Webster Street and Hamilton Street intersection as a T intersection to improve pedestrian accessibility.
19. Southbound Hamilton at McGowen and northbound Chartres at Elgin should be designed without sweeping right turn lanes.
20. Include bike lanes and wide sidewalks on Elgin, Tuam and McGowen bridges.
21. Coordinate with the City and the Midtown Management District to include decorative lighting on new bridges along I 69 in a manner similar to those in Montrose along I-69.

<u>Segment 3 East: IH-69, IH-45, SH 288</u>

1. Planning and advanced funding for relocation of affordable homes at their replacement value, as well as relocation assistance to existing residents, should be done in timely and

comprehensive manner. This applies to the 368 units within the Houston Housing Authority Clayton Homes and Kelly Village facilities as well as the Temenos Community Development Corporation facility.

2. The area around the proposed expansion on the east side of Chartres St has multiple historic resources that will be removed. Though not designated, most buildings that are proposed for demolition serve the community economically and as a sense of place and context for the Cheek-Neal Coffee Co. Building. Effects on this area and buildings should be considered.
3. Connectivity between Downtown and neighborhoods to the east side has historically been limited and the project should maximize these connections to the degree feasible.
4. The City appreciates TxDOT's previous and extensive attempts to find solutions for the Polk Street connection. Given the limited east-west connectivity in the area, doing everything possible to maintain a direct Polk Street connection is important. Please provide written verification on the feasibility of revising the design to bring freeway lane ramps down below grade further north than currently proposed, so that these ramps enter the trench between Polk and Rusk. This proposal would enable a straight, direct Polk crossing as exists today. The City understands that this change would reduce the size of the proposed park cap by several blocks. A Polk Street pedestrian and bicycle link is a critical connection to Downtown. The Lamar Street bike lane is proposed to be extended along Polk Street to connect East Downtown and other East End neighborhoods to Downtown, Main Street Rail and Buffalo Bayou. In any scenario, maintain this pedestrian-bicycle connection.
5. The City and partners may envision the downtown/EaDo park cap as an active greenspace with one to two story buildings. The freeway support structure should be designed with this in mind.
6. Connect Leeland to a Leeland/Bell one-way pair as it is currently. This will require redesign of the freeway off-ramp connected to Bell. If Polk connection is eliminated, TxDOT should identify a project for grade separation of Leeland at the West Belt so that a major east west connection exists without the barrier between Eastwood and Downtown.
7. Include either a Runnels to McKee or a Canal to Ruiz connection. The loss of Runnels cuts off the area of the East End north of the West Belt Subdivision rail line and limits access to Downtown to just the Franklin/Navigation underpass. One of these connections should be established.
8. The existing two-way connection of Nance Street to Jensen is being replaced by a one-way frontage road along Rothwell. Identify another two-way connection between Jensen and Nance Street. This is important since the westbound frontage road along IH-10 is not proposed to be extended across IH-69.
9. Identify options for ingress and egress from I 69 near Buffalo Bayou to improve access to and from Downtown, East Downtown, East End, and 5th Ward. This could include, for example, evaluating options for exit and/or entrance ramps to the freeway.
10. The proposed design has limited connectivity to the 5th Ward areas north of Buffalo Bayou. The exit ramp for Jensen previously proposed has been removed. Provide alternate access from 5th Ward to mitigate any loss of access. Evaluate options to extend Bringhurst across I 10 to enhance connectivity across I 10. Providing an additional crossing of IH-10 between Gregg St and Hirsch St would be beneficial, given potential nearby redevelopment.
11. Maintain Walker Street crossing between St. Emanuel and Hamilton as an extension of Columbia Tap trail to west side of SB frontage road (instead of as a street crossing) then bring trail south to Polk St. along the back of the convention center.
12. Ensure Buffalo Bayou trails can connect to East End/Fifth Ward though detention area and freeway crossings. This is critical connection for the East End.
13. Consider making more bridges and related traffic control two-way (e.g., Leeland, Commerce).

This should be paired with consideration of more two-way streets in the southeast area of downtown, which has been proposed at a concept level in the draft Plan Downtown.

14. The loss of Downtown to East End/East Downtown connectivity at Polk and Runnels also impacts METRO service from the East End to Downtown. This will increase complexity for routes 40, 41, and 48, impact reliability for customers, and potentially incur service costs for METRO. Keeping Polk open would mitigate some of these issues and is recommended.
15. Proposed Lamar St at St. Emanuel intersection is difficult to see on the schematic but seems awkward with difficult geometry.
16. When reconstructing METRO's Green/Purple line crossing of I69/I45 trench between East End and downtown, design larger radii turns to support faster train operation speeds. Improve signal operations for rail crossing at St. Emanuel and design Hamilton crossing to work effectively.
17. Coordinate with the City of Houston and METRO about the potential for dedicated transit lanes on Capital and Rusk as well as rail connection through proposed cap park.
18. Ensure potential bottle necks are evaluated and eliminated as needed:
    a. Evaluate if the IH-45/IH-69N to IH-10 Ramp can be separated to eliminate some of the likely weaving though that section.
    b. IH-69S south of downtown merges seven southbound lanes into six lanes, which drop to four lanes once two lanes exit to local streets on south end of midtown. This could result in a major bottleneck similar to the existing IH-69 NB at the Spur.
19. In the area north of Minute Maid Park, the operations of the proposed southbound frontage road and existing Hamilton appear problematic. Having two parallel one-way streets traveling the same direction and located 100' apart could create conflicting queues for motorists both on these streets and crossing them. Consider consolidating these streets or revising ramp access.
20. Ensure underpass at Commerce/Navigation proposed by GCFRD can be constructed with acceptable and safe grades/visibility for all modes of traffic.
21. The intersection of Franklin and St. Emanuel frontage road may require reconsideration given existing grades, typical travel speeds, and sight distance, should the full underpass be built.
22. Ensure rail underpasses are built with drainage improvements to avoid flooding.
23. Ensure at grade crossings of railroads is avoided in the proposed design for enhanced freight and vehicular circulation and safety.
24. Consider designing the proposed detention basin north of Runnels as a wet bottom basin that is a publicly accessible gateway feature from the bayou trail system.

<u>Segment 3 North: I 45, I 10</u>

1. Address the increased barrier between the Northside neighborhood and the Central Business District due to the wider footprint of the roadway.
2. This realigned segment of I 10 and I 45 has significant impact on existing businesses in an area already impacted by freight rail lines. Coordinate with the City and UPRR on the potential to realign the freight main along the passenger main to remove rail crossings through Downtown.
3. Planning and design should facilitate connection between area north of UPRR on the north side of the post office site to Downtown. This could potentially be incorporated into the design for the Downtown Connector, and/or the Bagby and Washington Avenue extension design.
4. Plan for the extension of San Jacinto Street to Fulton including potential grade separation at the UP Passenger Main crossing which is impactful to drivers and transit in this area.
5. Provide improved version of existing pedestrian and bicycle bridge crossings of freeway east of Elysian and link to a new north-south trail connecting to Near Northside.
6. The schematic drawings should define or allow street network under the freeway segment of IH-

10 north of Downtown designated "Excess ROW."

7. McKee and Hardy streets provide pedestrian bicycle connectivity between Buffalo Bayou and the Northside neighborhood. Ensure bridges across I 10 are designed to incorporate safe pedestrian crossing and high comfort bike facilities.
8. The loss of the existing downtown connector tied into Franklin should be re-evaluated to see if it could be used as part of a high capacity transit network or light rail extension.
9. Coordinate with the City, METRO and Texas Central Partners to accommodate a high capacity transit connection to the Northwest Transit Center and proposed High Speed Rail Terminal. The existing I 10 corridor west of Segment 3 could be planned to include the extension of METRO's purple and green lines. The current NHHIP plans do not consider this connectivity, and in fact, might preclude it, since the plans call for the demolition of the HOV ramp.
10. The City requests that TxDOT begin a collaborative design process with the City and METRO to plan how connection of future I-10 high capacity facilities would connect to the downtown grid.
11. Reconstruct Hogan, Quitman, McKee and Hardy bridges with safe pedestrian and bike friendly crossings and sidewalks.
12. The proposed realignment of the freeway near Hardy Yards will have significant noise and visual impacts. The current DEIS does not adequately address mitigation along this area.
13. The DEIS does not adequately reflect the impact on White Oak Bayou greenway. Coordinate with stakeholders to mitigate these impacts.

<u>Segment 3 West: Downtown Connector, Pierce Elevated</u>

1. Review potential to maintain IH-10 HOV Connector near Amtrak Station coordinating with METRO to address express transit connectivity from downtown to NW transit center. If the IH-10 Connector is removed as proposed, allow provision for Washington Ave. connection.
2. Allow for Houston Avenue realignment and direct connection to Walker/McKinney as proposed by the Downtown District.
3. Allow for reconnection of Dart Street under the freeway to allow direct local access from the First Ward to Downtown, as proposed by the Downtown District.
4. The proposed one way connection from Walker/McKinney loop street should be removed since it separates Sam Houston Park from Buffalo Bayou. This is also a key biking and jogging route from downtown to the bayou and creates a dangerous crossing point on a heavily-used route.
5. In the proposed configuration along Heiner Street between the Fourth Ward and Downtown, the facility will have a narrower footprint than exists now. This presents the opportunity to use the leftover space to create a linear park connecting Midtown and Fourth Ward to Buffalo Bayou. Consider incorporating this into the proposal or designing the facility in such a way to accommodate this.
6. The proposed Downtown Connector should be designed to allow Andrews Street to connect frp, 4th Ward to Downtown. If a regular street connection is not possible, then the connection could be built as a walking and biking path to connect 4th Ward to Downtown.
7. Evaluate whether the downtown connector on the west side of downtown could be brought down to grade further north, so that the elevated section ends near West Dallas and Allen Parkway. This will allow for more green space, room for multi-modal transportation facilities, and restoration of the historic street grid in this area south of W. Dallas Street.
8. Instead of an off-ramp from a cloverleaf ramp, connect Clay Street as a two-way road between Allen Parkway and Dallas Street to provide access to Sam Houston and Buffalo Bayou Parks.
9. Potential impacts to visual quality, noise, and historic resources need to be more closely considered for Sam Houston Park.

10. Sabine Street at Allen Parkway should be a T-intersection without the sweeping right turn.
11. The realignment of I 45 along Pierce Elevated creates a unique opportunity to connect adjoining neighborhoods with a unique urban space. We look forward to working with TxDOT to discuss options along this corridor.
12. Coordinate with the City regarding the future of the Pierce Elevated Freeway, including options such as its demolition or its preservation and repurposing. If preferred by the City, locate and design the downtown connectors to preserve some of the existing freeway bridge structures.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:28:37 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:14 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:28:02 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, July 26, 2017 9:44 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Margarita Arevalo [redacted]
>
> [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: RE: North Houston Highway Improvement Project I commuted from West Houston to the Woodlands for almost three years. I know I-45 has problems with flooding on the feeder road when it rains and drivers drive too fast for the winding highway. I don't agree with more lanes. We need to maximize the rail around the city.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:51:24 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:49 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:32:54 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, July 26, 2017 9:06 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Nathan Bacnik[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: The need for a public-transit (METRORail or Bus Rapid Transit) connection between downtown and the 290/610 area will be even greater once the high-speed rail station is operational. TxDOT's current plans would demolish the I-10 HOV ramp at Franklin Street (next to the old Post Office) needed for this connection. We request that TxDOT modify its p

[redacted]

Bayou City Waterkeeper®

[redacted]

July 26, 2017

Mr. Quincy Allen, P.E.
Houston District Engineer
Texas Department of Transportation
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

I am submitting comments on behalf of Bayou City Waterkeeper (formerly Galveston Baykeeper). Bayou City Waterkeeper is a 501 (c) (3) organization, whose mission is the protection of the lower Galveston Bay Watershed, including the rivers, bayous and tributaries, through advocacy and education. We are concerned that the design of the North Houston Highway Improvement Project, will prove detrimental to the water quality in the bayous we protect, and ultimately in Galveston Bay.

Among the streams we specifically seek to protect are Buffalo Bayou, White Oak bayou and Little White Oak Bayou, all of which would be directly impacted by this project as proposed. We are also concerned that the project as proposed incorporates some of the specific flaws identified in the recently renewed TXDOT, MS4 permit.

Issue of Impaired Waters

While the DEIS recognizes that "potential impacts on surface water quality from the proposed project would be primarily related to storm water discharges into streams and drainage ways that traverse" the project, the DEIS analysis of water quality impacts incorrectly concludes that the fact that Buffalo Bayou White Oak Bayou, and Little White Oak Bayou are on the TCEQ § 303 (d) list of impaired waters, that this somehow means that there is a lessened obligation to protect them.

Because these streams are impaired, the anti-backsliding provisions of the Clean Water Act (Clean Water Act, sections 402(o)(2) and 303 (d)(4)(B)), would convey a greater obligation on TxDOT to avoid further degradation of surface water quality. As such, the DEIS should include specifics as to how TXDOT intends to implement practices that will result in improved water quality, to help assure that these streams are removed from the impaired list and meet the standards for their designated uses, which include primary contact recreation, and exceptional aquatic life uses. It is not acceptable to merely assume that since the waters in question are already impaired, that a bit more impairment is allowable.

Modeling of Discharge or Adoption of Numeric Limits for Discharge to Cure Defects in the MS4

TXDOT's MS4 does not contain numeric discharge limits for pollutants entering waters from roadways. It is however, possible to calculate discharge rates from roadways and determine their impacts on the receiving waters. TXDOT's own hydraulic design manual has computed the discharge rates for various pollutants in storm water runoff from highways. A computation based on roadway miles is possible to benchmark the amount of pollution directly flowing into Buffalo, White Oak and Little White Oak Bayous with the storm water runoff from the proposed highway improvements. This computation should be conducted in order to ascertain whether the proposed project would actually result in improvement to the water quality in the receiving waters, or additional impairment. If the proposed improvements would, based on modeling result in additional impairment, as the language in the DEIS appears to suggest, then modifications to the project and the associated drainage features must be adopted to avoid further degradation of receiving water quality. Under the current TXDOT MS4, the Storm Water Management Plan (SWMP) has no numeric limits for pollutants being discharged to receiving waters. It also has no benchmarks for reduction in pollution, or description of how impaired waters would be further protected by TXDOT. It is not enough to maintain the status quo or plan to allow additional degradation. This project should demonstrate specifically the projected impacts of the improvements on receiving water quality and how its implementation will result in improvement of those degraded waters. At a minimum, TXDOT should model the runoff and storm water discharges

[redacted]

into Buffalo, White Oak, and Little White Oak Bayous in order to meet state requirements that prohibit the addition of any pollutant load into impaired waters. TXDOT should adopt additional best management practices for storm water and runoff, including source controls, to avoid further discharge of pollutants to the receiving waters.

Floatables

TXDOT should adopt and implement specific measures to reduce the discharge of floatable debris from the project to Buffalo, White Oak, and Little White Oak Bayous. While the current TXDOT MS4 does not call for specific measures to reduce floatables in receiving waters, this issue is a particular problem in urban waters like those impacted by this project. Currently all of the waters in question receive heavy discharges of floatables in storm water, much of which originates on TXDOT rights-of-way and other transportation infrastructure. TXDOT has conducted litter surveys demonstrating that they are fully aware of the problem Texas has with floatables and litter from roadways. TXDOT should address this issue, for this project, through the implementation of source controls and structural controls sufficient to control floatables entering the receiving waters from the proposed roadways. This is particularly important on Little White Oak, and Buffalo Bayous which are both heavily impacted now by floatables and heavy trash originating on roadways.

Summary

It is the intention of Bayou City Waterkeeper to limit our comments specifically to issues affecting water quality in the watershed we are charged with protecting. We believe that as proposed, the North Houston Highway Improvement Project does not adequately address impacts to water quality. It is our position that under the requirements of the Clean Water Act, TXDOT has an obligation to undertake to improve the quality of impaired waters, impacted by its actions and discharged to under the TXDOT MS4 permit. This project appears to assume that, because the impacted receiving waters are already listed as impaired, that additional impairment is permissible. We request that TXDOT model the impacts from this project on the receiving waters, spe

cifically Buffalo, White Oak, and Little White Oak Bayous, and adopt those measures necessary to protect them from further degradation. We also request that those source controls and structural controls necessary to prevent discharge of floatable and heavy debris to the bayous, from the roadways be adopted.

Bayou City Waterkeeper appreciates the opportunity to submit these comments on this project. If you have any questions concerning our comments, please feel free to contact me at either 281-501-8493 or on my mobile at 832-882-1657.

Very truly yours,
Bayou City Waterkeeper

Bruce R. Bodson

Bruce R. Bodson, J.D.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:33:50 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:21 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:30:23 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, July 26, 2017 4:06 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Rufus Estis[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: The need for a public-transit (METRORail or Bus Rapid Transit) connection between downtown and the 290/610 area will be even greater once the high-speed rail station is operational. TxDOT's current plans would demolish the I-10 HOV ramp at Franklin Street (next to the old Post Office) needed for this connection. We request that TxDOT modify its p

downtown district

[redacted]

July 26, 2017

TxDOT Houston District Office
Director of Project Development
P.O. Box 1386
Houston, TX 77251-1386

RE: North Houston Highway Improvement Project — Draft Environmental Impact Statement

Dear Director:

The Houston Downtown Management District (HDMD) submits this letter and enclosed Memorandum for the public record in regards to the proposed North Houston Highway Improvement Project (NHHIP). This submission is specific to the planning exhibits and Draft Environmental Impact Statement (DEIS) provided on the project website and presented by the Texas Department of Transportation (TxDOT) at Public Hearings held May 9 and 11, 2017.

Acknowledging the stated need and purpose of this project, **HDMD offers full support for the NHHIP**. The attached comments further enumerate specific components of the project plan which are either acceptable to HDMD or require further consideration and modification by TxDOT as it advances the Final Environmental Impact Statement (FEIS) and the Record of Decision (ROD) as anticipated in 2018.

HDMD considers the NHHIP to be a potentially transformative urban infrastructure project that will relieve the current highway congestion around Downtown and throughout the Houston region. As proposed, the NHHIP will improve highway speed efficiency by approximately 20 MPH, expand high-occupancy vehicle and transit service with inclusion of MaX lanes for IH-45, improve roadway design standards resulting in higher levels of public safety, improve highway capacity for emergency and evacuation events, manage and detain storm water drainage, improve air quality standards as a result of decreased vehicle idling, and promote broader region-wide economic benefits related to intra- and interstate highway transport, travel and commuting with an estimated 50% reduction during peak hour delays.

The replacement of out-dated highway infrastructure provides a unique opportunity for both the State and the City of Houston to redevelop portions of the central city and areas along the project corridor. As currently documented, HDMD sees significant potential for enhanced connectivity between the proposed highway and arterial systems — and the neighborhoods they serve, utility infrastructure upgrades, new or restored public realm amenities within and adjacent to the future TxDOT right-of-way, and new economic development potential at areas identified as "Surplus ROW" where the existing facilities are realigned to the east and north of Downtown.

The Houston Downtown Management District is a municipal management district and political subdivision of the State of Texas, acting by and through its Board of Directors. Upon passage of SB 1620 in the 74th Legislature, Regular Session 1995, the Downtown District was created pursuant to Chapter 375 of the Vernon's Texas Local Government Code and subsequently codified as Chapter 3801 of the Texas Special Districts Code, effective April 1, 2005. The Downtown District was created in the public interest to preserve, maintain and enhance the economic health and vitality of the downtown area of the city of Houston as a community and business center. The Downtown District's current approved Service and Improvement Plan and Assessment Plan, supported by property owners within the District by duly executed petition and approved by the Board of Directors, provides the framework and funding for realizing the purposes of the District.

Since October 2012, and specific to the NHHIP Scoping and DEIS process for the evaluation of "Build" or "No Build" alternatives, HDMD has served as a Participating Agency to TxDOT. HDMD considers the TxDOT planning process to date to have been mutually beneficial, and we are deeply appreciative of the opportunity to play an instrumental role in the development of this critical project. HDMD is prepared to continue working and commit the necessary resources in this collaborative capacity as Segment 3 of the project is brought to fruition.

Thank you for the opportunity to submit these comments. If HDMD may provide additional information or assistance to TxDOT during the response phase, please do not hesitate to contact me. HDMD looks forward to serving as a project partner in realizing the NHHIP. HDMD is highly supportive of TxDOT and its efforts to advance the North Houston Highway Improvement Project.

Sincerely,

Robert M. Eury
Executive Director

Encl.

Cc: Quincy Allen, District Engineer, Texas Department of Transportation
Cc: Mayor Sylvester Turner, City of Houston
Cc: Donald J Henderson, President of the Board of Directors, Houston Downtown Management District

[redacted]

MEMORANDUM

July 26, 2017

To: Director of Projects, TxDOT Houston District Office
From: Robert M. Eury, Executive Director

RE: Comments: North Houston Highway Improvement Project — Draft Environmental Impact Statement

This Memorandum supplements the preceding letter submitted by the Houston Downtown Management District (HDMD). Comments below are specific to Segment 3 of the North Houston Highway Improvement Project (NHHIP). "No Comments" are submitted for Segments 1 and 2 or the extreme southern and northern limits of Segment 3 as these areas are beyond the jurisdiction of HDMD. Items preceded by a **[#]** are considered priority comments of HDMD. Comments are organized by project's geography and counter-clockwise from Spur 527 around Downtown per the proposed letting schedule, with corresponding highway and/ or surface streets indicated.

A. Southeast Quadrant of Downtown / IH-45 & IH-69 interchange

1. HDMD requests TxDOT construct the frontage street segment of Chartres between Elgin & Tuam Streets, as a direct access corridor to Downtown.

2. **[#]** HDMD requests TxDOT construct a wider bridge or small cap structure over IH-69 and SH-288 trench at south side of Pierce Street for pedestrian and bicycle facilities in order to connect a future green belt west of Hamilton Street with the triangular area between aerial ramps of IH-45 & IH-69 and extending towards Bastrop Street.

3. HDMD requests clarification of landscape and potential benefit of storm water detention in the triangular area between aerial ramps of IH-45 and IH-69, from Gray Street to Pease Street.

B. Eastern Downtown / IH-45 & IH-69

1. **[#]** HDMD requests TxDOT coordinate with City of Houston (COH) and local area agencies to signalize Leeland Street as a two-way facility from Emancipation Avenue in EaDo to LaBranch Street in Downtown.

2. HDMD supports the IH-69 northbound entry ramp from Leeland and St. Emanuel intersection, providing a new connection from central city neighborhood streets to the highway system.

3. **[#]** HDMD supports the re-routing of Polk Street to the Lamar Street U-turn bridge, providing the IH-69 northbound exit ramp a longer queue distance and providing a

westbound connection between EaDo and Downtown. In addition to the one lane U-turn movement, HDMD requests additional street width for two-way movement on Lamar Street between the proposed southbound frontage street and the northbound St. Emanuel.

a. Downtown and EaDo stakeholders intend to develop schematic concepts for review with TxDOT that will propose an aerial pedestrian / bicycle facility along the Polk Street segment vertically separated above the sloped embankment lanes of IH-45.

b. HDMD requests further review and coordination between TxDOT and COH for the two-way cycle track facility proposed for Polk Street between Crawford and Hutchins Streets. As previously discussed in agency meetings, the re-routing of the Polk cycle track will be required when the NHHIP is implemented.

4. **[#]** HDMD requests the IH-69 exit to Bell as a two lane exit since it serves as the first inbound street to Downtown. As the origin of the street, the traffic volumes are minimal. A third left hand exit lane continues southbound and merges with Hamilton Street at the Leeland intersection.

5. **[#]** HDMD supports the proposed southbound frontage street between Commerce & Leeland Streets, where it ties in with the existing Hamilton Street. This new arterial provides greatly improved street connectivity for Downtown, EaDo, Second Ward and the East End.

   a. This street's name is to be coordinated between TxDOT and COH.

   b. The traffic signalization and turn movements for the new southbound arterial and the northbound St. Emanuel (see Comment B.9.) are to be coordinated between TxDOT and COH.

   c. East of the existing Hamilton Street, HDMD requests TxDOT and COH consider 2-way traffic for the east-west streets that serve the proposed highway frontage streets.

   d. HDMD requests coordination between TxDOT, COH and the Gulf Coast Rail District (GCRD) on its current design for the grade-separated intersection of Congress / Franklin / Navigation in proximity to St. Emanuel as a future NHHIP frontage street.

6. Relative to existing traffic volumes on Hamilton Street, HDMD requests further review of the proposed traffic volumes exiting to the new southbound arterial from IH-69, IH-45, IH-10 and the proposed extension of the Hardy Toll Road (HTR) — a separate project by the Harris County Toll Road Authority. (See Comment B.8.)

7. HDMD requests further review with TxDOT and COH for the potential conversion of southbound Hamilton Street to a two-way facility between Commerce Street and Texas

Avenue, thereby providing additional connectivity and relieving congestion on the new southbound arterial and northbound St. Emanuel.

8. **[#]** As an existing two-way street in EaDo with relatively modest traffic volumes yet proposed as a one-way northbound arterial, HDMD requests TxDOT coordinate with COH, the East Downtown Management District and Tax Increment Reinvestment Zone No. 15 the full rebuild of the St. Emanuel streetscape — including but not limited to public utilities (storm drainage, sanitary drainage, water supply), private utilities, signalized intersections, roadway, sidewalks, landscape, and street lighting — between Gray & Jefferson, between Pease & Leeland, and between McKinney and Commerce, those street segments that are not color-coded in the DEIS project plans.

9. **[#]** HDMD supports the concept of a cap public space over the trenched IH-45 & IH-69 between Lamar & Commerce Streets. In particular, the east-west cap streets as structurally integral bridges are a beneficial multi-modal connectivity components of the proposed DEIS project plan.

    a. HDMD requests further review and coordination with TxDOT and COH of one-way vs. two-way street traffic movements relative to all proposed street bridges from Lamar to Commerce Streets.

    b. HDMD requests clarification from TxDOT as to the opportunity for other parties to construct low-scale facilities over the cap and the timeline necessary for this development planning to proceed. This request should also be considered in terms of TxDOT's ability to negotiate relocations of displaced businesses that currently occupy private parcels between the existing Chartres and St. Emanuel corridors, in the area required for the NHHIP right-of-way acquisition.

    c. In order to realize the cap amenity implementation between Lamar and Commerce Streets, HDMD requests timely information and Participating Agency meetings to establish the urban design parameters to be advanced in the public space's programming, design, construction, maintenance and operations.

10. Relative to the capped portion over the trenched IH-69 adjacent to the George R. Brown Convention Center (GRBCC) loading docks from Polk to Rusk Streets and in the vicinity of the GRBCC upper level loading ramp from Rusk Street to Texas Avenue, HDMD requests design and engineering review in this area be primarily coordinated with Houston First Corporation (HFC), and with HDMD as needed.

    a. HDMD further requests the sidewalk between the GRBCC loading dock security wall and the proposed southbound frontage street be of sufficient width for pedestrian and bicycle use and allow for street lighting and landscape amenities at back of curb. (See Comment B.3.b.)

b. HDMD requests clarification as to potential development on the TxDOT right-of-way ground area between Rusk Street and Texas Avenue adjacent to the existing upper level loading ramp. As this area fronts the potential cap, these parcel's development opportunities and constraints require further definition for HFC and HDMD.

c. HDMD requests TxDOT coordinate with HFC the truck access and turning movements required to access the upper level loading dock ramp between Texas Avenue and Capitol Street.

11. HDMD requests coordination between TxDOT and METRO at Texas Avenue in order for the Green and Purple Light Rail Transit lines to remain operational throughout the highway construction.

12. **[#]** In proximity to Minute Maid Park at the current surface lots owned by the Harris County Houston Sports Authority (HCHSA), TxDOT's right-of-way purchase for Lot B — bordered by Chartres, Texas, St. Emanuel and Preston — should be considered in tandem with the development potential of Lot C — bordered by future frontage street St. Emanuel, Texas, Bastrop and Preston.

    a. Conceptually, HCHSA may develop Lot C in a number of ways: as a singular 4-block site, as a dual 2-block site (oriented east-west vs. north south), or as four single-block sites. In two of these scenarios, Prairie Street from the Harrisburg underpass may be extended westward and intersect with the proposed cap and the north- and southbound frontage streets. This would provide additional connectivity between East End and Second Ward communities with Downtown, and the attendant circulation benefits during game days or special events.

    b. TxDOT should review this area with HCHSA, COH, HDMD, East End and EaDo leadership — including TIRZ 15, the Houston Astros and Houston Dynamo — to determine development and connectivity priorities. The successful co-development of the cap public space and the Lot C superblock are integral to one another. The option of Prairie Street as bridge on the cap should be considered by all parties.

13. **[#]** As an existing two-way street between northern Downtown and the Greater East End, HDMD does not support the closure of Runnels Street. HDMD requests further review of prior suggestions by HDMD and others to grade-separate Runnels below or above the existing West Belt freight rail and proposed IH-45 and IH-69 main lanes and ingress / egress ramps. NOTE: With the current reconstruction of the Elysian Viaduct providing a new at-grade intersection at the McKee-to-Runnels transition, a Runnels tunnel or bridge across the highway and rail rights-of-way would maintain existing neighborhood connectivity and provide East End and Second Ward residents and businesses a direct connection with Downtown and the Elysian Viaduct, and vice versa.

C. <u>Northeast Quadrant of Downtown / IH-10 & IH-45 & IH-69</u>

1. HDMD requests TxDOT coordinate with COH the rebuild of the eastbound frontage street between Clark and Meadow Streets, serving the East End and Fifth Ward communities.

2. HDMD requests clarification as to the two-way configuration (existing) on the frontage street between Jensen Drive and Meadow Street, a critical connection serving the Fifth Ward. Street name designation and appropriate signage on this stretch would be beneficial for mapping and wayfinding.

3. **[#]** HDMD requests clarification of grade-separated limits for westbound frontage streets labeled East Frwy and Providence. HDMD is concerned with the interface of IH-69 connector ramp to the frontage street; if Providence is grade-separated below the UPRR rail, this results in cul-de-sacs at Maury and Semmes Streets. HDMD requests additional design review in the area surrounding St. Arnold's Brewery and Hennessey Park.

4. HDMD requests clarification of eastbound Rothwell Street. From the DEIS planning documents, it appears Rothwell is not grade-separated at the UPRR rail crossing. Further, it appears that southbound IH-45 main lanes and an exit ramp are located above Rothwell and an eastbound IH-10 ramp connecting to southbound IH-69 is below Rothwell. Please clarify that Rothwell Street is is an at-grade rail / frontage road crossing. (See Comment E.3. regarding UPRR.)

5. **[#]** HDMD requests TxDOT review with Harris County a property south of Nance Street in vicinity of right-of-way acquisition for the 45SB to 69SB connector ramp. A county parking facility is in planning stages at this parcel.

6. **[#]** HDMD requests further review and planning coordination with TxDOT and COH for the eastern end of Nance Street. The NHHIP plans indicate Nance is terminated from the current connection to Jensen Street. HDMD requests a new Nance connection be restored. While the specific street alignment through at-grade and column-supported elevated highway structures is not clearly evident to HDMD, the preferred connection is Nance Street to Clinton Drive, connecting northern Downtown with the East End.

7. North of Buffalo Bayou in two areas labeled "Potential Detention" within the IH-10 & IH-45 & IH-69 interchange, HDMD requests additional storm water analysis and detention design guidelines. The detention basin at proposed terminus of Nance is of primary concern relative to the preceding comment.

8. **[#]** In the areas labeled "Potential Detention" adjacent to south bank of Buffalo Bayou, HDMD requests TxDOT coordinate with the Buffalo Bayou Partnership the design, engineering, hydrology analysis, and detention system respective of the Partnership's current East Sector master planning process.

9. St. Emanuel as a reconstructed frontage street is indicated to access IH-69 northbound, IH-10 westbound and Hardy Toll Road northbound, and IH-10 eastbound. HDMD requests information as to whether TxDOT evaluated an IH-45 northbound connector ramp, as the nearest "downstream" entrance is the proposed down ramp from Leeland and St. Emanuel intersection.

D. Northern Downtown / IH-10 & IH-45

1. **[#]** Where the Elysian Viaduct is currently being reconstructed by TxDOT, an existing pedestrian bridge to the east of the Viaduct is to remain in place. HDMD requests TxDOT remove this structure as it is likely in conflict with the proposed IH-10 main and express lanes in the proposed vertical wall trench. Further, HDMD requests TxDOT rebuild this pedestrian/ bicycle bridge as a box truss structure directly beneath the rebuilt Elysian Viaduct. The supports for an existing utility conduit also exist in this area, perhaps requiring TxDOT's relocation.

2. **[#]** The COH has platted a right-of-way for the extension of North San Jacinto from the current intersection at IH-10 ingress and egress frontage streets (eastbound Rothwell and westbound Providence) to Fulton Street at the Burnett Street intersection in the Greater Northside. A previous COH plan proposed an elevated grade-separated roadway, pedestrian and bicycle facilities over the UPRR.

   a. The current NHHIP plans do not indicate any connection between North San Jacinto and the realigned IH-10 & IH-45 corridor. HDMD requests further design review of the North San Jacinto extension between TxDOT, COH, HDMD and Greater Northside Management District (GNMD). Presently, North San Jacinto is the primary entry street from IH-10 to Downtown; this existing condition necessarily needs reconstructed as part of the NHHIP.

   b. HDMD requests the support columns for the elevated IH-10 main and express lanes and the elevated IH-45 main lanes be positioned to accommodate the North San Jacinto extension.

   c. As a component of the NHHIP, HDMD requests an at-grade southbound North San Jacinto street connection from the new frontage street of Providence through the new frontage street of Rothwell, continuing southbound. Further, HDMD requests an at-grade northbound street connection of North San Jacinto through Rothwell intersection and terminating as a westbound (left only) turn onto frontage street Providence.

   d. To accommodate a North San Jacinto extension further northward to Fulton Street, a grade-separated tunnel solution will likely be required. In order for this to be accomplished, the requested at-grade connections between Providence and Rothwell described in the previous Comment will need to be horizontally separated to allow a

North San Jacinto tunnel trench beneath the highway and rail rights-of-way. Sufficient width in the tunnel should be accounted for pedestrian and bicycle connectivity between the Greater Northside and Downtown.

e. Respective of the preceding priority comments (D. 2 / a.-d.), see the attached "North San Jacinto Extension" diagram for clarification.

3. **[#]** HDMD requests COH and TxDOT determine with HDMD the future street configurations in the area of "Surplus ROW" of the existing IH-10 alignment. The establishment of new public right-of-way necessarily precedes the disposition of the TxDOT surplus parcels and their potential combination with existing parcel ownerships.

4. HDMD requests clarification as to acceptable land usage under the elevated portions of IH-10 and IH-45 lanes between North San Jacinto extension and Main Street, accessed from either the Providence or Rothwell frontage streets. HDMD also requests similar clarification as to land usage under the elevated highways in areas west of Main Street, particularly with respect to the recreational and parking needs of UH-Downtown and with respect to White Oak Bayou.

5. HDMD requests the reconstruction of the McKee and Hardy Street bridges over IH-10 to be of sufficient width to include pedestrian and bicycle facilities, and either stop all directions or signalized intersections with Providence and Rothwell frontage streets.

6. **[#]** HDMD requests clarification as to whether the western end of Providence frontage street can be a signalized T-intersection at Main Street, providing critical connection to Downtown and the Greater Northside. DEIS plans appear to indicate only a U-turn at the METRO Red Line. HDMD requests an intersection, and if possible, a westward extension to serve the UH-Downtown campus to the west of Main Street.

E. <u>Northwest Quadrant of Downtown / IH-10 & IH-45 and Downtown Connector</u>

1. **[#]** Regarding the eastbound IH-10 exit to the Downtown Connector (DC): HDMD requests TxDOT re-evaluate this ramp as an independent structure that extends from west of Main Street to south of the proposed McKinney & Allen Parkway DC exits. The exit should allow for IH-10 exiting traffic to access McKinney and Allen Parkway rather than solely the southern terminus of the DC. An earlier merge of the IH-10 ramp would also reduce at-grade column supports between the north and southbound DC structures.

2. As previously discussed between HDMD and TxDOT, the possibility of extending Dart Street from First Ward eastward to the future frontage of Rothwell Street is a project requiring further planning and engineering coordination between HDMD, COH and TxDOT. The placement of columns supporting the elevated highways and ramps should accommodate the option to extend Dart Street.

3. **[#]** As recently discussed between HDMD and TxDOT, HDMD requests that consideration of a realignment of the Union Pacific Rail Road (UPRR) current facilities be evaluated. This rail realignment would have numerous connectivity, safety, and noise-reduction benefits for central city neighborhoods plus improved economic development potential.

    a. The concept proposes double-tracking freight and passenger rail lines between Houston Avenue and Main Street. This consolidated freight rail infrastructure would allow for the removal of the westbound rail along the Winter Street corridor in First Ward and the eastbound rail across northern Downtown from the City's Houston Fire Department (HFD) facilities on Dart Street to the track merger near Opelousas and Semmes Streets in the GNMD.

    b. This realignment would remove four current at-grade rail crossings between Winter & Summer Streets in the First Ward, including these north-south streets: Oliver, Sawyer, Henderson and Silver.

    c. This realignment would allow for seven current dead end streets between Winter & Summer Streets to be reconnected north-to-south in the First Ward, including these streets: White, Sabine, Colorado, Johnson, Hickory, Goliad, and Holly, and perhaps an eighth reconnection of Beachton Street between Crockett and Bingham.

    d. Winter Street should be extended eastward to Holly or perhaps Beachton Street.

    e. A rails-to-trails project should be implemented with this realignment such that First Ward has direct connection to White Oak Bayou Greenway Trails.

    f. This realignment would likely require the rebuilding of the Houston Avenue grade-separated crossing at the UPRR line, which reinforces Comment F.1. below.

    g. Considering the potential rail realignment, one new at-grade crossing at Dart Street would be required east of Beachton Street. Furthermore, critical access to Elder Street Artist Lofts and Ecclesia Church would need to be maintained, perhaps with a street extension from Washington Avenue near the City's Permit Center and current Amtrak Station.

    h. This realignment would remove four current at-grade rail crossings in Downtown, including these streets: North San Jacinto, McKee, Nance and Rothwell.

    i. This realignment would allow for the extension of Bagby Street northward to the proposed Dart Street extension.

    j. This realignment would remove three current at-grade rail crossings in GNMD, including these streets: Providence, Lyons Avenue, and Opelousas.

k. Respective of the NHHIP, this rail realignment would eliminate one UPRR bridge over the IH-10 main and express lanes, and greatly simplify at-grade access of Rothwell and Providence frontage streets and their associated local streets. (See items C.2. and C.3.)

l. Respective of the NHHP, this rail realignment would require a revision to the grade separated highway connections from IH-10 and IH-45, specifically the respective connections to Smith, Louisiana, Milam and Travis Streets.

m. The interface between the UPRR proposed alignment and the NHHIP will require significant planning and design modifications for the IH-10 main and express lanes, the IH-45 main and MaX lanes, the respective ingress / egress connector ramps, and perhaps the bridging structure of Hogan Street. However, the UPRR proposed alignment would likely entail economic and constructability benefits as two temporary shoo-fly bypass rail bridges would not be required, a permanent rail bridge is eliminated over IH-10, and a majority of the new rail alignment could be constructed offline in tandem with highway improvements.

n. The opportunity for a new Amtrak Station has been considered by HDMD and is proposed in proximity to the Burnett Station on Main Street, north of the proposed freight and passenger rail alignment.

o. A significant component of the proposed rail alignment is coordination with the land area required for the dual track turns in the area of the City's HFD facilities at Dart Street.

4. With the proposed removal of the existing IH-10 HOV ramp structure and the IH-10 westbound ramp connecting to IH-45 southbound, HDMD requests TxDOT consider this area as surplus right-of-way.

5. **[#]** With the proposed realignment of IH-10 and the associated connectors to Smith and Louisiana streets and respective of Comment E.3. above, HDMD requests TxDOT consider the area north of the former Post Office site and UPRR as surplus right-of-way for new development adjacent to the proposed Dart Street extension.

F. <u>Western Downtown / Downtown Connector (DC)</u>

1. **[#]** South of Memorial Drive and the associated Capitol / Rusk frontage streets, HDMD has previously reviewed with TxDOT and COH a proposed alignment of Houston Avenue connecting with McKinney and Walker Streets, via an at-grade T-intersection with a new frontage street couplet that connects southward to the Allen Parkway intersection. HDMD believes this proposed street system enhances connectivity between Downtown and the Washington Avenue corridor, Sixth Ward, First Ward and the Heights neighborhoods. Further evaluation of this proposal is warranted, with due respect given to the McKinney and Walker street bridges crossing over Buffalo Bayou.

2. **[#]** The NHHIP DEIS plans indicate a one-lane road from Walker Street (west side of the City Hall Annex parking garage) intersecting with Allen Parkway westbound. This connection is not required with the inclusion of the previous comment. With the removal of this street segment, Sam Houston Park will establish direct connection with and access to Buffalo Bayou Park.

3. **[#]** HDMD requests TxDOT evaluate the ramp length of the Allen Parkway exit from the southbound DC. HDMD requests the ramp come to grade on the north side of Buffalo Bayou and limit the amount of column supports within the bayou floodway.

4. **[#]** HDMD requests TxDOT modify the curvature of the Allen Parkway eastbound connector ramp to the northbound DC. The ultimate goal is to shift the merge lane further south and modify the ramp's geometry in order to reduce the number of support columns or ramp embankments that interface with Allen Parkway and Buffalo Bayou.

5. HDMD requests confirmation of the lane counts for the DC frontage streets, in particular the intersection and signalization controls at Allen Parkway. With the current pedestrian and bicycle use in Buffalo Bayou Park, this new highway-to-street access point will likely have higher traffic counts in the future. An appropriate interface to allow safe crossings in all directions for pedestrians, bicycles and vehicles is of paramount importance to HDMD and the broad array of community interests (see Comment G.1. / a.-d.).

G. <u>Southwest Quadrant of Downtown / Downtown Connector (DC)</u>

1. **[#]** Between June 26 - July 19, 2017, HDMD hosted a series community meetings and planning workshops with Buffalo Bayou Partnership, Sam Houston Park, Brookfield (Allen Center property owner), Fourth Ward TIRZ 4, Freedman's Town Preservation Committee, Midtown Management District (MMD), Pierce Skypark advocates, and HDMD consultants for the NHHIP and Plan Downtown. These meetings have addressed the DC and proposed frontage streets south of the Capitol / Rusk light rail facilities. The community has requested HDMD advance internally and with TxDOT alternatives for restored neighborhood connectivity between Downtown and the Fourth Ward plus improved connections between Midtown and Buffalo Bayou Park. HDMD has previewed these alternatives with TxDOT personnel and the NHHIP consultants. Herein, HDMD offers additional DEIS commentary for the project's record.

    a. General modification for DC alignment: within the indicated TxDOT right-of-way, adjust eastward the curvature of the DC and northbound / southbound frontage streets, in order to maximize the space on western side of DC for north-to-south pedestrian, bicycle, and landscape amenities adjacent to Fourth Ward. This DC shift eastward may involve reconsideration of the DC exit to Bagby Street.

b. Alternative 1 ("surgical tweak"): shift southward the embankments at southern end of DC such that an east-west pedestrian / bicycle connection along Andrews Street can be established. Due to the historic condition of Andrews Street in Fourth Ward, the objective is not to increase vehicular traffic on this narrow, brick-lined street, but rather to allow for pedestrian and bicycle access across (under) the DC. The proposed "swing lanes" of the northbound frontage street between Dallas and Allen Parkway are unaffected.

c. Alternative 2 ("the big ask"): grade separate the DC below Dallas and Andrews Streets. Further, shift the "swing lanes" of the northbound frontage street to between Dallas and Andrews Streets; this results in an eccentric bridging structure for the "swing lanes" which has been discussed within the community meetings as a potential cap benefitting both Fourth Ward and Allen Center. TxDOT has indicated to HDMD who acknowledges there is insufficient length for a below grade-separated DC facility to rise in the available distance for connections with Pease and Jefferson Streets.

d. The community's consensus preference is Alternative 2, for which HDMD has informed all parties this may require a re-evaluation process of the FEIS, or perhaps a Supplemental Hearing to the DEIS. HDMD requests TxDOT incorporate Alternative 1 in the FEIS and ROD, and advise HDMD as to further community and COH engagement to consider Alternative 2 or variants thereof.

H. <u>Southern Downtown</u>

1. HDMD supports the removal of the existing IH-45 Pierce Elevated across southern and western Downtown. Removing the existing columns that impact the Buffalo Bayou floodway will enhance hydrological performance during flooding events. Removing the existing columns and highway deck will result in broader capacity for economic redevelopment of this physical and social barrier area between Downtown and Midtown. The opportunity for an at-grade linear park is currently under conceptual design by HDMD consultants for the NHHIP and Plan Downtown.

2. Respective of the previous Comment, HDMD is also receptive to the conceptual plans advanced by Page for the Pierce Skypark. As preserved infrastructure with the possibility for aerial grade-separated connections from Third Ward, EaDo, Downtown and Midtown, back and forth to the west side connective green belt described in Comment G.1., HDMD sees the potential.

3. HDMD is currently in an early stage of evaluating the economic impacts associated with the Pierce Elevated "Surplus ROW." At least 3 options are under evaluation by HDMD's planning and economic consultants:

   a. At-grade linear park (see Comment H.1.), likely requiring significant financial, urban space development and operational commitments from HDMD or MMD.

b. Elevated Pierce Skypark (see Comment H.2.), perhaps requiring a third party development and management organization or an HDMD / MMD sub-agency structure and the associated obligations.

c. Half block sites subject to free market development forces.

I. General Comments

1. For the extents of elevated IH-45 (north and southeast of Downtown), IH-69 lanes (northeast Downtown) IH-10 express and main lanes (north Downtown) and the Downtown Connector (west Downtown), HDMD requests TxDOT design and construct highway structures with minimal ground level impacts. The use of segmented highway bridging and mono-point single columns — or better — is expressly requested throughout the limits of Segment 3.

2. **[#]** All "Surplus ROW" currently indicated in the NHHIP DEIS plans that currently shares COH facilities should automatically revert to COH right-of-way. For example, Pierce Street within the designated Pierce Elevated "Surplus ROW" reverts to COH right-of-way, as do all crossing streets from Chenevert to Bagby. How this impacts an elevated park should be fully evaluated by COH, HDMD and MMD.

3. **[#]** Similar to the previous Comment, all "Surplus ROW" that was historically COH right-of-way should automatically revert to COH. For example, the IH-10 eastbound exit ramp that connects to Nance at McKee Street should be TxDOT surplus that reverts to COH. HDMD will collaborate with COH to identify the original Downtown street grid that was subject to and assumed by the current TxDOT right-of-way in order to clarify the reversion rights.

4. **[#]** While separate projects by other agencies, TxDOT should fully collaborate with GCRD and HCTRA as the respective rail and toll road projects are inter-related with the NHHIP. In particular, HDMD was recently made aware of the proposed detention requirements and proposed locations for both the grade-separated Lyons Avenue at the West Belt BNSF line and the extension of the Hardy Toll Road. These detention areas in addition to the NHHIP's "Potential Detention Areas" require further inter-agency coordination to ameliorate the land extents required. Further, the urban and landscape design of these detention areas should be raised to the highest level as central city amenities — as well-natured, wet-bottom facilities that can be utilized by the residents and businesses impacted by the respective rail, toll road, or highway infrastructure projects. Further, these detention sites should be understood by TxDOT, HCTRA, GCFRD, COH, and related local area agencies in terms of their maintenance and operations, including the beneficial connections to the Bayou Greenway trails and proximal pedestrian / bicycle facilities.

5. As Segment 3 of the NHHIP is implemented between +/- 2020 and 2030, HDMD requests continued collaboration to appropriately message the temporary traffic control plans such that the Downtown workforce, residents and visitors are kept apprised of the project's construction status through the HDMD weekly "Street Closure" email communication.

6. As HDMD is responsible for Downtown's vehicular and pedestrian wayfinding systems, the timely updates to those message panels and the associated maps will be the administered throughout future Service and Improvement Plans and Assessment Plans of the HDMD.

7. **[#]** Respective of the previous Comment, HDMD requests TxDOT continue to honor the long-standing agreement to minimize highway located signage to "Downtown Destinations" and specific street exits, so as to moderate the number of signage requests from multiple Downtown stakeholders seeking "highway markers."

8. **[#]** Respective of existing highway columns and ramp embankments within the Buffalo and White Oak Bayou floodways, HDMD requests hydrological analysis and confirmation with the Harris County Flood Control District to validate whether TxDOT abandoned columns and ramp embankments may be preserved or repurposed *in situ* as infrastructural artifacts, as has been proposed by multiple parties, or whether significant floodway conveyance and capacity is enhanced by the removal of unnecessary highway columns and embankments. If the latter, HDMD requests that all water-surrounded and bayou-adjacent highway columns and embankments be removed with the highest standard of care to avoid damages to this natural resource area. If the former, HDMD requests advisement from TxDOT as to the appropriate use of abandoned columns and embankments, whether by HDMD or other parties.

9. HDMD requests TxDOT incorporate 100% recycling protocol as a baseline construction specification for all concrete and steel materials demolished in association with the NHHIP.

10. **[#]** HDMD requests TxDOT coordinate with COH on the standard lane width and required lane counts for all highway to surface street connections. Wherever possible, HDMD errs on the side of narrower lane widths and fewer lane counts in an effort to moderate vehicular speeds and promote safe conditions for all modes and all users.

11. Respective to noise abatement strategies and the stated possibility of sound wall installation adjacent to the NHHIP right-of-way, HDMD requests detailed review during the design and engineering process to engage with TxDOT and affected stakeholders requesting the installation of sound walls within the Downtown limits of Segment 3.

12. As feasible during the preparation of FEIS planning documents, HDMD requests a Participating Agency session with TxDOT and COH to review all signalized traffic intersections in proximity to the NHHIP limits.

13. **[#]** During the preparation of the FEIS planning documents and / or at the appropriate design and engineering phase following the ROD, HDMD requests information as to required land size, general locations, required access and general equipment specifications for storm water pump stations and mechanical exhaust systems associated with the Downtown /

EaDo cap area. As well, similar information is requested for storm water pump stations that serve any trenched portion in Segment 3.

14. [#] Based on July 14, 2017 meeting held between HDMD and CenterPoint Energy, TxDOT should fully coordinate the relocations and adjustments required for electrical and gas facilities for the entirety of NHHIP. Likewise, other private utility relocates and COH or Harris County public utility relocates are to be coordinated by TxDOT.

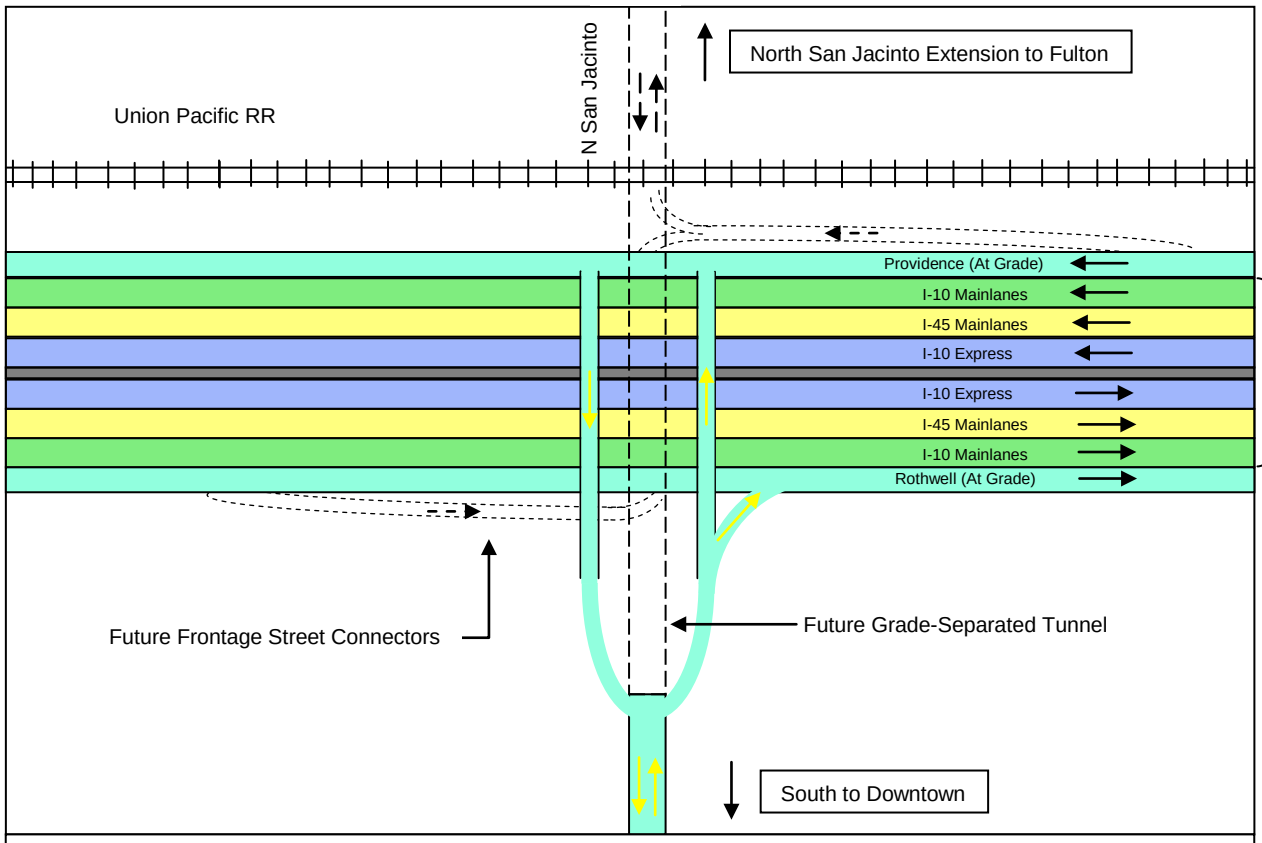
15. **[#]** During the preparation of the FEIS and based upon the ROD, HDMD requests TxDOT participate in METRO's Regional Transit Plan (RTP), with the planning process and community engagement currently in progress. Upon completion of the METRO RTP, HDMD requests the DEIS or FEIS be amended to incorporate METRO's plan and need for future transit improvements.

    a. Current METRO bus routes 40, 41 and 48 are affected by the NHHIP, due to the re-routing of Polk Street and the disconnection of Runnels Street. The short- or long-term re-routing of these transit services should be well-understood and coordinated as part of the FEIS process and the NHHIP's final conceptual plans.

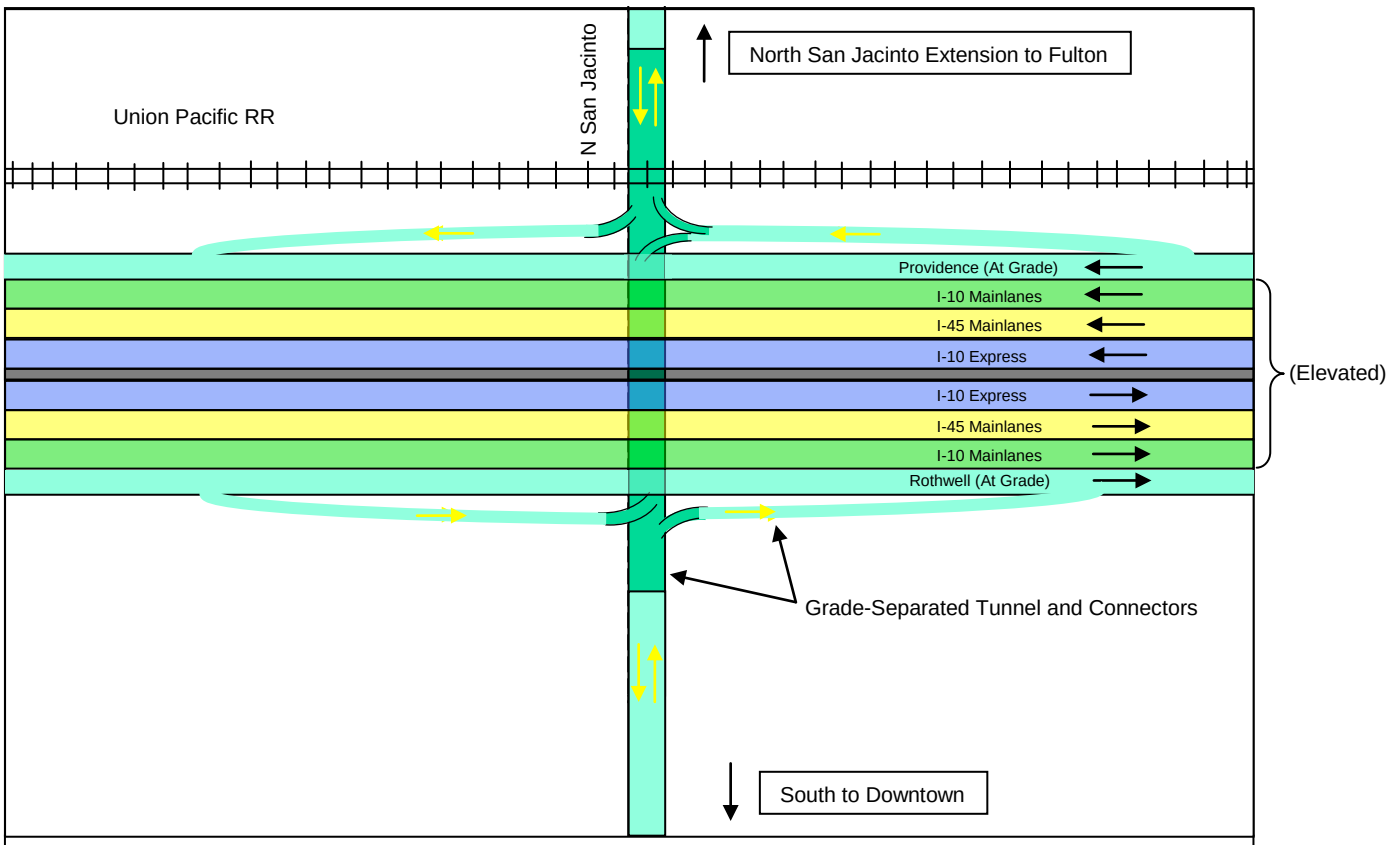
16. In the capacity as a Participating Agency with TxDOT for the NHHIP, continued coordination is warranted to ensure the above Comments, related issues, and new issues yet to be revealed are jointly addressed throughout the various Segment 3 phases of design and engineering, and further throughout the anticipated and actual letting schedule for bidding and construction.

HDMD appreciates the opportunity to provide these comments to TxDOT in the preparation and release of the FEIS. HDMD looks forward to the continued Participating Agency collaboration with TxDOT for the duration of the NHHIP. Please do not hesitate to contact Robert Eury and/or Lonnie Hoogeboom AIA, Director of Planning, Design & Capital Projects in these and related matters. Finally, HDMD offers the full support to TxDOT in the pursuit of the ROD and future design, engineering, letting, and construction of Segment 3 of the North Houston Highway Improvement Project.

Cc: Quincy Allen, District Engineer, Texas Department of Transportation
Cc: Mayor Sylvester Turner, City of Houston
Cc: Donald J Henderson, President of the Board, Houston Downtown Management District



N. San Jacinto Extension as a Two-Phase Project



N. San Jacinto Extension as a One-Phase Project

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: UPRR Comments to NHHIP Draft EIS
Date: Friday, July 28, 2017 3:34:46 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:22 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: UPRR Comments to NHHIP Draft EIS

Sent from my iPad

Begin forwarded message:

> **From:** "HOU-PIOWebMail" <HOU-PIOWebMail@txdot.gov>
> **To:** "Pat Henry" <Pat.Henry@txdot.gov>
> **Subject: FW: UPRR Comments to NHHIP Draft EIS**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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> **From:** Madeline E. Roebke [redacted]
> **Sent:** Wednesday, July 26, 2017 3:52 PM
> **To:** HOU-PIOWebMail
> **Cc:** Melissa B. Hagan; Tyson O. Moeller; Brenda S. Mainwaring; Jeffers, Jennifer R.; Rami S. Hanash
> **Subject:** UPRR Comments to NHHIP Draft EIS
>
> To the attention of Ms. Kelly Lark:
>
> Attached please find Union Pacific Railroad Company's Comments to the North Houston Highway Improvement Project Draft Environmental Impact Statement (CSJ: 0912-00-146). The hard copy original letter will be sent to your attention via overnight delivery this evening. Please let me know if you have any trouble opening the attachment.

Thank you,

Madeline Roebke

Madeline E. Roebke-Curns
Senior General Attorney
Union Pacific Railroad
[redacted]

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**

July 26, 2017

Via U.S. Mail and Electronic Mail

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386
HOU-piowebmail@txdot.gov (Attn: Ms. Kelly Lark)

Re: Union Pacific Railroad Company's Comments to the North Houston Highway Improvement Project (NHHIP) Draft Environmental Impact Statement (EIS) (CSJ: 0912-00-146)

Dear TxDOT Director of Project Development:

Union Pacific Railroad Company ("UPRR") appreciates this opportunity to comment on the April 2017 Draft Environmental Impact Statement ("Draft EIS") for the North Houston Highway Improvement Project ("NHHIP"), prepared by the Texas Department of Transportation ("TxDOT").

UPRR fully appreciates TxDOT's desire for transportation improvements in the North Houston region. However, after examining the Draft EIS, we believe that TxDOT's environmental review of the NHHIP requires supplemental analysis. The Draft EIS does not consider environmental impacts of the proposed project on rail infrastructure and operations, nor does it contain sufficient detail to enable third parties to fully understand the NHHIP's potential relevant environmental consequences.

UPRR has a specific interest in the proposed project since construction and implementation of the NHHIP will likely impact UPRR rail infrastructure and operations. Such impacts may include encroachments upon UPRR's right-of-way, re-routing or re-directing of existing rail lines and infrastructure, and disruptions to rail operations.

From recent conversations with TxDOT staff, UPRR is optimistic that it and TxDOT can work together to address the NHHIP's potential impacts to rail infrastructure and operations, but in an abundance of caution and to fully protect UPRR's rights, UPRR submits this formal comment letter to highlight particular oversights in the Draft EIS.

For reasons discussed more fully below, while UPRR is supportive of the proposed project as a whole, it opposes the Recommended Alternative identified in the Draft EIS to the extent that it impacts or potentially impacts UPRR rail infrastructure and operations without any environmental analysis or feasible mitigations.

UPRR Owns and Operates Critical Rail Lines within the Proposed NHHIP Area

UPRR owns and operates a common carrier railroad network in the western half of the United States, including the State of Texas. Specifically, UPRR owns and operates rail main lines in Houston and throughout the State. UPRR is the largest rail carrier in Texas in terms of both mileage and train operations. UPRR's rail network is vital to the economic health of Texas and to the nation as a whole, and its rail service to customers in the Houston Area is crucial to the future success and growth of those customers.

As currently proposed, the NHHIP would add four express lanes and involve reconstruction of mainlanes and frontage roads, rerouting of I-45 in the Downtown area, removal of existing elevated lanes, construction of new connector accessways, and realignment of major interstates.

All three freight rail lines and associated rail infrastructure are located within the proposed project area are owned and/or operated by UPRR (see Draft EIS, p. 3-36):

- The Union Pacific Railroad parallels the Hardy Toll Road from north of Beltway 8 to I-610, then parallels the Elysian Viaduct and continues to I-10 and US 59/I-69. The rail line passes under I-10 and US 59/I-69 then veers to the east near Franklin Street.
- The Southern Pacific Railroad has two rail lines in the general vicinity of the proposed project area. One rail line runs north-south between I-610 and I-10 on the west side of US 59/I-69 and parallels the UPRR tracks. The rail line has an underpass at I-10 then veers west, paralleling Washington Avenue beyond the study area. Another Southern Pacific rail line enters the proposed project area approximately one-half mile north of the I-10/US 59 interchange and continues westward on the north side of I-10.
- The Chicago Rock Island and Pacific Railroad is an east-west rail line paralleling the north side of I-610.

These freight rail lines include elements either comprising the right-of-way (i.e., ballast, ties, track, bridges, etc.) or located adjacent to it (i.e., signs, mileposts, switches, etc.).

UPRR uses all of these tracks extensively. For instance, in the proposed Recommended Alternative's Segment 3 (Downtown Loop System) area alone, the rail lines handle more than twenty trains per day. The area is a main artery for the east/west route for trains. There is also an Amtrak route utilizing these same rail lines.

Preemption: Railroad Operations are Under the Exclusive Jurisdiction of the Federal Surface Transportation Board

Only the Federal Surface Transportation Board ("STB") has authority to regulate the use of railroad property. As set forth in the Interstate Commerce Commission Termination Act ("ICCTA"), the STB has exclusive and preemptive jurisdiction over:

> (1) transportation by rail carriers, and the remedies provided in this part with respect to rates, classifications, rules (including car service, interchange, and other operating rules), practices, routes, services, and facilities of such carriers; and
>
> (2) the construction, acquisition, operation, abandonment, or discontinuance of spur, industrial, team, switching, or side tracks, or facilities, even if the tracks are located, or intended to be located, entirely in one State, is exclusive. Except as otherwise provided in this part, the remedies provided under this part with respect to regulation of rail transportation are exclusive and preempt the remedies provided under Federal or State law. 49 U.S.C. § 10501(b) (emphasis added).

Thus, UPRR's continued operation of its rail lines cannot be disturbed except as directed by the STB. Accordingly, the Draft EIS should not assume that any (even potentially temporary) encroachment of railroad right-of-way and/or relocation or acquisition of UPRR's rail lines as a result of the NHHIP is feasible.

The Draft EIS Does Not Analyze Potential Impacts to Rail Infrastructure and/or Operations Even Though the Project as Currently Proposed Will: (1) Likely Require Relocation and/or Redirection of UPRR's Property, (2) May Result in Significant Adverse Impacts, and (3) May Obstruct UPRR's Ongoing and Future Operations in the Region.

The Draft EIS acknowledges that the NHHIP would necessitate the taking of new right-of-way (for instance, the NHHIP will require acquisition of 160 acres of right-of-way in Segment 3 alone); however, the Draft EIS does not discuss or analyze any railroad right-of-way acquisition required for implementation of the proposed project. The Draft EIS also does not address any potential impacts to rail infrastructure and rail operations during project construction and/or implementation.

As an example, Section 3.1 discusses existing conditions and direct impacts to land use ("All land uses that would be directly impacted by the NHHIP would be permanently converted to transportation use" (p. 3-3)) but it fails to mention potential project impacts to existing (and substantial) rail infrastructure and/or operations. In addition, the Draft EIS includes Tables ES-1 through ES-3 (pp. ES-14 through ES-23) summarizing impacts for each project Segment, but neglects to specify any impacts to rail lines or railroad companies, including impacts to land use, displacements, encroachments, transportation facilities, and the like. Notably, the analysis of the No Build Alternative seems to confirm that impacts would occur as part of NHHIP when the EIS highlights the lack of impacts to railroads as a benefit of the No Build Alternative. The Draft EIS states "[t]he No Build Alternative would not require the acquisition of new right-of-way, and

therefore would not result in direct impacts to transit centers, Park & Ride facilities, railroads, LRT, or bus routes" (p. 3-38).

Available project details and conceptual roadway layouts suggest that construction and implementation of the proposed project will require (at least during the construction stage) relocation and/or redirection of some UPRR rail lines and infrastructure. If so, these actions may result in adverse impacts to air quality, land use, and traffic and circulation (particularly to adjacent roadways), and interfere with UPRR's ongoing and future operations on those lines. Additionally, potential closure, relocation and rerouting of existing rail lines will likely result in delays for both rerouted rail traffic and for rail traffic on the lines to which traffic is rerouted. The Draft EIS does not address these potential impacts, nor does it examine whether there is sufficient capacity on other lines to handle this rerouting, particularly if construction is required.

UPRR therefore requests that TxDOT recognize and coordinate with UPRR to make sufficient accommodations for the proposed project's likely impacts to rail infrastructure and operations as a result of construction activities and/or project implementation.

The Draft EIS Does Not Provide the Necessary Information Needed for Informed Decision-Making under NEPA

The Draft EIS does not contain sufficient detail to allow UPRR to understand the relevant environmental consequences of the proposed project as related to rail infrastructure and operations. Instead, it includes what appears to be conclusory assumptions about potential railroad right-of-way encroachment, relocation and/or redirection of existing UPRR rail lines and infrastructure. Thus, the Draft EIS does not adequately consider UPRR's rail lines in the region and their role in the national transportation infrastructure. For these reasons, the required analysis of the project is insufficient under NEPA. *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) (noting NEPA's purposes are to ensure the agency will have detailed information on significant environmental impacts when it makes its decisions and to guarantee that this information will be available to a larger audience); 40 C.F.R. §§ 1502.1, 1502.14.

A. The Draft EIS does not contain sufficient detail about potential environmental impacts of the proposed project.

NEPA requires agencies to take a good faith "hard look" at the potential consequences of a project, analyze its potential impact on the environment and identify unavoidable adverse consequences of the proposed action and of alternative actions. *See* 42 U.S.C. § 4332(C). In addition NEPA requires agencies to consider all substantial evidence when analyzing significant impacts and consider impacts within the setting in which they occur. *See* 40 CFR § 1508.27(a)). Here, the Draft EIS is insufficient because the analysis of the proposed project and Recommended Alternative neglects to address these NEPA requirements by not having any analysis of existing rail lines and operations and the proposed project's potential impacts thereon.

B. The Draft EIS's Recommended Alternative appears to include conclusory assumptions about the feasibility of relocating or redirecting existing rail lines and infrastructure.

The purpose of the alternatives discussion in an EIS is to identify ways to reduce or avoid significant environmental effects. For this reason, an environmental document must focus on alternatives that avoid or substantially lessen a project's significant environmental effects and the alternatives discussed should be ones that offer substantial environmental advantages over the proposed project. *See* 40 C.F.R. § 1502.14(a) (NEPA requires the lead agency to "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."); 42 U.S.C. § 4332(C)(iii). In addition, the selection of sufficient alternatives should rely on "some notion of feasibility." (*See Citizens Against Burlington, Inc., v. Busey*, 938 F.2d 190 (D.C. Cir.), *cert. denied*, 502 U.S. 994 (1991)). Likewise, reasonable alternatives should be both feasible and non-speculative. (*See Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 551 (1978)). Because the Draft EIS does not analyze project implications to existing rail lines or operations, it is unclear without additional information and environmental analysis whether the proposed project alternatives are feasible and non-speculative, and therefore sufficient under the basic tenents of NEPA.

C. The Draft EIS does not consider the importance of UPRR's rail network's role in regional and national transportation infrastructure.

NEPA requires a "full and fair discussion of significant environmental impacts" as part of an EIS. 40 C.F.R. § 1502.1; *see also* 42 U.S.C. § 4332 (C); 40 C.F.R. §, 1508.7. This includes analysis of both direct and indirect environmental impacts of the proposed action. 40 C.F.R. § 1508.8. Direct effects are caused by the action and occur at the same time and place. 40 C.F.R. § 1508.8(a). Indirect effects are those caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. *See* 40 C.F.R § 1508.8(b). Both include "effects on natural resources and on the components, structures, and functioning of affected ecosystems," as well as "aesthetic, historic, cultural, *economic*, social, or health [effects]." *Id.* (emphasis added). NEPA requires that federal agencies explain and evaluate economic effects to the extent they are interrelated to the natural or physical environment (*id.* at § 1508.14).

Here, however, the Draft EIS does not adequately discuss the effects of the project on UPRR rail lines and operations. For instance, if rail lines and infrastructure is converted, relocated or redirected, the Draft EIS contains no analysis of potential adverse impacts from these actions. Any potential relocation of UPRR rail lines and infrastructure in the region will likely have effects on the larger regional and national rail network and UPRR's goods movement activities. Even temporary disruption could have far-reaching economic consequences and TxDOT must minimize those consequences in its construction and engineering planning.

The Draft EIS confirms that "selection of the final preferred Build Alternative will not be made until after the public comment period is completed, comments on the Draft EIS are received and considered, agency coordination is completed, the individual Section 4(f) evaluation is completed, and the environmental impacts are fully evaluated." The Draft EIS should be supplemented to consider the environmental impacts of the proposed project on rail infrastructure and operations and to set forth sufficient detail to enable third parties to fully understand the potential relevant environmental consequences of the NHHIP. As a major stakeholder in this process, UPRR requests that TxDOT coordinate with UPRR on the next steps of the proposed project's environmental review process to the fullest extent possible in order to ensure that all relevant rail impacts are addressed and, if needed, mitigated accordingly.

****

In summary, UPRR is supportive of the NHHIP overall. However, the environmental review of the NHHIP will require supplemental analysis to study impacts on UPRR's rail infrastructure and operations, and, if needed, feasible mitigations. UPRR looks forward to an opportunity to work collaboratively with TxDOT going forward in this process.

Regards,

UNION PACIFIC RAILROAD COMPANY

Rami Hanash

cc: Melissa Hagan, Union Pacific Railroad Company
Tyson Moeller, Union Pacific Railroad Company
Brenda Mainwaring, Union Pacific Railroad Company
Jennifer Jeffers, Morrison & Foerster

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:50:20 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:48 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:32:34 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, July 26, 2017 10:25 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Leticia Miller[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I request TxDOT modify its plans to permit connection to the I-45 expansion corridor. TxDOT must preserve or rebuild the existing Franklin St ramp for future METRORail and/or BRT service while staying within TXDOT's existing right of way. This would support the goal of allowing for needed connection keeping HST in the existing TxDOT right of way.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:49:47 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:48 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:32:25 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, July 26, 2017 10:26 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Nathanael Miller [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I request TxDOT modify its plans to permit connection to the I-45 expansion corridor. TxDOT must preserve or rebuild the existing Franklin St ramp for future METRORail and/or BRT service while staying within TXDOT's existing right of way. This would support the goal of allowing for needed connection keeping HST in the existing TxDOT right of way.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:50:54 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:49 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:32:44 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, July 26, 2017 9:26 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Robert Pohl[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I request that TxDOT modify its plans to permit such a connection through the I-45 expansion corridor. Specifically, TxDOT must preserve or reconstruct the existing Franklin Street ramp for future METRORail and/or BRT service while remaining within TXDOT's existing right of way. This would support the goal of allowing for needed

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:33:10 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:21 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:30:09 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Wednesday, July 26, 2017 4:15 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Stan Price [redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I45 Downtown Houston Reconstruction Feedback:
PLEASE Ensure any reconstruct to the I69/288/I45 interchange improves US59/I69 North and Southbound bottlenecks on SW side of downtown @ spur 527.
Provide through interstate traffic lanes for vehicles traveling through downtown(not using 610 loop or beltways).

[redacted]

From: [redacted]
To: [redacted]
Subject: FW: NHHIP Comments FW: Central Houston, Inc. NHHIP DEIS Comments
Date: Wednesday, July 26, 2017 4:10:33 PM
[redacted]

From: Kelly Lark [mailto:Kelly.Lark@txdot.gov]
Sent: Wednesday, July 26, 2017 3:30 PM
To: Matthews, Patty
Subject: NHHIP Comments FW: Central Houston, Inc. NHHIP DEIS Comments

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Wednesday, July 26, 2017 3:28 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Central Houston, Inc. NHHIP DEIS Comments

Sent from my iPad

Begin forwarded message:

> **From:** "Robert M. Eury" [redacted]
> **To:** "HOU-PIOWebMail" <HOU-PIOWebMail@txdot.gov>
> **Cc:** "Quincy Allen" <Quincy.Allen@txdot.gov>, "Pat Henry" <Pat.Henry@txdot.gov>, "Anne Taylor"[redacted]
> **Subject: Central Houston, Inc. NHHIP DEIS Comments**
>
> Dear Director,
>
> On behalf of Central Houston, Inc. (CHI), we offer the attached letter of support to the Texas Department of Transportation (TxDOT) for the North Houston Highway Improvement Project (NHHIP).
>
> If CHI may be of further assistance during the TxDOT response phase, please do not hesitate to contact me. CHI welcomes further engagement with TxDOT in the coming years to the mutual benefit of CHI, the City, the Houston District and the Texas Transportation Commissioners.
>
> Best regards,
> Bob

Central Houston, Inc. · [redacted]

Central Houston

July 26, 2017

TxDOT Houston District Office
Director of Project Development
P.O. Box 1386
Houston, TX 77251-1386

Dear Director,

On behalf of Central Houston, Inc. (CHI), we offer this letter of support to the Texas Department of Transportation (TxDOT) for the North Houston Highway Improvement Project (NHHIP). We believe that the NHHIP provides a significant improvement over the current freeway system with better future vehicular and transit access to the central city. Nevertheless, the project should also improve, wherever possible, the quality of life for nearby residents, businesses large and small, and visitors. Please receive the following comments as part of the public record specific to the Draft Environment Impact Statement (DEIS).

CHI requests TxDOT consider and incorporate the following comments to the greatest extent feasible during the preparation of the Final Environmental Impact Statement (FEIS), the Record of Decision (ROD) and project design.

1. The NHHIP should provide and/ or reinforce connections between neighborhoods previously separated by the freeways and mitigate adverse impacts related to noise, air quality, storm water runoff, and historical, environmental, recreational or natural sites.

2. The NHHIP should maximize multi-modal transportation and people and freight movement options by incorporating the highest safety and aesthetic standards possible for pedestrian, bicycle, transit and vehicular interface within an urban context.

3. The NHHIP should maximize neighborhood revitalization and redevelopment opportunities in order to enhance the quality of life for all Houstonians and strengthen the city's tax base. This includes the disposition of TxDOT's surplus rights-of-way in order to prompt the appropriate, site specific development projects that access new conditions on all edges of downtown and throughout the NHHIP project limits.

4. TxDOT should provide appropriate mitigation and fair remuneration for displaced residents and businesses, especially those directly impacted by right-of-way acquisitions to the east and north of Downtown, and further northward in Segments 1 and 2 of the NHHIP.

5. SH 288 managed lanes are proposed to enter surface streets in Midtown at Chenevert & Stuart Streets, with vehicles traveling through a relatively dense residential neighborhood. SH 288 is a growing commute corridor that needs more direct Downtown ingress/egress for daily and event traffic volumes. CHI requests TxDOT design and implement an alternative where SH 288 managed lanes directly utilize Chartres & Hamilton Streets, adjacent to the vertical-wall trenched portion of the future IH-69 and SH-288.

6. Similar to the MaX lanes as proposed for IH-45 from Downtown's Milam & Travis Streets to Beltway 8, CHI requests TxDOT design the NHHIP with consideration for future MaX lanes on IH-10 and IH-69 (including Spur 527 with direct service to Midtown and Downtown), such that high occupancy and transit vehicles have both Downtown direct connections and highway-to-highway interconnections, thereby serving multiple activity centers.

7. TxDOT, METRO and other governmental agencies should evaluate whether the existing IH-10 HOV connector should be repurposed as a direct connection between Downtown and the Northwest Transit Center potentially linking by transit the proposed High-Speed Rail terminal with the major activity centers of Downtown and Uptown.

8. Specific to the elevated portions of Segment 3 highways surrounding Downtown at the southeast IH-45 & 69 interchange, at the northeast IH-10 & 45 & 69 interchange, at the northern IH-10 & 45 realignment, and at the western reconstruction of the Downtown Connector, CHI requests TxDOT construct highway structures with minimal ground-level impact. CHI requests the implementation of segmented bridges and mono-point columns at the elevated highway and ramp areas. Particularly along the northern and western edges of Downtown where existing and future highway infrastructure crosses Buffalo and White Oak Bayous, the highest design and engineering should be utilized to result in the most visually attractive and aesthetically enhanced environment including as location appropriate signature bridge structures.

9. TxDOT should collaborate across agencies and with the Union Pacific and Burlington Northern Santa Fe Rail Road companies in the possible realignment or grade-separation of facilities within, adjacent to and in proximity to the NHHIP limits.

10. As an alternative to use of sound walls as a noise abatement strategy, CHI requests that TxDOT incorporate grooved pavement and 21st-century next-generation concrete surfaces.

Following recent communications with the City of Houston and allied organizations, CHI understands TxDOT is anticipating a broad range of general public and agency comments on the DEIS. At this critical phase in the NHHIP, CHI regards the above items as the most pressing issues to be addressed and appreciates the opportunity to provide comments.

CHI recognizes the potential place making or signature element opportunities within and adjacent to the NHHIP project limits and is willing to participate in collaborative civic leadership to assist TxDOT, the City and other public agencies, private developers, non-governmental organizations, and philanthropic entities in advancing these. CHI is a 501(c)(6) business league comprised of more than 130 member organizations, which serves as a steward of Houston's vision for the redevelopment and revitalization of Downtown and central city. For over 30 years, CHI and its affiliate Central Houston Civic Improvement, a 501(c)(3) non-profit corporation have facilitated many public and private projects to achieve this vision.

If CHI may be of further assistance during the TxDOT response phase, please do not hesitate to contact me or Bob Eury, CHI's president. CHI welcomes further engagement with TxDOT in the coming years to the mutual benefit of CHI, the City, the Houston District and the Texas Transportation Commissioners.

It has been said by many that the NHHIP represents a once in a lifetime opportunity — our lifetimes and well beyond; TxDOT is *en pointe* in establishing a new image of Houston. But the NHHIP's ultimate success is in the design and implementation of a myriad of details nearly unfathomable to ponder at this point, yet CHI is prepared to share the charge and expand the

vision for what our city is and will become. CHI looks forward to working with TxDOT through the FEIS and ROD process, and then onward to the future design, engineering, construction and operation of the North Houston Highway Improvement Project.

Sincerely,

Anne Taylor

Anne Taylor
Chairman

Cc: Quincy Allen, District Engineer, Texas Department of Transportation
Cc: Mayor Sylvester Turner, City of Houston
Cc: Robert M. Eury, President, Central Houston, Inc.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Public Comment for North Houston Highway Improvement Project
Date: Friday, July 28, 2017 2:56:09 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:30 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Public Comment for North Houston Highway Improvement Project

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:19:10 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: Public Comment for North Houston Highway Improvement Project**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
Watch us @www.youtube.com/txdotpio

From: Dee yadira [redacted]
Sent: Thursday, July 27, 2017 8:03 PM
To: HOU-PIOWebMail
Cc: Juan Parras; Ana Parras; yvette
Subject: Public Comment for North Houston Highway Improvement Project

TxDOT Houston District Office: Director of Project Development,

Thank you for the opportunity to provide public comment. This is the second time I have provided public comment. The first, was submitted for this project on May 29, 2015, since then I have not recieved an update, or confirmation for my

submission. It is helpful for us to know when hearings are held, or comments are taken into consideration. I hope that comments provided to TXDoT today are recorded, and your department maintains transparency, and contact with Texas Environmental Jusice Advocacy Services throughout the process of these projects.

Deyadira Arellano Texas Community Health Worker, [redacted]
[redacted]

[redacted]

To: Texas Department of Transportation	Email comments to: HOU-piowebmail@txdot.gov
Re: North Houston Highway Improvement Project	

I certify that per Texas Transportation Code, I am Not employed by TxDOT, I do Not do business with TxDOT, and I will Not benefit monetarily from this project that I am commenting on below.

TxDOT has proposed many innovative changes in the 4th round of Public meetings, and subsequent public comment sessions. Thank you for the opportunity to comment on changes that I would like to see happen. I have listed them below:

Though-out all Segments:

0.1 – All existing sound barrier walls must be replaced. Past agreements to install sound barrier walls, must be installed as part of this project.

0.2 - Sound Mitigation – There must be noise barrier walls for residential neighborhoods that are adjacent to the freeway, with landscape/beautification included. Consider a design that is appropriate for some of the oldest districts of Houston. Consider both vertical and horizontal caps and a slight inward angle towards the freeway instead of vertical walls to further remove sound from entering neighborhoods.

0.3 – Utilize 'quiet pavement' techniques and materials to lower the sound decibel levels generated from the roadways.

0.4 – Incorporate Crime Prevention Through Environmental Design to curb or prevent potential loitering and undesired spaces underneath highway bridges by allowing for appropriate lighting at night.

0.5 –It is vital to the economic stability and vitality of Houstonians that any and all proposed construction of this proposed infrastructure utilize the talents and skill of working men and women of our city. All contractors and subcontractors should be local, as well as, hire locally to stimulate our local economy and sustainability. Texas Department of Transportation should also invest in skill trainings at local community colleges and area high school to recruit talent from the neighborhoods where these projects are proposed.

0.6 Bridges, roads design, public art should be a reflection of the character of the communities the project is located in. These artists and their project proposals should be elected by the impacted communities.

0.7 Environmental groups like Texas Environmental Justice Advocacy Services should be consulted throughout the planning, construction, completion, and evaluation of these projects. It is important that these projects do not carry an added environmental burden to low-income communities.

0.8 TXDot, and The City of Houston must create Oversight Committees for each segment of the project. Members of the oversight committee should be made up of community residents, labor union representatives, environmental representatives, homeless advocates, business representatives, and local elected officials for the impacted communities.

0.9 All bridges, roads, and infrastructure must be able to handle an increase in truck weight increase of 100,000 lbs since the 85th legislature has approved this measure. In addition, roadways must be able

to handle a surge in the truck, freight industry by 2020, as demand and usage at the Port of Houston will impact truck increase.

0.10 Transparency is vital and important for every step of this project. I expect updates at City Hall and for our civic associations on projects, and delays. I also expect a repository for record keeping of this project at Houston Public Library for all segments of this project, and the creation of a department to handle complaints of labor abuse, resident concerns, accidents, and incidents in and around the areas of construction.

0.11 Historical Site: Alacran Park at 512 McKee St **Houston** 77002 must be preserved. No exeption. This site cannot be torn down or relocated.

0.12 Clayton Homes Residents must be consulted with in person. Clayton Homes Residents should be given every opportunity to remain at their current residence. They must be given the opportunity for housing equal or more affordable than their current residence, at a safe and secure location before asked to vacate their properties. They must have elected representation for the decisions to relocate throughout the relocation process. I expect TXDOT to work with City of Houston, and The Houston Housing Authority to ensure that the rights of residents at Clayton Homes are not violated.

0.13 Dust particle mitigation process for all ongoing construction for this project. This can be water spraying during construction to reduce or eliminated dust particulate matter for impacted communities.

0.14 Constant Air Monitoring for impacted communities due to increase of CO2 due to lane expansions. Communities near current roadway infrastructure like I-45, I-10, 59 or 69, and 610 already face increased levels of CO2, by expanding lanes this will increase CO2 along with a surge in the trucking industry. Air monitoring is essential to ensure the quality of life for our residents, access to this data must be available to area residents online and by way of a public repository for such data. Please consult Texas Environmental Justice Advocacy Services.

Segment 1 (610 to Beltway 8)

1.1 Proposed plan has additional R.O.W. taken from the east side of I-45 south of Crosstimbers. This east side is populated by well-developed and thriving businesses, while the west side has many vacant or closed businesses. It is more desirable to utilize the additional R.O.W. from the WEST side in this section, instead of the east. Conflicts with floodway can be mitigated by retention / detention basins, channel adjustments and by building above grade.

1.2 There needs to be curb cut entrances from frontage roads so customers can gain access to businesses.

Segment 2 (I-10 to 610)

2.1 – All bridges removed and rebuilt (Cottage St., N.Main, North St.) should be rebuilt as architectural-styled bridges that have physically (concrete barrier, for example) separated, wide pathways for pedestrians and cyclists. They should have pedestrian friendly lighting. This section of I-45 passes thru some of the oldest districts of Houston and the bridges should reflect that character. They should give

our neighborhood a visual identity (similar in concept to the "red-ball" bridges over US-59 at Mandell, Dunlavy, Woodhead, Hazard). Perhaps a local Houston artist design submission that impacted communities can vote for?

2.2 – Houston Ave. must continue to be a two-way street. Otherwise, it will force additional traffic onto neighborhood streets. Keep Houston Ave two lanes southbound, two lanes northbound and then a designated barrier-separated entrance ramp (at grade level) to I-45 south. This separated entrance ramp can be merged with additional vehicles from Houston Ave north bound (similar to current). This layout completely eliminates the dangerous cross-traffic intersection that is currently in place. By eliminating a two-way street you limit the neighborhoods access to emergency assistance vehicles necessary to the safety and health of the community.

2.3 –When the N.Main Bridge is rebuilt, please design it to accommodate the increased traffic that will be directed there. Currently, eastbound traffic on N. Main waiting on the left turn light to go north, backs up into southbound feeder traffic. When engineering this bridge, consider a double turn lane left with better timed lighting. Increasing the width of this bridge may help and is possible since all main I-45 traffic lanes are depressed at this location

2.4 – The proposed connector/service road from the 180 degree curve that connects from Houston Ave northbound to North St. MUST be eliminated. This design will force passing traffic into residential neighborhoods, will destroy acres of green space/natural noise barriers and creates dangerous traffic patterns. By implementing 2.2 above, there is no purpose or need for this connector road. The construction of this road will also negatively impact school buses, METRO and create a traffic signal burden for the residents of this community to wait for the City of Houston to implement appropriate traffic controls to address incoming traffic. This connector/service road will also introduce high speed traffic in a neighborhood not use to elevated speeds in a residential community, creating the potential for a higher number of pedestrian casualties and automobile accidents.

2.5 – Retain the existing R.O.W. by adjusting the radius of the connector ramp that goes from I-45 northbound to 610 Eastbound, in the southeast quadrant of the 610 exchange. Proposed plans eliminate many recently constructed Avenue CDC affordable homes. Consider a double lane width, banking the roadway and lower ramp speeds by 3 - 5 MPH.

2.6 – From south of Patton (approximately Melwood St.) to south of North St., I-45 will be depressed below grade level. TxDOT has agreed to construct a structure that will support eventual capping of these sections. I request that TxDOT puts the cap in place at the time of construction of this project. Costs for the project will be significantly less if it is done concurrent with the road project. Traffic and congestion will not be increased significantly as compared to doing it at a later date. Also any life safety, lighting or other issues can be engineered and implemented at a much lower cost if done simultaneously rather than at a future date.

2.7 – I ask that TxDOT plant a large number of trees along the southbound feeder of I-45 along the eastern edge of Woodland Park for sound and visual insulation. TXDOT should consult with Arbor Tree Foundations for best possible outcome.

2.8 – On I-45 northbound from I-10, the proposed plan shows only ONE (1) exit at N.Main/Houston Ave. Both #50A Patton and #50B Cavalcade/Link are being eliminated. We must have an exit near Cavalcade. Perhaps providing a "fly-over" exit ramp above the proposed entry ramp to northbound I-45, taking advantage of the elevation of the Patton overpass. Considering the flooding event on I-45 on May 25, 2015 our neighborhoods cannot afford to eliminate exit ramps that serve as an escape route for cars stranded in highway flooding at I-45 and N. Main. Additionally, these exits are essential to the neighborhoods they feed into. By eliminating these exits we are faced with congested merging lanes at I-45 and N. Main causing a back traffic effect at peak drive times.

2.9 – On I-45 southbound from 610, the proposed plan has only ONE (1) exit at Quitman. We need another exit somewhere near Cavalcade. The current plan will greatly increase traffic though neighborhoods by anyone whose destination is in the northern section of Segment 2. A possible location would be an exit immediately north of Cavalcade. If this is not feasible, place a "fly-over" exit to Patton Street above the proposed entry ramp from Cavalcade to southbound I-45.

2.10 – On I-45 southbound, there is an exit for Link Road. Link Road is a 2 lane neighborhood street with only a stop sign. It is a local street not an arterial or collector street. This exit should not be at Link, it should be located closer to Cavalcade which IS designed as a major thoroughfare street.

2.11 – The current plan shows the elimination of the Quitman entrance ramp going North on I-45. Current plans also show an increased usage of Quitman as an Exit from I-45 southbound. Most drivers will expect an entrance Northbound close to an exit southbound. The only other entrance northbound is between Patton and Cavalcade. We would like the Quitman entrance northbound to remain, BUT the acceleration lane and lane merging onto I-45 N must be improved. In addition, the intersection at Quitman must be improved to accommodate the increased traffic that will be created and the additional connection to South St. maintained.

2.12 - There is a Hike and Bike Trail on Little White Oak Bayou near Quitman – any changes to this area must not negatively affect the trail.

2.13 – On 610 heading west, the proposed exit is at Fulton. Keep the Fulton exit. Consult with area residents throughout the construction for this part of the project. Lindale, and Greater Northside Management, Go Neighborhoods Near Northside.

Segment 3 (Downtown) West

3.1 – I strongly support the Pierce SkyPark concept and request that TxDOT incorporate this concept at the Pierce Elevated. In particular, I would like to be able to use existing portions of the Pierce Elevated infrastructure for a hike-and-bike connectors, green spaces and parks. This will also provide a reduction in demolition costs to the project for TxDOT.

3.2 – I want connectivity from I-45 to and from Memorial Drive. Memorial Drive is an important East-West connector and needs to have connectivity with I-45. Without Memorial connectors, west side inner-loop residents will be adding to congestion on I-10, 610 and or US-59 while accessing I-45 North or South.

3.3 – There are numerous hike-and-bike trails in this area near the bayou. It is essential that TxDOT co-ordinates with the Houston Parks Board and the Buffalo Bayou Partnership to ensure enhancement and coordination of the all trails and pathways and to ensure replacement in kind of any damages to hike/bike trails/bridges and specialized landscaping. TxDOT should have a working session to integrate future bike planning and enhancement to coordinate efforts and minimize added cost to bike plans.

3.4 – Proposed plans show US-59 and I-45 will be depressed behind the George R. Brown Convention Center (at Lamar, McKinney, Walker, Rusk, Capital, Texas, Preston, Congress, Franklin, Commerce Streets). TxDOT has agreed to construct a structure that will support eventual capping of these sections. I request that TxDOT puts the cap in place at the time of this project. Costs for the project will be significantly less if it is done concurrent with the road project. Traffic and congestion will not be increased significantly as compared to doing it later. Also any life safety, lighting or other issues can be engineered and implemented at a much lower cost at the time of the road project as opposed to doing it later. TxDOT needs to work with city entities on public private partnerships to achieve this.

3.5 - Revise plans to avoid added ROW at two areas in First Ward at Spring Street & Holly Street and Statesmen Park located at Edwards and Bingham. There is existing ROW on the east to avoid this issue.

3.6 - TxDOT should be meeting and incorporating the possibility of both High Speed Rail (Texas Central Railway) and Commuter Rail (Gulf Coast Rail District) into downtown from the I-10 west corridor. Although the projects may not be timed with TX Dot construction, residents want all entities working together on transportation to keep high speed transportation in one corridor and not routed through residential neighborhoods. Particularly the I-10 45 interchange and south bound corridor into downtown part of this plan. It is impossible to continually widen freeway lanes and, at some point, commuter rail will be needed.

3.7 - Maintain current speed limits on Houston Avenue in residential areas. Consider coordination of green esplanades to maintain traffic control of speeds in residential area of First Ward.

3.8 - Drainage and flooding - TxDOT should be meeting with Harris County Flood Control to understand the anticipated future issues with flooding given the growth rate on the west side of the expansion. Detention requirements should be based on projections of the actual project life span and not the time that the project is being designed.

Segment 3- East

3.9 - Provide sufficient ingress and egress for high volumes of traffic entering public facilities including the GRB, Minute Maid Park, Discovery Green Park and adjacent courts area. Proposed plans do not appear to be adequate for the number of large trucks or thousand's in attendance. Proposed plans do not reflect the increase in truck weight limits to 100,000 lbs. Ensure that any new construction to roadways, bridges, on and off ramps are equipped to handle the increase in truck weight over for short, and long periods of time due to traffic, congestion, and an increase in rail to road commerce by 2020.

3.10 - TxDOT should coordinate with a Downtown oversight committee made up of community residents, business representatives, homeless advocates, affordable housing representatives, and environmental groups to determine which streets and feeds from the freeway work in this area. This committee should be consulted with to address issues on both sides of the expansion near the GRB. The members of this committee must be made public, and should be accessible for community at large.

3.11 - Work with Greater North Side oversight committee made up of community residents, university representatives, business representatives, homeless advocates, affordable housing representatives, and environmental groups and leaders from that area to review the connectivity and freeway access on the segment near the University of Houston at the alignment with I-10. Consider equitable land trading where University of Houston is losing large areas of future growth. Tx DOT is abandoning adjacent areas that could be future growth for U of H. The members of this committee must be made public, and should be accessible for community at large.

3.12 - I suggested to extend the freeway depression further to Holman Street and entertain cap park connection where U of H and Texas Southern connect into midtown. These areas are campus areas and being able to move people over the freeway via bike and pedestrian is important.

3.13 - TxDOT needs to coordinate with City of Houston Planning Department to provide easy access to all freeway expansion projects. Citizens should have easy access to projected freeway expansion plans that are easily understood. Plans should also be made available in Spanish. 20% of our public is Spanish Speaking in Harris County.

3.14 - Review and coordinate with the Hardy Toll Road extension to provide access into downtown. It is detrimental that any future construction with Hardy Toll Road extension also incorporate input from North and South Cavalcade Superfund site leadership in conjunction with EPA, TCEQ and Texas Environmental Justice Advocacy Services to review and evaluate construction around and near hazardous zones. Contact and involvement with N. and S. Cavalcade Superfund leadership has not been done with residents in the area. Any and all minutes from meetings should be made available for the leadership ASAP. Contact www.Tejasbarrios.org to speak to a representative in that area.

3.15 - There needs to be access lanes to the freeway where Scott Street has been removed.

3.16 - Review the convention center cap park to cap during construction similar to comments made in segment 2. I request that TxDOT puts the cap in place from Lamar St. to Commerce, as shown on proposed plans, at the time of construction of this project. Costs for the project will be significantly less if it is done concurrent with the road project. Traffic and congestion will not be increased significantly as

compared to doing it later. Also any life safety, lighting or other issues can be engineered and implemented at a much lower cost at the time of the road project as opposed to doing it later. TxDOT needs to work with city entities on public private partnerships to achieve this.

3.17 - Coordinate with Metro Light Rail and allow connectivity over bridges that are being planned in the future. Special planning is required in the vicinity of the convention center rail line and the Burnett station.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Public Comment Regarding the North Houston Highway Improvement Project: Project Number: 0912-00-146
Date: Friday, July 28, 2017 3:14:50 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:54 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Public Comment Regarding the North Houston Highway Improvement Project: Project Number: 0912-00-146

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:22:48 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: Public Comment Regarding the North Houston Highway Improvement Project: Project Number: 0912-00-146**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> **From:** Katrina Bayer [redacted]
> **Sent:** Thursday, July 27, 2017 4:47 PM
> **To:** HOU-PIOWebMail
> **Subject:** Public Comment Regarding the North Houston Highway Improvement Project: Project Number: 0912-00-146
>
> To Whom It May Concern:
>
> I am a homeowner in the Fourth Ward; I typically walk or take transit to my job (located in Downtown).

Considering the expense and unsightly nature of noise barriers (aka noise walls), the Fourth Ward and surrounding neighborhoods respectfully request that TxDOT evaluate the feasibility of incorporating sound attenuating devices into the roadway, as noise abatement measures, particularly for the Downtown Connector. Such devices might include using longitudinal cuts in the pavement and/or other next-generation roadway surfaces.

Can the Direct Connector on the west side of Segment 3 be envisioned to incorporate the following?

- A bike/pedestrian connection to the Fourth Ward along Andrews street
- A bike/pedestrian connection between Midtown and the bayou along the Heiner St.

The residents of Fourth Ward urge TxDOT to provide strong bike/pedestrian connections between Fourth Ward, Downtown, Midtown, and the bayous.

As presently configured, the West Dallas Bridge over IH-45 is one of the most pleasant highway pedestrian interfaces in the entire city, serving as a critical connection between the Fourth Ward and Downtown. Unless great care is taken in the design of the proposed West Dallas connection under the Downtown Connector, the Fourth Ward may lose pedestrian access to Downtown. Please explore opportunities to make the newly at grade W. Dallas connection feel comfortable, safe, and inviting, where it travels under the Downtown Connector.

Can TxDOT explore opportunities to make the newly at grade W. Dallas connection feel comfortable, safe, and inviting, where it travels under the Downtown Connector?

Sincerely,
Katrina Bayer

Per Texas Transportation Code, §201.811(a)(5):
I am not an employee of TxDOT
I do not do business with TxDOT
I will not benefit monetarily from the project or item about which I am commenting.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: BikeHouston North Freeway Reconstruction Project Comments
Date: Friday, July 28, 2017 7:55:25 AM
[redacted]

Patty,
Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, July 27, 2017 3:52 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: BikeHouston North Freeway Reconstruction Project Comments

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 27, 2017 at 2:37:21 PM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: BikeHouston North Freeway Reconstruction Project Comments**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
Watch us @www.youtube.com/txdotpio

> **From:** Jessica Wiggins [redacted]
> **Sent:** Thursday, July 27, 2017 2:32 PM
> **To:** HOU-PIOWebMail
> **Subject:** BikeHouston North Freeway Reconstruction Project Comments
>
> To whom it may concern:
>
> Attached are BikeHouston's official comments on the North Freeway Reconstruction Project. Please notify me if the PDF does not open. Additionally, if there are any questions regarding our comments please reach out to me directly.
>
> Respectfully,

Jessica Wiggins
Advocacy Director
BikeHouston

[redacted]

[redacted]

BIKEHOUSTON™

BOARD OF DIRECTORS

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Ivan Fuentes
Communications Manager

July 27, 2017

Quincy Allen, P.E.

Texas Department of Transportation, Houston District
P.O. Box 1386
Houston, Texas 77251

Dear Mr. Allen:

We write to you today representing over 1.5 million people that own a bicycle in the City of Houston. BikeHouston is a non-profit bicycle advocacy organization committed to creating safe bikeways to improve the quality of life for all Houstonians. As an organization, we sit on the H-GAC pedestrian subcommittee and co-chair the Houston Coalition for Complete Streets.

Our advocacy efforts to pass the recently adopted Bike Plan captured a powerful bicycling movement in our city—one that represents the old and the young, the rich and the poor, the adventurous and the cautious. All eyes are on connectivity in the city of Houston. We are hopeful this project will be a catalyst for neighborhood connectivity and set the example of community engagement for competing cities.

Listed below are BikeHouston's top concerns for bicyclists as they relate to design and connectivity of the North Houston Highway Improvement Project.

Design

Of the bicycle features proposed, a clear design criterion with the safety of bicyclists in mind is not apparent. The City of Houston has committed to building only high comfort bicycle lanes and facilities through the recently adopted Bike Plan. **A high comfort bicycle lane minimizes people's interaction with high volume, high speed traffic, and requires more separation and protection as these traffic characteristics increase**. In conjunction with proper design, high comfort bicycle facilities also include, but are not limited to, way-finding signage and shade.

Design standards for bicyclists and pedestrians need to be set to reflect the Houston Bike Plan's high comfort commitment. Below are categorized

recommendations on how to meet the City of Houston's high comfort level bicycle design standards.

Frontage Roads:

The proposed bicycle lanes along the outside of the frontage roads do not provide adequate protection for cyclists and create more opportunity for bicycle/motorist collisions and fatalities. Thus, **it is recommended to incorporate a mixed-use side path of at least 10 feet wide with a buffer of at least four feet.** This buffer should be landscaped with trees to provide shading and act as a visual and sound barrier for residents.

Intersections:

An intersection is the most likely place for a vehicle-bicycle collision. The level of treatment required for bicyclists at an intersection is dependent upon the adjacent bicycle facility, speed, and land use.

There are two main design strategies to make intersections safer for all road users:

1. **Incorporate a protected Dutch Junction**- This design is best used where bicycle lanes on connecting streets, such as frontage roads, are planned for construction. This design includes small islands as buffers from right-turning motorists. Green paint is then used to direct the cyclist from one protected lane to the next in a circular fashion moving counter-clockwise. College Station, TX has already completed a similar design and the protected intersection in the Energy Corridor in Houston is being implemented currently. Please use these as acceptable examples.

2. **Protected Intersections with Specialized Signals**- This design, outlined by NACTO, has five elements: pavement markings, color, signage, medians, and signal detection.

a. Pavement Markings and Color- The use of green paint to signify the bicycle lane makes the path of the cyclists clear and predictable for motorists while also signifying potential areas of conflict. Pavement markings may also be used as an alternative to directional signs.

b. Signage- Clear signage indicating to motorists there are cyclists on the road increase awareness of

multimodal transportation uses and safety. Way-finding signage for bicyclists is just as important as it is for motorists. Please include signs that indicate to cyclists' upcoming streets and destinations. Preferred awareness signs include "Yield To Bikes" and "May Use Full Lane."

c. Medians- these are refuge islands in the center of the street to facilitate bicycle and pedestrian crossings. **Please use medians or mid-blocks where crossings are complex and more than 4 lanes.**

d. Signals- To manage some of the traffic between bikes and vehicles, please **consider including bicycle specific signals in intersections crossing any major road or highway.** The City of Houston has implemented a bicycle specific traffic signal along Lamar Street downtown. The signal allows cyclists to begin pedaling forward a few seconds ahead of vehicular traffic to increase visibility and further separate the bicyclists from the motorists. Please refer to Austin, TX implementation of bike signals for guidance.

Sweeping Right Turns:

Sweeping right turns, not limited to Sabine Street and the IH-69 exit to Main Street, need to be avoided. This design makes it difficult for both the motorist and the cyclist to anticipate a potential collision.

Connectivity

This project should enhance the connectivity between neighborhoods through not only vehicular traffic but through bicycle, pedestrian, and transit connections. **The U.S. Census Bureau shows the largest share of people who bike, in large car dependent cities like Houston, are in lower-income brackets**. Given the immediate surrounding neighborhoods and the location of our bayou greenways, bicycle connectivity is of paramount concern. Below are comments specific to the three proposed segments.

Segment 3

At the proposed box/beam structure behind the GRB, connectivity is diminished between downtown and southeast Houston on Rusk, Capital, Leeland, Commerce Street, and Polk Street is entirely removed. **Southeast Houston is a historically under resourced area, and an area that relies on their bikes to safely travel throughout the city.** Crossings at these points need to be designed delicately to a high comfort level complete with physical barriers, pavement markings, signage, and a continuation of the Bike Plan's programmed projects to build these streets out as dedicated on-street bicycle lanes. Please consider sustaining these important connections, especially the Polk Street connection, as it connects to the Harrisburg and Columbia Tap trails.

The Box/Beam Cap:

The purpose of the Box/Beam Cap's throughout the project is unclear. If indeed the purpose is to mitigate the loss of usable green space, the segments of streets that are united by caps need to be continuous. Specifically, the caps from Main Street to San Jacinto should be united.

Segment 2

This bayou section is an important piece of the expanding high comfort bicycle network that provides connectivity from outside the N Loop 610, under I-45 away from traffic, and into downtown making further east and west connections through Buffalo Bayou. Acknowledgement of this bayou as a pleasing and necessary connector for bicyclists, pedestrians, and naturalists is unaddressed in this design. **Full access to Little White Oak Bayou needs to be maintained and carefully designed with high comfort bicycle and pedestrian crossings.** Similar to the Eastward plans, surrounding neighborhoods are historically under-served and connections via bicycle and on foot are measurably significant.

Segment 1

Connections on Crosstimbers, Victoria/Lyerly, Tidwell Rd., Cortlandt/E Witcher, Rosamond, W Parker Road, Rittenhouse, and others need to be designed with high comfort intersection design for bicyclists and pedestrians. This is a vital connection for the Independence Heights, Garden Oaks, Oak Forest and Acres Homes areas to safely reach both Little White Oak Bayou and the Red Line into downtown.

Thank you for taking the time to consider our comments. We, like TxDOT, want this project to be successful and want to work as partners to construct a roadway

system that works for all Houstonians. If you have any questions or comments, please contact our Executive Director John Long at jlong@bikehouston.org or our Advocacy Director Jessica Wiggins at jwiggins@bikehouston.org. We would be happy to assist in any way possible to make this project a win for Houston.

Respectfully,

BikeHouston
[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:08:40 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:43 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:19:56 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 5:51 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Dora Campa de Hoyos [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Interstate 45 already serves as an obstruction and obstacle to many in our community. It is both a visual and physical barrier. It is an unfortunate truth that highway projects of this scale often harm the communities they pass through, especially low income neighborhoods such as ours. We the Melrose Civic Club support Northline Leadership Team.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:00:15 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:42 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:19:46 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 5:57 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Dora Campa de Hoyos [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: The intersection at I-610 and Fulton is currently a traffic problem with East and West bound traffic lights on the 610 frontage road having wait times of over 10 minutes due to the METRO rail crossing. The connection of the frontage roads at the 610 & 45 interchange will only exasperate traffic issues at this intersection.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 2:59:29 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:42 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:19:32 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 6:00 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Dora Campa de Hoyos [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: 1-45 Comment
Norhtline residents are opposed to any kind of street connection of Helmers North and South of 610.
Helmers is a residential street with a elementary school just North of the freeway. Connecting this street under the freeway would create unsafe traffic volumes for the neighborhood.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 2:58:52 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:41 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:19:25 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 6:02 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Dora Campa de Hoyos [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I45 Expansion Comment

Connections on Crosstimbers, Victoria/Lyerly, Tidwell Rd., Cortlandt/E Witcher, Rosamond, W Parker Road, Rittenhouse, etc need to be designed with high comfort intersections for bicyclists and pedestrians.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 1:24:38 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 11:30 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:18:51 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 10:40 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Glenn Clark[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Constructability improvement: Route new IH45 parallel to IH69 to IH610 north, then across IH610 north ROW to existing IH45 alignment. Downtown connector and IH45 MAX lanes still use IH45 alignment to go downtown. Much easier to construct, less traffic flow/economic impact during const., cheap ROW available, improves 5th ward. Email for details.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 1:23:55 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 11:29 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:18:45 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 10:52 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Glenn Clark[redacted]
>
> [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Downtown traffic flow--east side: Downtown traffic flow on east side needs help. Look at big picture flow during detail design. Partner w/ COH on larger study. Direct connect TX/Harrisburg. Improve Metrorail at feeders. Traffic circle for Franklin/Congress @ N&S feeders. Improve 2-way to 1-way transitions. Bike trail connections. Email for details.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 1:21:19 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 11:27 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:18:23 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 11:01 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Glenn Clark[redacted]
>
> [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Buy ROW for rail: This plan spends Billions and requires hundreds of demolitions. Add 30ft to the ROW to allow for future rail or BRT transit. This can be accomplished along 80% of ROW for minimal additional cost--structures will be razed, what's another 30ft to allow future rail? Lay the foundation for real transit in HTx. Email for details.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 1:16:26 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 11:21 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:18:14 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 11:11 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Glenn Clark[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Midtown suggestions: Like buried plan fwy thru Midtown & ROW is expensive there, but planned ROW limits creates difficult const. logistics. Buy addt'l ROW, then use ROW to continue MAX lanes (or rail) through midtown. Build bus drop under moved Metrorail Wheeler Sta. Also partner w/ COH to remove gridlock at Wheeler/Richmond/Main. Email for details

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 7:54:13 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, July 27, 2017 3:47 PM
To: Christine Bergren; Kelly Lark
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 27, 2017 at 2:22:24 PM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 11:18 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. John Curtis[redacted]
>
> [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I-45 comments
1)Whether rail or BRT, there has to be room for faster and more frequent 2-way commuter options.
2)The freight rail coming into the DT area from Wash. Ave. corridor should be rerouted to be only 1 line.
3)The exit on West side of DT should stop at Allen parkway. Make a green parkway for the extension further into DT(addtl drainage).

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TXDOT Letter.pdf
Date: Friday, July 28, 2017 3:11:27 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:50 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TXDOT Letter.pdf

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:23:36 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TXDOT Letter.pdf**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
Watch us @www.youtube.com/txdotpio

> **From:** Debose Tanya [redacted]
> **Sent:** Thursday, July 27, 2017 4:43 PM
> **To:** HOU-PIOWebMail
> **Subject:** TXDOT Letter.pdf
>
> Greetings,
>
> Please find attached our comments regarding the TXDOT improvement impact on our community.
>
> We look forward to working with you.

Independence Heights Redevelopment Council, Inc.
[redacted]

July 17, 2017

Director of Project Development
Texas Department of Transportation - Houston District
P.O. Box 1386
Houston, TX 77251-1386

To Whom it May Concern,

The Independence Heights Redevelopment Council (IHRC) is a non-profit organization whose mission is focused on building the wealth and enhancing the spiritual, physical, economic and social well-being of Independence Heights through a community driven process that promotes historical preservation and neighborhood revitalization. We are submitting public comments on the North Houston Highway Improvement Project. As a stakeholder in the Independence Heights community, we have serious concerns about why our community was not engaged in the planning process for this project and the effects this project will have on the growth and aesthetics of our community.

An Environmental Justice Issue

TxDOT identified our neighborhood in their Community Impact Assessment for the Draft Environmental Impact Statement (DEIS) for the North Houston Highway Improvement Project, as a low income, high minority area, however TxDOT failed to adhere to federal guidelines pertaining to Environmental Justice (EJ) with our community. The Federal Highway Administration (FHWA) describes Environmental Justice (EJ) as "identifying and addressing disproportionately high and adverse effects of the agency's programs, policies, and activities on minority populations and low-income populations to achieve an equitable distribution of benefits and burdens".[i] The FHWA's website goes on to say that one of the fundamental principles of EJ is "to ensure the full and fair participation by ***all*** potentially affected communities in the transportation decision-making process".[ii] Knowing this project would have repercussions on our community, TxDOT did little to engage Independence Heights to be a part of the decision-making for our affected area.

Some Background on Our Community

Independence Heights is a predominately African American community with a rich and historic cultural background. Our neighborhood was settled after the Civil War like many African American communities during this time. These settlements were known as freedom colonies, and some even incorporated as independent municipalities. Many of these places have gone unnoticed and the few that are left, like

Independence Heights, are desperately trying to survive. Across America, people are working to preserve these places and reclaim their heritage by revitalizing them into inclusive communities and cultural destinations. Many of these communities are listed on the National Register of Historic Places because they are part of the true authentic American story that is rarely told. Independence Heights in particular is known as the first city incorporated by African Americans in the State of Texas. It is listed on the National Register of Historic Places and the local residents have created a vision for our community that includes preserving it as a cultural destination.

The TXDOT plan is a threat to Independence Heights and communities alike. If we are going to protect the true cultural and historical assets of our communities, entities like TXDOT must find ways to work in tandem with us rather than make plans about our community without us being at the table. Current plans to expand this freeway would dissolve some of our most historic assets including a 130 year old church that was recently rebuilt by the pastor himself after Hurricane Ike destroyed it. If our community is historically important to the fabric of the United States as noted by being listed on the National Register of Historic Places, it is our hope that state agencies, like TxDOT, would operate with respect to that community and not expedite deterioration by expanding freeways through them.

An Affected Area Yet No Outreach Done

Independence Heights has approximately 14,000 residents living in this neighborhood, and our community works hard to ensure our area is well represented and has a voice in issues that significantly affect us. In looking at the DEIS, in particular the Community Impact Assessment, we are surprised to see the communities that were designated as low income and high minority, like Independence Heights, had only one meeting with TxDOT regarding this project. These communities will be heavily affected by this endeavor, yet in the three year planning process for this venture, it appears many of these low income and high minority areas were only talked to once. In comparison, Houston Downtown Management District, Houston's largest management district whose focus is improving the quality of life downtown with a budget of over $2,000,000, 000 a year[iii], had the most interaction with TxDOT. They had 27 meetings about how this project will affect them. Our community's quality of life is just as important as the businesses and residents represented by Houston Downtown Management District. We are frustrated that TxDOT's priority in their communication about this project were with groups who had the most resources and wealth.

The Effects of This Project on Our Community

Federal guidelines to address EJ were established so communities like ours could be involved in every stage of the planning process.[iv] We believe our community has not been adequately engaged in this project. We have major concerns about the 100 or more families, and businesses, that will be taken due to the construction of this freeway. This will affect our community financially, historically, culturally, and environmentally. Furthermore, to us, the plans are not just a physical attack on our community's revitalization, but also a psychological one, as these proposed ideas put additional stress on the seniors and generations who have called our community home for so long. Studies show that when people experience forced displacement, this type of trauma causes health issues and mental disorders that put an added strain on already limited medical resources[v].

This freeway expansion will further exacerbate financial resources for our residents. As housing prices continue to climb in communities around the downtown Houston area, like ours, any money offered for families to relocate will not allow these displaced residents to repurchase a home within the Houston city limits let alone Independence Heights. To date, there is no housing replacement plan for Independence Heights residents being discussed. To add fuel to this fire, Independence Heights is already experiencing displacement as the area just west of I45 between Tidwell and Airline is poised to lose 163 homes due to a volunteer flood buyout. In addition, we are especially concerned about the impact of future flooding in our community. We understand that you have included proposed detention ponds along the I45 corridor in segment 1. However, we are seeking assurance that this expansion will not add any additional impact causing flooding in our neighborhood.

TxDOT's Responsibility to Affected Communities

With all of these issues, we question the due diligence of TXDOT to meet and communicate with affected communities to discuss the negative effects these proposed changes to I45 will definitely create. In an article called, "The Role of Highways in American Poverty," published by *The Atlantic* in March of 2016, writer Alana Semuels talks about how, in some cities, freeways are being torn down to help urban renaissance.[vi] She goes on to say, "These cities have tried to tear down barriers that prevent all of their residents from reaching their full opportunity. Sometimes those barriers are highways. Sometimes they're something else entirely. Tearing down a highway isn't the only way to make a city healthy again. But building a new one—or expanding an existing one—seems a surefire way to make a city sick."[vii] TxDOT must look at how their transportation plans are making "cities sick". Plans like the North Houston Highway Improvement Project thwart the efforts of so many communities, especially communities of color, from reaching their full potential as vibrant and thriving areas.

Our Request

We request that TxDOT adhere to the federal guidelines of EJ and do a better job of addressing and engaging the minority and low-income populations who will be severely affected by this massive transportation undertaking. Before this project comes to our community, we insist that TxDOT representatives talk to and listen to the concerns we have about this project. As with many of your projects, we believe there are opportunities for this project to have a positive effect on our residents. We encourage you to peruse our community plans to gain a better understanding of what stakeholders desire for the community. It is our hope that you will identify items that will benefit the community and compliment the on-going efforts already in action. A few of our plans can be found online by searching, Independence Heights-Northline Livable Centers Study. In addition, we also have the Independence Heights Quality of Life Plan.

In conclusion, we believe our neighborhood is just as important as any other area in Houston. We deserve the opportunity to discuss in detail the impact of this expansion on our community. We look forward to hearing from you.

Sincerely,

Tanya Debose, Director

Independence Heights Redevelopment Council

[i] U.S. Department of Transportation. Federal Highway Administration. (2017). *Environmental Justice.* Retrieved from www.fhwa.dot.gov/environment/environmental_justice

[ii] U.S. Department of Transportation. Federal Highway Administration. (2017). *Environmental Justice - Frequently Asked Questions.* Retrieved from www.fhwa.dot.gov/environment/enviornmental_justice/faq

[iii] Downtown District, 2017

[iv]U.S. Department of Transportation. Federal Highway Administration. (2017). *Environmental Justice - Frequently Asked Questions.* Retrieved from www.fhwa.dot.gov/environment/enviornmental_justice/faq

[v] U.S. Department of Health and Human Services. (1999). *Mental Health: Culture, Race, and Ethnicity: A Supplement to Mental Health: A Report of the Surgeon General.* Rockville (MD).

[vi] Semuels, A. (2016) The Role of Highways in American Poverty. The Atlantic*, Retrieved July 19, 2017, from* https://www.theatlantic.com/business/archive/2016/03/role-of-highways-in-american-poverty/474282.

[vii] Semuels, A. (2016) The Role of Highways in American Poverty. The Atlantic*, Retrieved July 19, 2017, from* https://www.theatlantic.com/business/archive/2016/03/role-of-highways-in-american-poverty/474282.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 2:55:08 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:29 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:18:57 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 10:33 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Jonathan Everhart [redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: The TxDOT I-45 project needs to incorporate multi-modal high capacity transit, including elevated rail, for the City of Houston. As a Houston resident and head of an international company headquartered here, I see the City's growth and infrastructure necessitates a multi-level approach to improve the gaps in the current overall transit system.

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Public Comment - North Houston Highway Improvement Project
Date: Friday, July 28, 2017 1:13:50 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 11:21 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Public Comment - North Houston Highway Improvement Project

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:17:52 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: Public Comment - North Houston Highway Improvement Project**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
Watch us @www.youtube.com/txdotpio

From: Jessica Farrar [redacted]
Sent: Thursday, July 27, 2017 11:39 PM
To: HOU-PIOWebMail
Subject: Public Comment - North Houston Highway Improvement Project

To Whom it May Concern:

Please accept the attached letter for public comment in reference to the North Houston Highway Improvement Project. My office can be reached at (713) 691-6912 if you have any questions.

HOUSE OF REPRESENTATIVES

[redacted]

JESSICA FARRAR
DISTRICT 148

COMMITTEES:
JUDICIARY AND CIVIL JURISPRUDENCE
VICE-CHAIR

STATE AFFAIRS

[redacted]

July 27, 2017

Director of Project Development
Texas Department of Transportation
P.O. Box 1386
Houston, TX 77251

To Whom It May Concern:

Thank you for the opportunity to submit public comment on the proposed recommended improvements for the Texas Department of Transportation's (TxDOT) North Houston Highway Improvement Project.

I appreciate TxDOT's willingness to accept invitations to civic meetings in neighborhoods who are directly impacted by this project. This proactive approach is an important step towards building an inclusive relationship with the neighborhoods, municipalities, and government entities the project will impact. However, there is much work to be done.

Historically, the IH-45 North Freeway serves as a detention pond for excess rainfall from the Little White Oak Bayou and adjacent neighborhoods. Please consider and address how the proposed expansion project will include flood mitigation techniques to prevent future flooding in residential areas surrounding the freeway to Buffalo Bayou both during the construction phases and completion of the project.

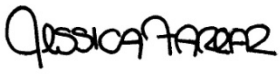
Current historical neighborhoods, both in the Heights and the Northside, have grown accustomed to the existing footprint of the freeway's entrances and exits. In Segment 2, my office continues to receive the most feedback regarding the on and off ramps (along IH-10, IH-45, and IH-610) the potential impact of noise in residential areas, and the need for notification. Residents and commuters need easier access in and out of their communities without feeling isolated because of the distance between entrances and exits. The neighborhood does not want to bear the brunt of the future freeway construction projects and not have the ability to utilize them. Accessible routes into downtown and the Texas Medical Center are critical for those who are employed in the area or are in need of services. A creative way to connect communities along IH-45 is the foundation for a deck park between Cottage and N. Main. The proposed park connects the

Northside community to the Woodland Heights via shared public green space. Additionally, please consider both providing solutions to address noise mitigation for residential areas throughout Segments 1-3, such as sound walls and methods to reduce asphalt pavement noise. Lastly, I also continue to hear concerns from constituents of their desire to receive notifications from TxDOT on the proposed project, especially those who will experience a direct impact as a business owner or resident.

Moreover, the expansion of IH-45 is an opportunity to lay the groundwork for future mass transit projects, including high-speed rail. Dedicated lanes for high speed rail and high occupancy vehicles provide alternatives to private vehicles and relieve congestion on the freeway. The implementation of both pedestrian and bike friendly connectors to access adjacent historical neighborhoods will also complement existing hike and bike trails and mass transit options, such as METRO buses and the nearby METRORail.

As always, my office looks forward to continue working with TxDOT to bring together stakeholders from the community, city, and county to discuss the North Houston Highway Improvement Project. Your willingness to continue this relationship with my office and the stakeholders during the interim is appreciated.

Respectfully,



Jessica Farrar
State Representative, District 148

JF/ac

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:16:55 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:57 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:23:42 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 4:14 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Steven Gibson[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: As the property owner of Silver Street Studios and partner in Sawyer Yards Creative Campus, I support the re-routing the freight train lines North of downtown in conjunction with the TXDoT rebuild plan. This potential project alignment is the best opportunity to fix a major transit, safety, noise and infrastructure issue here. https://goo.gl/tKK2Vj

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: NHHIP DEIS - Comments of Citizens Transportation Coalition
Date: Friday, July 28, 2017 8:37:53 AM
[redacted]

Patty,
Comment...
[redacted]
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, July 27, 2017 8:34 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: NHHIP DEIS - Comments of Citizens Transportation Coalition

Sent from my iPad

Begin forwarded message:

> **From:** "Carol Caul" [redacted]
> **To:** "HOU-PIOWebMail" <HOU-PIOWebMail@txdot.gov>, "Pat Henry" <Pat.Henry@txdot.gov>, "Kelly Lark" <Kelly.Lark@txdot.gov>
> **Subject: NHHIP DEIS - Comments of Citizens Transportation Coalition**
>
> Mr. Henry and Ms. Lark:
>
> CTC submits its comments to the NHHIP DEIS. We ask that you and staff as well as the designers and consultants prepare a RDEIS for the reasons we state herein.
>
> CTC's position is there are a number of unaddressed impacts the worst being the long-term construction impacts on our vulnerable downtown (not the finished product; normally we do not fret about construction impacts but this may have dire consequences for our fragile downtown). The city must coordinate with you re this issue. Next is flooding and drainage, then others.
>
> We also assert that the RDEIS route, rather than the FEIS route, is necessary.
>
> We look forward to working with you further on this project.
>
> --
> Carol Caul
> Advocacy Chair & Board Member
> Citizens' Transportation Coalition
> [redacted]

[redacted]

Citizens' Transportation Coalition

[redacted]

July 27, 2017

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386

Attn: Mr. Pat Henry and Ms. Kelly Lark
Pat.Henry@txdot.gov; kelly.lark@txdot.gov
HOU-PIOWebmail@txdot.gov

Dear Mr. Henry and Ms. Lark:

North Houston Highway Improvement Project (NHHIP) Draft Environmental Impact Statement (DEIS) Comments of Citizens Transportation Coalition (CTC)

Intro

Citizens Transportation Coalition (CTC) is a Houston-based, 501(c)(3) all-volunteer, nonprofit multi-modal transportation organization founded in 2004, which advocates for most the effective transportation infrastructure, expenditures, processes, and solutions that improve access to mobility and quality of life for all.

CTC discusses below its concerns with the present design and the Proposed Recommended Alternatives (PRA) for the NHHIP and impacts and mitigation not covered by the DEIS.

Our organization submitted extensive written comments for prior scoping meetings for this project commencing in 2011, and, prior thereto, CTC participated actively in the 2003-2005 previous plans to reconstruct what is essentially described in the NHHIP DEIS as Segments 1 and 2.

The scoping meetings in 2011 and 2012 introduced the concept and possible option of tunneling and reconstruction of the Downtown Loop as a one way circulator. It was not until the 4th Scoping meetings, held in April 2015, that the public was introduced to the Segment 3 proposal of a highly complex reconstruction of ALL the downtown interchanges. Given the information provided in the DEIS, CTC's general assessment is that the NHHIP DEIS is in not acceptable for environmental clearance.

Summary of Comments

An extensive and content rich RDEIS is required. Many foreseeable and significant impacts are not treated in the DEIS, and TxDOT has presented no serious mitigation plans.

This DEIS cannot proceed directly to an FEIS as TxDOT intends it may do, and particularly not with a simultaneous TxDOT Record of Decision without 3rd party oversight.

CTC foresees downtown construction impacts as the greatest NHHIP impact, and there is no documentation regarding construction impacts.

CTC cannot support the NHHIP Project without further written analysis, supplementation of the Constructability document, public input and input from elected officials addressing the long term construction impacts of Segment 3, its impact on the downtown viability, and the operability of the finished interchange segments.

Long-term construction impacts, direct and indirect, on the resilience and viability of our downtown are foreseeable and must be numerically documented as to reductions in ingress and egress speeds and impacts on businesses and residents after holding extensive meetings regarding these issues. TxDOT did a Constructability document that should be incorporated into an RDEIS, and the foreseeable impacts occurring during construction (including mobility and business and job impacts) should be addressed in a Second Document.

Elected officials and the public need to know just how long the construction will take, and more importantly, just how long they will have to endure congestion to get downtown. Pass through vehicle operators have the option of using I-610, Beltway 8, and the Grand Parkway, all of which were constructed in part as bypasses, but downtown business drivers, residents, and employees do not.

Achievement of the project goals will be many years out, if ever. By then technology changes in mobility, not mentioned in this DEIS, may overtake the concrete design.

Interchange Reconstruction: Capacity Utilization, Avoiding Built In Bottlenecks, And Meeting Performance Metrics

CTC agrees with HNTB's description of the entire NHHIP project as one large interchange at least for the Segment 3 interchanges and the I-610 /I-45 interchange.

CTC almost always supports improving road mobility and safety by reconstructing interchanges first, rather than last. The interchanges need to be planned first through iterations or directly. Generally, completed interchange designs lack capacity to keep traffic from moving at the project design speeds, thereby generating bottlenecks that are misconstrued as congestion, and falsely creating a perceived spiraling need for yet greater capacity or road miles on the pancake portions of the road.

Further, **if roads are going to be built, it is the interchange that should be overbuilt if anything**. The interchange should be built with enough capacity to avoid creating automatic bottlenecks due to speed reductions. This is not the sequence that has been followed in most cases.

It appears to CTC that measurable amounts of land will be added to the I-69 and I-10 interchanges and design of the other interchanges will rely on stacking to improve capacity. The addition to the Constructability Memo, suggested below, is intended to elicit discussion regarding which Segment 3 interchanges will improve performance and how.

The City of Houston must become involved with mitigation for this project: (a) first, the city needs to coordinate with TxDOT to determine temporary routes stakeholders can take to get to downtown during Segment 3 construction; and (b) second, the city must take an active role to protect city parklands from project impacts.

Downtown construction will necessitate active coordination with city officials to plan local routes for persons to take who work downtown.

TxDOT should encourage the city to make plans for traffic during construction. A plan should be developed for access to downtown using major streets and optimized signalization. CTC does not see any coordination in the DEIS and such efforts should be made available to the public for comment.

Flooding and drainage issues are probably the second greatest impact of this project. TxDOT acknowledges the presence of these impacts. These issues can and must be mitigated. Written financial mitigation commitments, particularly for flooding and drainage to achieve safety and evacuation goals, are needed for all 3 segments.

Manmade flooding is an ongoing problem for the I-45 corridor, and it will be exacerbated by the reconstruction and its huge amounts of additional impervious surfaces and elevation buildup causing storm water runoff to at grade feeder lanes and adjacent stakeholders. The Segment 3

depressed areas require particular analysis and provision for funding and equipment to achieve normal mobility, and the safety, emergency preparedness, and evacuation goals of the project and of FAST.

Other readily foreseeable impacts are discussed below.

Specific Comments and Recommendations Regarding The DEIS

CTC particularly asks for full disclosure of the construction operations timeline, mobility impacts, and financial, business, and residential impacts of the Segment 3 Downtown Loop stakeholders.

The highly complex Segment 3 is slated to be constructed first. FAST Performance Metrics must show that the Segment 3 impacts far outweigh its benefits once it is built as designed years from now.

Based on our observations of other interchange reconstructions, downtown may be gripped by construction induced gridlock for at least 7 years. The TxDOT/HNTB's very helpful Constructability Technical Memo, which became available after the DEIS, indicates that come of the downtown interchange structures will not be let or commenced until 2026 if CTC reads the memo correctly. This document is very elegant and informative in terms of explaining whether all the Segment 3 interchanges can be reconstructed at all and what is the optimum sequencing of the construction of the various pieces of each of the interchanges. The Constructability document, with modifications as necessary, should be incorporated by reference to the RDEIS.

But the Constructability Memo fails to address a major concern of CTC: the multi-year and crushing construction congestion.

CTC is especially concerned about the possibility of very great and negative impacts on the viability of downtown businesses and mobility during construction due to the multi-year reconstruction of the Segment 3 interchanges.

Based on our observations regarding other interchange construction projects, CTC thinks the Segment 3 Downtown Loop, as planned, will cause many years of choking congestion to our already vulnerable downtown. TxDOT must explain in meetings with both the public and elected officials and in written studies, the extent and duration of downtown access and egress

congestion. It must include an avoidance or mitigation plan for business losses, the need to relocate businesses out of the downtown area, and related job losses.

City officials must get involved in planning alternate local routes so drivers can get into the city and to offset the economic harm the city will in all likelihood suffer during the construction.

Besides downtown construction operations impacts, there are many significant issues which require further analysis and mitigation before proceeding to an FEIS. Flooding and drainage and road buildup or fill impacts are probably the second greatest of the readily foreseeable impacts.

A Revised DEIS (RDEIS) Is Needed Prior To Proceeding To An FEIS In Order To Treat These Impacts and To Provide Mitigation Plans, and To Incorporate Additional Documentation, Studies, and Analyses

The Draft Environmental Impact Statement ("DEIS") is a premature tool to use to proceed to an FEIS and does not identify or consider sufficiently or at all major economic, safety, mitigation, and environmental issues arising from the revised design and construction of the NHHIP project.

TxDOT states on its website that design changes are not included in the current evaluation of alternatives for the Draft Environmental Impact Statement, but will be presented at the public hearing and included and evaluated in the Final Environmental Impact Statement.

The purpose of the DEIS is to pick the Preferred Alternatives, or Proposed Recommended Alternatives (PRA) in TxDOT parlance, not to postpone showing those to the public until the FEIS or hiding them from scrutiny until it is too late to do anything. We do not think TxDOT executives, its excellent project managers and environmental staff, and consultants really want to do this. These are rather errors it is not too late to fix.

Further, because of the MOU between TxDOT and FHWA, TxDOT can approve its own FEIS and issue its own Record of Decision (ROD) or final approval as to environmental clearance. CTC thinks this self-certification is too risky for a project that "only comes along every 50 years," and CTC asserts that FHWA should at least review, formally or informally, any revised Segment 3 analysis.

The NHHIP is unnecessarily unwieldy in scope for proper and efficient environmental clearance.

CTC recommends to separate the 3 segments into two separate environmental documents: one for Segment 3 and one for Segments 1 and 2. Consider constructing Segments 1 and 2 first.

CTC sees no segmentation issues preventing the separation of the segments into 2 projects. Constructing Segment 1 first, particularly the I-610 /I-45 interchange, will provide mobility and safety benefits that should not be deferred while waiting on Segment 3. If Segment 3 is gridlocked, so is Segment 1.

TxDOT chooses to construct Segment 3, the newest design, first. It has no really good reason other than a press statement that Houston's problems are in the downtown area first and foremost.

Even though this is essentially a brownfield project, it is too complex, the stakeholders are too varied, and the impacts too significant for the public to grasp in one document. If the Segment 3 is going to be constructed first, there will be an unnecessary and unsupportable multi-year lead time between environmental clearance for Segments 2 and 1 and actual construction unless it is a funding question.

Timing clearance closer to construction reduces aggravating and incorrect claims regarding portions of major projects such as "a meeting was held" five years ago on the other side of town when commencing projects that surprise the public.

A stated purpose of the project is to improve "pass through." CTC thought that was the purpose of I-610, Beltway 8, and the Grand Parkway; road users should not get both a pass through and a bypass.

Funding Commitments Must Be Included In The DEIS And Earmarked For Mitigation Of Certain Impacts Arising From The Preferred Alternatives For Each Segment

Funding commitments must be included in the DEIS and earmarked for Mitigation of direct, indirect, and cumulative impacts arising from the Preferred Alternatives. **Without a clear understanding at the DEIS stage of environmental project costs and provision for their mitigation, the public gets a false sense of how efficient the project will be, and how many costs will be shifted to stakeholders. Adequate compensation and infrastructure must be set aside for drainage, flooding, and Environmental Justice issues triggered by the project.** Mentioning possible mitigation, particularly for drainage and flooding, is not sufficient. Nor is stamping on a project birds eye document "Planned Subject To Change." CTC has seen "Planned Subject To Change" detention structures for I-10 that have yet to be built, and probably will never be. We have had tragic results from not addressing these commitments earlier, rather than later.

Future Vehicles and Freight Automation; Air Quality and Congestion Management

The project is being built for old year vehicle models for a design year that will span many changes in automotive types and surface roads use that cannot be forecast. These vehicle and transport operations changes are not referred to in the DEIS, but it is CTC's understanding from its research, that changes are coming soon whether we are ready or not.

The vehicle changes may have positive impacts on Air Quality and Congestion Management. The freight automation may have to avoid downtown due to construction congestion and difficulty of operational use.

TxDOT should confer with H-GAC and with staff internally as to whether it can take conformity credits and whether it approves of such vehicular changes.

Achievement of I-45 As An Evacuation Route Requires Financial Commitments and Cost Estimates For All 3 Segments

CTC has a major issue with emergency evacuation as a stated purpose of the project. There is no discussion in the DEIS regarding evacuation plans other than to say I-45 is a major evacuation route, and that there is extensive flooding that impedes that purpose. If evacuation is a major purpose of the project, flooding and man-made build up runoff must be abated or the project goals should be changed.

Written financial mitigation commitments, particularly for flooding and drainage to achieve safety and evacuation goals and a brief analysis of how much flooding mitigation will cost, for all 3 segments should be included in the RDEIS.

There will be multi-year congestion in Segment 3 constraining access and traffic flow, let alone evacuation. The DEIS acknowledges there are currently multiple depressed areas, and there will possibly be more. With proper pumping, distributed/onsite generation, and air circulation, and rerouting signage, the constraints of the depressed areas can be reduced for both evacuations and other emergencies. Segments 1 and 2 also require funding earmarks for drainage to achieve the evacuation purpose. Some sort of hazmat spill and terrorist plan should be considered as a separate document, perhaps as an exhibit or technical memorandum. (Surely those plans already exist, perhaps with a federal agency.

Houston already has the I-610 Loop, Beltway 8, and the Grand Parkway to assist pass through traffic during construction and those features were all constructed with hurricane "evacuation" as a stated purpose and need.

Segment 1: Construct The IH-610/IH-45 Interchange First Of All Project Segments; Consider Design Modifications To Increase The Planned Capacity Of The Interchange To Avoid Creating A Built-In Bottleneck.

This interchange is considered as the southern boundary of Segment 1. As a common sense matter and to conform to FAST Optimization requirements, ALL the interchanges need to be rank ordered, not just for Segment 3, for both mobility and safety.

CTC strongly recommends that this structure be rebuilt first because it is out of date and unsafe. Its reconstruction will provide better access to I-610 and I-45, to I-69 from I-610, and to the Hardy Toll Road, thereby providing better utility and access to a large number of alternate road opportunities. This will provide a good opportunity for TxDOT to develop better signage and lane marking for merging from one road to another to improve the functionality of the interchange. Those markings may be adopted for the Segment 3 interchanges which will pose significantly greater complexity of use by drivers.

CTC almost always supports improving road mobility and safety by reconstructing interchanges first rather than last. The interchanges need to be planned first through iterations or directly. Generally completed interchange designs lack capacity to keep traffic from moving at the project design speeds, thereby generating bottlenecks that are misconstrued as congestion, and falsely creating a perceived need for yet greater capacity or road miles on the pancake portions of the road. Further, if roads are going to be built, it is the interchange that should be overbuilt if anything. The interchange should be built with enough capacity to avoid creating automatic bottlenecks due to speed reductions. This is not the sequence that has been followed in most cases.

Segment 1: Design Change For MaX Lanes

CTC always supports combined toll lanes and transit where it can pay for itself or even nearly pay for itself. CTC, however, here recommends that the interconnectors to the I-610 /I-45 interchange allowing access from I-610 to the I-45 toll and HOV lanes be dropped as a design change. This is a very convoluted and expensive feature for a small gain in mobility. Traffic counts, unless they are restated in the RDEIS, or unless CTC misconstrues them, do not support these direct connectors just at this particular interchange. If traffic counts and fares justify the feature, CTC could support it.

Segment 1: Taking of Land, Environmental Justice, and Compensation For Business Owners and Business Tenants

CTC objects to the continued construction of feeder roads and reliance on abutting businesses as a source of the economic development and redevelopment, but feeder road businesses are already well established along Segment 1. Many of those businesses present Environmental Justice issues and compensation payments are not transparent, often are late, and are often discriminatory.

Takings and Environmental Justice: TxDOT Real Estate Must Treat Stakeholders Fairly. Mitigation Is A Small Part Of The Project Cost. Environmental Justice is a big issue for business owners and business tenants in this segment. Many of the stakeholders adjacent to or whose land will be taken or who will be forced to move their business are underrepresented and lack access to legal counsel. Due to significant expansion of the footprint of this segment, much land will be taken and much of it is owned or rented by small or minority businesses. Most of these businesses appear to have little negotiating power and cannot afford legal representation. TxDOT appears to have a low ball strategy for these areas of Environmental Justice impacts. This is not conducive to economic growth and certainly is not fair. TxDOT real estate should be punished rather than praised for exercising undue pressure on these businesses. The FHWA should review these purchases if TxDOT thinks this is an acceptable strategy, but it is one that is seen on many TxDOT road construction projects. For a massive, multi-year project such as this, TxDOT must be able to make fair and reasonable commitments to stakeholders whose property or businesses are taken.

The document "State of Texas Landowner's Bill of Rights" provides "Your property cannot be taken without adequate compensation. Adequate compensation includes the market value of the property being taken. It may also include certain damages if your remaining property's market value is diminished by the acquisition itself or by the way the condemning entity will use the property." TXDOT appears to ignore this statement. There is no restriction on paying compensation for business relocation and business losses to business renters as well as business owners. These persons should not have to rely on business owners to share their compensation.

Segment 1: This segment of NHHIP already has small signs delineating a no-trucks for this lane. There are also a few metered ramps. CTC recommends that the RDEIS make reference to studies examining metering and truck restrictions as performance measures.

CTC observes that these restrictions are often ignored by drivers on this Segment 1 portion, but meters and truck lane restrictions may make this Segment work better.

This same remark is applicable to Segment 2.

Segment 3: While Scenario Planning is Voluntary Under FAST Regulations, It is Necessary For Segment 3.

Scenario planning and optimization must be considered to minimize interchange construction impacts for downtown. As mentioned above, TxDOT should work with HNTB to prepare an addition to its Constructability Technical Memo to analyze construction impacts. It should work backward to see if the Constructability memo needs to be modified. CTC remarks that in accordance with MAP-21 and FAST Transportation Planning and Collaboration requirements, TxDOT must meet with local officials and business stakeholders and explain in detail the construction sequence, construction congestion, the expected completion date of all the various interchange structures to be constructed downtown and the business, financial, and mobility impacts on downtown businesses during the multi-year construction phase.

A new mandate for State departments of transportation (hereafter referred to simply as "States") and metropolitan planning organizations (MPO) to take a performance-based approach to planning and programming; a new framework for voluntary scenario planning; new authority for the integration of the planning and environmental review processes; and a process for programmatic mitigation plans.

CTC thinks the public and elected officials lack information about the duration or sequencing of the Segment 3 interchange structure construction plans and particularly the ongoing and major financial and mobility impacts arising from the reconstruction of the downtown interchanges because they are not explained in the DEIS. The public and elected officials especially need a clear explanation of the mobility and financial impacts of the construction and gridlock that Segment 3 as designed and sequenced will cause. The public must be made aware that one interchange will not be finished, and then TxDOT will move onto the next. Normally CTC views construction as a temporary impact. But the downtown project segment will have ongoing construction for years, with the last structures being commenced in 2026. Local officials, including the county officials who complained about I-69 congestion, must understand the duration of construction congestion, the failure of the downtown to benefit until the entire Segment 3 is reconstructed, and the financial impacts on businesses and neighborhoods in the Segment 3 area. CTC is concerned about the detriment of the project to our downtown to survive the project. Further the DEIS fails to address at all or adequately many of the major problems and impacts and mitigation plans of the project.

Segment 3: The DEIS does not discuss performance-related provisions and particularly efficient investment of funds; this is a statutory requirement and a rulemaking is being developed. TxDOT should be out ahead of the rulemaking given the magnitude of this project and its self-oversight.

CTC , at previous scoping meetings, addressed the lack of forecasted gains in mobility for the NHHIP. With a previous forecast, the gain was to be 4 mph. Now the completed downtown gain is 20 mph. CTC is skeptical but thinks discussion is necessary in the RDEIS as to how the mobility performance is so drastically improved by completion of the Segment 3 interchanges and whether it is, on net, worth the investment. This can be explained in greater detail at the FEIS or TIP level.

MAP-21, and now FAST, requires a performance-driven, outcome-based program that provides for a greater level of transparency and accountability, improved project decision making, and more efficient investment of Federal transportation funds. See, e.g., 23 U.S.C. 150(a). As part of this performance-based approach, recipients of Federal-aid highway program funds and Federal transit funds are required to link the investment priorities contained in the Statewide Transportation Improvement Program (STIP) and Transportation Improvement Program (TIP) to achievement of performance targets. In a series of rulemakings, FHWA and FTA will establish national performance measures in key areas, including safety, infrastructure condition, congestion, system reliability, emissions, and freight movement.

"The Proposed Recommended Alternative (PRA) for Segment 3 includes the complete reconstruction and reconfiguration of the highways that comprise the "Downtown Loop." When combined, Segment 2 (I-610 to I-10) and Segment 3 function as "one large interchange". Therefore, it is critical to construct the entire interchange to realize the congestion relief benefits that this alternative offers."

Segment 3: The H-GAC TPC and public should oppose Segment 3 from being moved to the TIP until the issue of mid-term and long-term damage to downtown viability are fleshed out.

"$1.3 billion of the estimated construction costs was approved by the Texas Transportation Commission in March 2017. This will cover the first three segments of the "one large interchange" with a letting date of FY 2020 for the starter project. It is anticipated that the remainder of the funding will be approved by the Commission in the August 2017 UTP update."

CTC agrees with HNTB's description of the entire NHHIP project as one large interchange at least for the Segment 3 interchanges and the I-610 /I-45 interchange. CTC almost always supports that road mobility and safety are improved by reconstructing interchanges first rather than last. The interchanges definitely need to be planned first through iterations or directly. Generally completed interchange designs lack capacity to keep traffic from moving at the project design speeds thereby generating bottlenecks that are misconstrued as congestion falsely creating a perceived need for yet greater capacity or road miles on the pancake portions of the road. Further, if roads are going to be built, it is the interchange that should be overbuilt if anything. The interchange should be built with enough capacity to avoid creating automatic bottlenecks due to speed reductions. This is not the sequence that has been followed in most cases.

Discussion and analysis of FAST-required Optimization and sequencing of the projects should be added in the Revised DEIS text or as a supporting exhibit. Incorporating the TECHNICAL MEMO, April 28, 2017 from HNTB to TxDOT styled "Constructability" goes a long way to addressing construction issues, but does not address operability or impact issues.

That Technical Memo focuses more on mobility than safety. These interchanges, taken together or severally, are very complex and pose difficult driving conditions and choices for drivers and unimaginable choices for autonomous vehicles such as automated freight and passenger cars. Optimization needs to consider not only whether the interchanges can be constructed—CTC has absolutely no doubt that they can be—but also how they will operate and how impacts can be minimized so the greatest net gain can be achieve.

As for which interchange in Segment 3 should be rebuilt first, CTC defers to TxDOT, but states that biases in favor of pass through traffic should not dictate the sequence.

FAST Regulation 23 CFR Part 450 Requires Funding to Be Committed for the Several Types of Mitigation; It Should Be Earmarked

FAST regulations have specific requirements for Planning that do not appear to be documented and may not have been investigated internally. Further CTC sees only a minimal amount of coordination with agencies and other entities who will provide transportation facilities of the future.

There are many significant impacts for which a commitment to mitigation should be made at the DEIS level so stakeholders can evaluate the commitments and be assured that mitigation will actually take place. These include, among others, **financial commitment and** **earmarking** for (1) drainage, detention, and pumping facilities and associated lighting facilities; (2) proper and prompt compensation for underserved entities, (3) proper and prompt compensation to persons and property owners who have been offered inadequate compensation for their property at entrances and exit ramps (4) financial commitments for transportation alternatives; and (5) ongoing funding for emergency procedures for depressed portions of the freeway. For CTC to support the project, we recommend that funds be cabined, earmarked, and escrowed for these purposes and that a reasonable sinking fund be established.

All Segments: Flooding, Drainage, Pumps, Detention, and Changes To Flood Mapping & Prediction; Changes To LIDAR Mapping

Apart from downtown construction congestion, our currently unmitigated flooding impacts are the greatest safety and evacuation impacts and cause of property damage for the NHHIP corridor. TxDOT's DEIS acknowledges flooding and flood impacts in several places. TxDOT's schemata are drawn in terms of proposed detention ponds, flood ways, and flood plains. The DEIS text mentions the impediment to evacuation, safety, and mobility caused by flooding.

Flood mapping is an official government process. There will be changes to official flood mapping; and, consequently, there may be revised mitigation needs to be presented on the DEIS schemata to meet the project goals of safety and evacuation as well as property damage caused by failure to contain flooding and runoff.

TxDOT has an Emergency Operations Center, but the mitigation topic here is infrastructure. Further, mapping of flood plains and flood ways and TxDOT required infrastructure need to be kept separate. TxDOT is only responsible for TxDOT floods, and the increase in TxDOT impervious surfaces will yield a considerable amount of TxDOT caused flooding and drainage constraints.

Mapping changes represent a foreseeable need to update the DEIS. TxDOT will need to review its flood and drainage mapping to make certain it conforms to new drawings. The requirement may be ongoing until the science settles out, but TxDOT has no basis not to have its drawings conform.

The Homeowner Flood Insurance Affordability Act of 2014 (HFIAA) requires FEMA to implement a flood mapping program, after a review by the Technical Mapping Advisory Committee (TMAC). In several of the FEMA reallocation bills before Congress, recommendations of the TMAC have been followed. Specifically, TMAC recommends that because 26% of flooded properties nationwide are outside of any mapped floodplain, National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRMs) be based upon relative elevations rather than strictly on riverine floodplain maps. The plan is to transition from a 1% annual chance of flooding to a structure-specific flood frequency determination.

New technologies such as Geiger LIDAR will allow rapid assessment and deployment of new FIRMs. Further, TMAC has recommended that FEMA both drive the research and application of the science necessary for this transition.

This presents a problem for Houston, where 65% of homes that flooded are outside mapped floodplains, and for Harris County where that number increases to nearly 70% according to FEMA data (unreported or uninsured flooding would likely make these numbers higher). In July, the NSF/FEMA Committee for Urban Flooding held its meeting in Houston, having identified Houston as one of the worst offenders. It should be clear that the Houston Metropolitan area will be significantly impacted by these changes. By extension, large multi-year projects that both impact the floodplains and are impacted by floodplains should be delayed pending which reallocation bill is adopted.

GAO asked FEMA to evaluate the impact of future conditions on the National Flood Insurance Program. In their report the GAO concluded that by the year 2100 our floodplains will increase by an average 45% nationally, the number of polices will increase by 80% and our average loss per policy will increase by 50% based on today's dollars.

There is a perception that if a roadway is a few feet outside of a floodplain that it is exempt from flooding. It isn't. **This DEIS shows increased impacts on existing floodplains**. HFIAA requires FEMA to look at design for future risk conditions even if TxDOT is not required to do so. Almost surely there will be greater impacts once new FIRMs are released.

Segment 1: Impervious Surfaces, Storm Water Runoff, And Flood Detention. Flood Mapping Updates.

Due to the massive change in the footprint of I-45 for Segment 1, there will be massive changes in the impervious surfaces and storm water runoff in this area.

The DEIS notes that current flooding, and a fortiori expanded footprint flooding, must be mitigated for I-45 to serve as an evacuation route. Mitigation must be provided both for existing and new project caused flooding and any changes in flood mapping.

Such mitigation is also needed to preserve normal mobility during rainstorms and to protect adjacent businesses from runoff due to permitted or unpermitted fill and run off from the highway. In several places, the lands are already low and some construction will take place at or near flood plains and flood ways.

In our low lying area, flood mapping is being updated. DEIS project maps should be checked for a need to update. Mitigation should be updated as necessary and a sinking fund should be set aside for changes in LIDAR and other mapping and forecasting technology; see next topic below.

As stated elsewhere, funding should be committed to and **earmarked** for the construction adjacent to, or on, floodways. The amount of impervious surface will greatly increase due to the greatly increased amount of concrete. CTC appreciates the TxDOT's decision to avoid the floodway impacts on Little White Oak Bayou that would be posed by Alternative 4. We are sure this avoidance provides an environmental co-benefit.

CTC is conflicted about building depressed lanes for Segments 2 and 3 to serve as hurricane evacuation routes.

CTC appreciates the cantilevered design for our depressed routes on Segments 2 and 3 of the NHHIP. Using this bi-level configuration is an excellent way to increase capacity without extra space. Plus the at grade feeder roads can serve, to an extent, as evacuation routes as long as they are not inundated with ground level run off.

Every road TxDOT builds has as a stated purpose "evacuation" and "safety." CTC does not know if that is serious or if it is an attempt to prevent litigation attacks on the purpose and need of a project. We do not know how many evacuation routes we need: SH99 (all segments), SH288 (which flooded), southern I-45, SH146, local roads in the southern part of H-GAC! Plus we do not have a sustainable policy regarding insurance costs, risk shifting, environmental costs, and land developers encouraging more land development near the coast.

Of interest regarding the magnitude and frequency of our flooding problem is the recent testimony of Scott Edlemann, Senior VP of AECOM, the Senate Banking Oversight Committee. testified,

> *We also have a great deal of uncertainty within the calculations. In all actuality, the current 100-year average line shown on the flood insurance maps is perhaps closer to a safe design level of a 10-year event.*

This testimony shows a significant need to harden the equipment for our depressed portions of I-45 if we are serious about I-45 also being an evacuation route.

Given the comment above and the requirement that FEMA rely more on science, it is highly likely that the definition of a 100-year event will also change and TxDOT's obligations will change.

CTC also notes that there are more below-grade lanes than before. Numerous times below grade

lanes along I-10, I-69, and SH-288 have flooded, most memorably during tropical storm Allison when trucks floated in the roadway. This was often cited as the reason the main lanes of I-10 were elevated. While we recognize that aesthetics and noise are improved by below-grade construction, building a hurricane escape route below grade strikes us as questionable, particularly given clear indications that severe rain events are increasing and sea levels are rising. At the very least, where stacked roadways are planned, the top deck should always be the path leading away from the Gulf.

Analysis of Emergencies Re Depressed Freeway Areas.

The FAST Act expands the focus on the resiliency of the transportation system. It newly requires strategies to reduce the vulnerability of existing transportation infrastructure to natural disasters, but also, terrorists, hazmat, and major natural disasters.

The RDEIS should include strategies to reduce the road's vulnerability to these events. These can be strategies developed by 3rd party government agencies or others.

TxDOT's truck freight plan

The plan should have some address of TxDOT's new Truck Freight Plan apart from noise from the trucks. Specifically CTC is interested to know the reliance that will be made on the Segment 3 interchanges by truck freight operations.

Metering and Access; Truck Only Lanes for Segments 2 and 1; On Off Ramps For Multiple Layers of the Project

The RDEIS should contain a discussion of metering, truck restrictions, and access from lower to higher (at grade) levels of depressed projects. The metering and truck use restrictions were mentioned above for Segment 1, but there should be a discussion regarding metering or other access provisions for vehicles to come from depressed levels of the project to an at grade level.

CTC strongly supports multimodal transportation and access to mobility for all who cannot drive or who do not have a car. The NHHIP is a very complex project, but it is not a 21st Century project in terms of multimodality.

MAP-21, strengthened by FAST, included provisions to make the Federal surface transportation more streamlined, performance-based, and multimodal.

If TxDOT is ever going to get serious about air quality and congestion (and maintain access to funding), it is going to have to use more innovative ways of getting cars off the freeways. Multimodality will only result in a highway project either with coordination with agencies utilizing other modes or TxDOT's investment in commuter rail.

It is true that by the time the Segment 3 project is finished, we may well be on our way to driverless, electric cars and automated freight and can claim CMAQ and other Air Quality credits.

Integration of NHHIP With Bus Transit. Page 255 of the DEIS quotes in part: "The NHHIP aims to provide congestion relief and added capacity to I-45 in addition to supporting transit operations. Project objectives include "provide expanded transit and carpool opportunities with two-way, all-day service on MaX lanes, and access to METRO Park & Ride facilities".

CTC is not certain how much coordination of planning there was with METRO regarding allowing METRO to use the planned NHHIP structures and whether that meets the 21st century spirit of MAP and FAST.

Coordination with other agencies and private investors was not discussed in the DEIS. Other modes of automated transit were not discussed. No space is saved in the interchange alignments for other modes and in particular, no space is saved for a light rail to run along I-10 and through the I-10 interchange to downtown to serve the Texas Central Railway which is currently slated to terminate at METRO's Northwest Transit Center. CTC would think TxDOT would want to play some sole in the development of the bullet train and ancillary facilities.

CTC strongly supports multimodality. One of CTC's 10 Transportation Principles is to "Provide access for all. Across the Houston region and the state, Texans want our transportation system to provide safe and affordable access to jobs and neighborhoods for all travelers. Many young people, seniors, and individuals with disabilities need safe alternatives to achieve desired mobility. **One in five adult Texans cannot drive**, and across Texas, more than 280,000 workers

have no access to a car. We must invest in transit, bike paths, and sidewalks that provide access for all. Likewise, we must invest in transportation alternatives – including freight and passenger rail – that make efficient use of scarce resources while preserving quality of life in our communities.

Segment 3 Design (Long-dated change): CTC questions the need for removing the Pierce Elevated thus destroying efficient westside access to Segment 3. This is a long way off, however. The Pierce should also be considered for evacuation capacity.

There is really no efficient way for persons coming from the westside of Houston to access the Segment 3 interchanges. Without the Pierce Elevated, persons coming from the westside who want to go south, say to the Airport, or to the eastside of downtown or to the convention center, will have to go north to IH-10 or south to the dreaded I-610 Loop West, then I-69 north into town or stay on IH-610. This is awfully out of the way for such a big class of traffic.

The Pierce, ugly and as bumpy as it is, has some utility as an evacuation route to move people to the west side of the city.

All Segments: TxDOT must consider and mitigate adverse neighborhood impacts of the NHHIP design. The DEIS fails to identify measures for neighborhoods to mitigate the impact of its design choices.

Generally, CTC prefers to defer to neighborhood wishes regarding transportation projects and designs especially insofar as the design impacts their homes, safety, and use of local streets. It is after all, often their property that provides the route for the project.

It is a long-standing CTC Application Principle to

> **"Abate damage and harms to communities and property owners caused by transportation projects** such as unlawful noise impacts and disruption of established communities and businesses caused by suboptimal project designs."

Historically, highway projects in Houston have divided neighborhoods; yet neither that history nor the potential for future division of neighborhoods, is adequately addressed in the DEIS. CTC does not know if these suboptimal design flaws are a result of carelessness or lack of any feasible alternative, but feasible mitigation is still necessary.

Segment 3: For example, Segment 3 traverses the center of Houston passing through downtown and skirting if not bisecting the city's oldest and most historic neighborhoods, i.e., First, Second, Third, Fourth, Fifth and Sixth Wards, creating barriers between these historic neighborhoods and downtown.

The current Segment 3 plan includes the addition of managed lanes aimed solely at easing the ability of traffic to pass through the center of the city where not surprisingly traffic is highly congested. The project should be designed to ensure that traffic entering the central and most historic areas of the city is traffic destined for these areas and not traffic whose only intent is to pass through them.

The DEIS should evaluate as an alternative the impact of eliminating pass through traffic from the central and most historic areas of the city. Failure to design the NHHIP to eliminate pass through traffic from the city's center and most historic neighborhoods will impose many adverse impacts that are not adequately addressed, e.g., noise, air quality, visual, water quality and flooding, without identifying any benefit that clearly outweighs these adverse impacts.

Segment 2: An additional example of how the proposed project will further divide and adversely impact existing neighborhoods is evidenced on the segment between I-610 and Beltway 8, which includes the edge of the historic African-American Acres Homes neighborhood where TxDOT proposes widening I-45. Apart from suboptimal design, this presents an Environmental Justice issue. Unlike higher income areas of town, or even the area between I-10 and I-610, TxDOT does not propose to build the widened freeway in this area below grade.

Segment 1: TxDOT's proposal to widen the freeway immediately north of downtown also threatens significant community impact by further dividing the **Woodland Heights and Near Northside** communities. Moreover, the project's proposal to **eliminate North Street** will eliminate a significant low volume neighborhood connection across I-45. Another example of an adverse dividing impact is **Polk Street, whose connection to downtown will be eliminated** despite its role as a critical east-west connector between downtown and routes to the East End and Third Ward, **traditionally Hispanic and African-American neighborhoods**.

The proposed project will not only exacerbate physical barriers between neighborhoods, it will also separate low-income neighborhoods from economic opportunities by displacing dozens of single family homes, hundreds of multifamily housing units (including many public housing units), houses of worship, schools, jobs, and social services.

On the east side of downtown where TxDOT proposes to build the highway below grade, the project will nevertheless exacerbate existing divisions between downtown and the historically Hispanic Second Ward and the historically African-American Third Ward by creating a massive trench that will double the width of the freeway. Although the DEIS refers to the potential for deck parks to be built above depressed sections of the freeway, the DEIS does not identify any entity or party who has agreed to take responsibility for funding, creating, or maintaing deck parks. While the possibility of building deck parks may help mitigate the further divisions and loss of connectivity resulting from the project, mitigation will occur only if the decks and parks are fully funded by the project, and the parks are not separated from the neighborhoods by the high speed access roads contemplated by the DEIS. Unless the project is designed and built to carry the weight of the potential deck parks, and unless residents of the adjacent neighborhoods can safely access the parks, any the potential benefit offered by such parks is illusory.

Segment 1: At Chenevert, not only is TxDOT taking many of a condo's parking spaces to build a ramp, but it is also taking their trash dumpster. Then it low balled the residents for the taking. This is just wholly unnecessary and is not in the spirit of the US or Texas constitutions or the document "State of Texas Landowner's Bill of Rights" which is used by TxDOT as a guidance for takings.

Ramp entrances and exits should be reviewed at all locations to check their operability and to locate any impacts particularly to safety, but also to neighborhood mobility. A ramp that requires trucks to drive through neighborhoods or past schools or an entrance or exit that requires U-turns in congested areas needs to be redesigned or relocated to eliminate those constraints.

Environmental Justice Situations For Neighborhoods: The DEIS omits any identification of, or suggestion regarding, mitigating measures.

Environmental Justice situations often arise when the highway agency is really just shifting costs of a highway project the agency should pay for out of public funds, to the affected poor or underrepresented.

Regarding environmental justice, the DEIS just states: "All alternatives would cause disproportionate high and adverse impacts to minority or low-income populations." The DEIS does not propose any mitigation strategy for the noted high and adverse environmental justice impacts. Executive Order 12898 requires that Federal agencies make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority populations and low-income populations. The Federal Highway Administration delegated to TxDOT their Federal and NEPA compliance responsibilities; the DEIS fails to explain how TxDOT will fulfill this responsibility with regard to this project.

Preservation of City Parklands:
TxDOT must provide all possible planning to avoid impacts and to mitigate unavoidable impacts to the affected public Parklands. There are procedural steps that must be followed to insure all possible planning and all reasonable and feasible mitigation is made if use of the parklands cannot be avoided. These steps are not being followed. As a result, the public and city are being deprived of mitigation possibilities and the City's right to concur or object to the determination.

Contrary to TxDOT's claim, the public is entitled to public participation regarding these impacts. A mitigation plan for each park must be proposed in an RDEIS. The city must be

actively involved in order to represent and protect the parklands.

The parklands have special legal protections which CTC wants to comment on. CTC will leave to experts and the public the substance of how to make sure that "**all possible planning has been done to minimize harm**" to the parklands. 23 U.S. Code § 138 – "Preservation of parklands" and implementing regulations and guidances.

TxDOT acknowledges the **all possible planning** requirement in the DEIS in 3.18.1 REGULATORY OVERVIEW and 4.1.17 SECTION 4(F) RESOURCES and has tabulated what it considers to be the 4(f) resources affected by this project
3.18.1.1 Description of Section 4(f) Properties: being
Table 3-32 Publicly Owned Parks and Recreational Facilities,
which are Segment 1: 1 park; Segment 2: 2 parks; and Segment 3: 19 parks. All of these parks appear to be "significant"; none of them are pocket parks. CTC leaves to the experts to discuss in public meetings whether these parks are purely recreational or whether parts of the parks are passive, which entitles those parts to special protections.

TxDOT only tabulated facilities "within 500 feet" of the project. There is no regulatory basis for this 500 foot test. Part 771 requires TxDOT to look at all direct, indirect, and cumulative impacts on parklands. CTC does not know if there are other parkland facilities that might be more than 500 feet from the project right of way (which is not far from an elevated highway) and calls on other commenters to address the location of other parks that might be impacted by traffic noise or other nonphysical invasions. TxDOT must address its regulatory basis for not considering any parklands beyond 500 feet of the ROW regardless of the indirect and cumulative impacts. TxDOT also has an explicit responsibility to abate existing as well as project noise impacts.

There is an exception to the 23 USC §138 requirements for impacts that are determined (not unilaterally by TxDOT) to be *de minimus*.
23 USC §138 (b) De Minimis Impacts.—sets forth the requirements for a finding of de minimis impacts.

> **23 USC §138 (b) De Minimus Impacts**. (1) Requirements.
> (B)Requirements for parks, recreation areas, and wildlife or waterfowl refuges. — The requirements of subsection (a)(1) shall be considered to be satisfied with respect to an area described in paragraph (3) if the Secretary determines, in accordance with this subsection, that a transportation program or project will have a *de minimis* impact on the area.

Nowhere does this statute say that no public involvement is needed, and no presentation of mitigation is not required. Regulations for the de minimum finding are discussed below.

TxDOT takes the position that no public involvement is necessary and it has notified the city of its intent to make a *de minimus* finding.

This is not adequate to satisfy legal requirements of a *de minimus* finding:

1. No mitigation plan has been proposed so the DEIS is not sufficient. A mitigation plan must be put forward in an RDEIS.
2. A de minimus finding must be the result after the mitigation plan is applied. It is not sufficient to say we might have a plan later
3. Coordination with officials and the public is required;
4. Written concurrence by the city or other governmental organization is required.

TxDOT cannot assert that the DEIS provided a NEPA document for comment about mitigation because no mitigation was offered. No claim is made the agency intends to get city concurrence in acceptance of the mitigation plan and that any remaining impacts are *de minimus*.

State highway agencies insisted on these streamlined steps and must follow them. In the past TxDOT has not. For example, TxDOT never got the city to sign a Programmatic "Net Benefit" Agreement for a parkland land swap when the I-610 Loop was being rebuilt. Sometimes TxDOT does not do any sort of 4(f) analysis or mitigation plan at all, e.g. for noise and other impacts on Memorial Park arising from the IH-10, Katy Freeway, reconstruction.

Noise abatement, the improper 500-foot restriction, plans to mitigate other impacts such as loss of access, loss of parkland acreage all must be addressed in an RDEIS. CTC makes a special request to other commenters to address the issue of highway traffic noise.

The regulations behind these steps are found in 23 CFR Part 774 and, among others, include§774.3(b) and its coordination requirements:

> § 774.5 Coordination. (b) Prior to making de minimus impact determinations under §774.3(b), the following coordination shall be undertaken:
> (2) For parks, recreation areas, and wildlife and waterfowl refuges:
> (i) Public notice and an opportunity for public review and comment concerning the effects on the protected activities, features, or attributes of the property must be provided. This requirement can be satisfied in conjunction with other public involvement procedures, such as a comment period provided on a NEPA document.
> (ii) **The Administration shall inform the official(s) with jurisdiction of its intent to make a de minimus impact finding. Following an opportunity for public review and comment as described in paragraph (b)(2)(i) of this section, the official(s) with jurisdiction over the Section 4(f) resource must concur in writing** that the project will not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection. This concurrence may be combined with other comments on the project provided by the official(s).

Some of the 22 identified project parklands may qualify for a Programmatic Agreement, but TxDOT has to identify which parks and get proper documentation. Public involvement and notice to the city is still required.

CTC as a transportation group, thinks it is better to leave specific mitigation measures to experts and even residents near the local parks, but we take a position about the treatment and protection of the parklands generally.

The city has a number of civic stakeholder groups that work tirelessly, raise money for, support before the city officials, and represent the parklands. There efforts should be strongly supported and not ignored by the city. We call on the city to take an active role in park protection and scrutiny of the park impacts caused by the project. We hope with our new parks director there will be a shift in attitude toward the issue of TxDOT or other governmental agencies and highway building and our parks.

CTC is not certain it agrees with positions of commenters who address "net loss" of parklands. There is a "net benefit" programmatic agreement that the city must sign off on after public comment, but CTC thinks that "net benefit" applies to each individual park, not a group of parks whose acreage losses are lumped together.

Again, here CTC is more interested that mitigation must be specified in an RDEIS, and that the full process be followed rather than that any particular mitigation plan be adopted.

Houston's Complete Streets Executive Order and Houston's Bike Plan are not mentioned in Section 7.3 of the DEIS.

Local Interfaces with NHHIP project Entrances & Exits should be coordinated as to safe design and safe operation with these city guidances.

Separated bike and pedestrian facilities (e.g. sidewalks) should be built at interfaces and across bridges.

All bridges should have space available for separated bike and pedestrian facilities with adequate lighting and designs in conformance with the Complete Streets and Bike Plan guidances. And at grade crosswalks should be timed accordingly. To enhance neighborhoods and preserve community, bridges should compatible with the historic fabric of the neighborhood much like along the current I-69 leading into downtown or like bridges crossing freeways in Colorado.

There are federal funds to pay for such coordination: the FAST Act continues the Highway Safety Improvement Program (HSIP) with minor revisions. If safety is one of the three goals of the project, this is an area that would benefit from investigation of these funds to be applied for at grade facilities and interfaces with other pedestrian and bike facilities.

Complete Streets. Houston's Complete Streets policy aims to build local streets and crossings that are safe for all users. Yet, there is no indication in the DEIS that TxDOT intends to design the project's highway-urban interfaces to comply with Houston's Complete Streets policies.

Houston Bike Plan. The DEIS includes no reference to the extensive, citywide Houston Bike Plan. At a minimum all bridges over the freeway, and all street crossings under the freeway

should provide for a minimum 6' unobstructed sidewalk, a minimum 6' protected bike lane, and NACTO criteria should be incorporated into all highway/surface street intersections.

In short, all intersections in the proposed plan should be designed for safe crossing for pedestrians and bicyclists.

TxDOT's policy toward applying for Clean Water Act §404 permits is not in the spirit of CWA or FAST.

To CTC, Clean Water is as important to the health and economic and social well being of our city and region as is Clean Air. There are just not any federal CMAQ funds associated with Clean Water so there is an inappropriate dismissiveness of the issue of clean water.

But Clean Water Act permits is a huge issue for all segments of the project, particularly Segment 3. The Segment 3 Constructability Technical Memo, p1, states that

> "The Segment 3 PRA is massive in size and complexity and construction for this project will require large amounts of materials such as over 8 million cubic yards of excavation, 1 million cubic yards of embankment, 1.5 million square yards of pavement, over 2 million square feet of retaining walls and over 9 million square feet of bridge."

Requests for Jurisdictional Determinations and/or §404/401 Permits to cross navigable waters or to dredge and fill in areas where there would be runoff should be identified and applied for now to avoid noncompliance and holdups to Project Delivery. A 909 grading permit may be required in other than just Segment 3.

If the Preferred Alternatives are known, all of these permits should be evaluated in an exhibit to the RDEIS. The only exception should be where design changes will not be mere refinements, but rather adoption of another alternative.

On page 246 of the DEIS, TxDOT states its intent to wait to apply for Clean Water Act, §404 permits "until the final design is completed." Section 404 permits would be needed for discharge of any pollutants, including dredged or fill material, to "navigable waters" or Waters of the United States. There will be a lot of such fill. Waters of the United States is much broader than water into which you can put a canoe, but less broad than a gravel pit that may fill up with water occasionally. Permits would be needed for many bridge structures (elevated on piers) for wetlands and stream crossings that feed into Buffalo or White Oak Bayous. (There is a proposed rulemaking that proposes to rescind the 2015 definition of Waters of the United States and revert to the pre-2015 definition. The NPRM states that the rulemaking would not affect governmental agencies.)

Applying for the 404/401 permits is a matter of compliance. It causes much more problems not to apply. CTC does not want to read the DEIS that TxDOT only intends to seek out these permits for crossings of actually navigable portions of White Oak and Buffalo Bayou and would probably only be looking at Segment 3. CTC asserts this is not correct from a legal standpoint,

nor is it timely in terms of FAST planning and project delivery requirements. Permits also have to be acquired for dredge and fill that may cause runoff to navigable waters. With a large construction project in an area with a lot of water, multiple dredge and fill permits will likely be required. If TxDOT does not wish to apply for permits now, it can at least make a list of navigable waters, being more than literally navigable water and commence seeking a jurisdictional determination (JD) whether a particular water in the project's alignment is navigable in terms of permitting processes.

As for a 909 permit, there is a two-step process, so it is harder to evade permitting: a pre-construction meeting shall be done prior to the issuance of a Grading Permit to discuss compliance with NPDES Storm Water Program. So construction cannot begin until the pre-construction meeting.

Past practice seems to be that notwithstanding TxDOT's excellent environmental staff, it is a common TxDOT practice in the Houston District to defer application for a 404 or 404/401 permit for major highway projects until after construction has begun if at all. For the Grand Parkway, TxDOT's deferring applying for a 404 dredge and fill permit held funding up and generated environmental litigation. For the 290/610 project, TxDOT was constructing a bridge across White Oak Bayou and dropping construction materials in the water for well over a year. CTC is still not certain whether a permit was ever acquired for crossing Buffalo Bayou when the I-610 Loop West was reconstructed. Because the USACE does not have real transparency of its processes, it is hard for the public to determine when a permit has been applied for or granted except for a narrow window of time. The two bayous and feeding streams will be crossed many times for this very large NHHIP project and a lot of fill will be required for segments 1 and 2, as well as segment 3, above.

FAST requires that for Acceleration of Project Delivery: "To the extent practicable all Federal permits and review for a project shall rely on a single document prepared under NEPA. TxDOT has some excellent and experienced environmental staff, and that department ought to start compiling lists of where it will need the permits.

Conclusion

There are legal, environmental, and business needs for an Revised Draft Environmental Impact Statement.

Too much information about too many issues, and in particular crucial information regarding long-term, choking construction impacts on downtown Houston and its viability, and mitigation commitments regarding flooding, detention, and runoff, is missing from the DEIS to proceed straight to an FEIS.

City and county officials, as well as downtown stakeholders and the entire area public, should demand more information about Segment 3. They must also become active in the planning of alternate local street routes so persons can access the downtown during the multi-year construction period.

Moving to an FEIS and including the missing information in the FEIS precludes meaningful public participation and scrutiny.

TxDOT stated on the face of the DEIS that it intended next to publish an FEIS with a possible combined Record of Decision. That is not a stage when decisions can easily be modified or when the public has any meaning chance of public scrutiny, participation, and comment. TxDOT as FHWA's assignee under the TxDOT/FHWA MOU would in effect move to an FEIS and approval thereof by issuing a ROD without further scrutiny.

This DEIS is so inadequate as to key issues as to preclude meaningful analysis. 40 C.F.R. § 1502.9(a) provides: "If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." *Id*. (emphasis added). Correcting these deficiencies will require significant new analyses and the incorporation of high quality and accurate information regarding the Project's impacts.

The agency must allow public scrutiny of the omitted analysis and resulting changes, if any, in a Revised or Supplemental DEIS. An RDEIS should be prepared, presented and submitted for comments.

Public meetings must be held regarding the downtown construction impacts, the number of businesses that will fail, the number of jobs that will be lost, and other negative impacts.
Only the issuance of a revised or supplemental DEIS that thoroughly analyzes this missing information will satisfy NEPA's public comment procedures, which "[encourage] public participation in the development of information during the decision making process." *Half Moon Bay Fishermans' Mktg. Ass'n v. Carlucci*, 857 F.2d 505, 508 (9th Cir. 1988).

Simply adding this missing information in the FEIS is insufficient, as it does not allow the same degree of meaningful public participation. *Id*. (citing *California v. Block*, 690 F.2d 753, 770-71 (9th Cir.1982) ("It is only at the stage when the draft EIS is circulated that the public and outside agencies have the opportunity to evaluate and comment on the proposal…. No such right exists upon issuance of a final EIS."). 40 CFR § 1500.1(b).

TxDOT should consider breaking the NHHIP project in two projects (e.g. NHHIP-I and NHHIP-II) for environmental clearance and construction.

TxDOT should reassess breaking the project in two for environmental clearance: (Project 1) Segments 1 and 2; and (Project 2) Segment 3 and commencing Project 1 first. CTC urges TxDOT to consider flipping the construction schedule and building Segments 1 and 2 first to give more bang for the buck in the shortest time and with least interference with mobility. To that end, CTC strongly supports reconstruction of the I-610 /I-45 interchange first as both a mobility and safety measure. For those segments, our especial concern is environmental justice for Segment 1 and need to set aside business impact mitigation funds for owners and renters of businesses and need to optimize entrances and exits to minimize shifting of impacts to neighborhoods for Segment 2. Neighborhood impacts are issues for Segment 2 (as well as Segment 3). CWA Permitting will be required for all segments.

Important concerns CTC has with respect to Segment 3 need to be resolved in an RDEIS.

Specific major concerns CTC has with Segment 3 include these and other issues in our comments above:

- Long-dated construction processes and multi-year construction gridlock downtown: Keeping at least one lane open does little to offset this and is a highly unsatisfactory solution. If TxDOT knows there will be multi-year gridlock, it must explicitly state this so business owners and elected officials can plan for the worst.
- Adequacy of real estate devoted to the interchanges to maintain design speed and to avoid built in bottlenecks; TxDOT states it will start with I-69 and I-10 because ROW is being acquired. However, this is not an adequate reason to bring those interchanges to the front of the project. TxDOT should reexamine its change in design speed and advise what year that will happen.

- Need for city officials to coordinate with TxDOT and to plan local street routes stakeholders may use to access the city during Segment 3 interchange reconstruction
- Possible to probable intervening radical changes in road use and vehicle types including automated freight handling and driverless cars reducing the amount of lane miles needed for mobility and reducing ozone precursors.
- Difficulty of average drivers using the complex interchanges, once completed, both for current and future vehicles.
- Space for highly visible signage, metering at entrances, better control of unnecessary weaving.
- Drainage and flooding, pumping and air circulation equipment, and funding earmarks.
- Segment 3 has significant unmitigated neighborhood impact issues and Environmental Justice concerns.
- Safety issues: the capacity additions from cantilevered projects are desirable, but adequate exit plans from the lower levels have to be put in place or at least blocking of entrance during major rain storms and terrorist alerts.

Not only should TxDOT conduct further analysis and studies and publish an RDEIS with attachments to the public, but also Segment 3 impacts should be reviewed formally or informally by FHWA as an independent set of eyes.

Submitted July 27, 2017

Best Regards,

/s/ Dexter R. Handy, Lt Col USAF (Retired)
Chair, Citizens' Transportation Coalition (CTC)
[redacted]

Contributors: Carol Caul, Esq, Advocacy Chair and Board Member;
Jane Cahill West, Esq, CTC Member; former Chair, Super Neighborhood Alliance;
Ed Browne, MSEE, Board Member, President; Residents Against Flooding
Dexter Handy, Chair;
Kelly Rector, Vice Chair

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Comments on TxDOT North Houston Highway Improvement Project
Date: Friday, July 28, 2017 3:27:19 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:13 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Comments on TxDOT North Houston Highway Improvement Project

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:27:38 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: Comments on TxDOT North Houston Highway Improvement Project**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> **From:** Ian Hlavacek [redacted]
> **Sent:** Thursday, July 27, 2017 7:22 AM
> **To:** HOU-PIOWebMail
> **Cc:** [redacted]
> **Subject:** Re: Comments on TxDOT North Houston Highway Improvement Project

TxDOT representatives and other interested stakeholders:

Please allow me to present these supplementary comments for consideration related to the North Houston Highway Improvement Project and Downtown Loop Realignment segment. Again, I appreciate TxDOT's efforts to collect and incorporate public feedback, and I hope the feedback I have provided will be useful for delivering the best project possible.

Stakeholders: please note that a formal response is not required; these comments as submitted primarily to TxDOT for inclusion in their project records, and I send them to you simply for informational purposes.

Respectfully,
Ian Hlavacek, PE
[redacted]

On Wed, Jul 19, 2017 at 11:35 AM, Ian Hlavacek [redacted] wrote:
TxDOT representatives and other interested stakeholders:

Please find attached my comments on the North Houston Highway Improvement Project and the Downtown Loop Realignment segment. I have major concerns about the disproportionate negative impacts of the project on Houston's inner city neighborhoods. If these impacts can be mitigated or avoided, I believe this project has a real potential to positively impact the Houston region for many generations to come.

I look forward to working with you on the continuing development of this project. Please let me know if you have any questions.

Sincerely,
Ian Hlavacek, PE
[redacted]

[redacted]

Ian Hlavacek, PE
[redacted]

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386

Supplementary Comments on North Houston Highway Improvement Project

To whom it may concern:

I would like to offer these comments as a supplement to the comments that I submitted on July 19, 2017 regarding the North Houston Highway Improvement Project and the Downtown Loop Realignment. I am concerned that the priorities of the current project vision are not the priorities that would best benefit the region. I believe all stakeholders, including TxDOT and all taxpayers in the state of Texas who will be funding this project, would greatly benefit from stepping back and making sure we are delivering the best project possible for maximizing public good.

Measures of Project Success

In my opinion, there are several general metrics that we can and should measure to define this project's success:

1. Impact on local roadway network capacity, operations, and safety, including that of all modes of travel (e.g. driving, walking, biking, and transit)
2. Impact on freeway network capacity, operations, and safety
3. Impact on economic development opportunities
4. Project cost
5. Impact on public visual aesthetics

I present these metrics in what is, in my opinion, increasing order of importance. I acknowledge that other stakeholders may order these differently – especially #1 and #2 – but I would expect that most stakeholders would keep improvements to the local roadway and freeway network near the top and place the others near the bottom.

The other factors are clearly important, but for a roadway project they should typically be considered secondary to capacity and safety improvements. First: economic development is a natural result of improvements to transportation infrastructure. If the project is good and connects more people to more destinations, the regional economy will also benefit. Transportation access and connectivity may not directly drive the economy, but they are necessary components for the creation and support of a strong

economic environment. Second: minimizing project cost should be an overarching goal of public projects but never a primary goal. The entire point of any large public infrastructure project is to spend taxpayer money to maximize OTHER community desires and goals. A multibillion dollar project would never be undertaken if minimizing cost was the main objective. Finally: visual aesthetics should be considered a desirable side effect of a roadway project, not a primary goal, because there are more direct, cost-effective ways to address visual aesthetics.

Applying the Metrics

Here's how I see the current Downtown Loop Realignment scoring on these metrics:

Freeway safety and operations: As far as I can tell, this is the one metric on which the Downtown Loop design clearly delivers. I am not convinced that the proposed design is the ONLY way to achieve these improvements, but this does seem to be one area where the vision succeeds.

Local roadway safety and operations: The rest of the metrics are a mixed bag. As I discussed in my previous comments, I have many concerns about the project's impacts on east-west local and regional connectivity, local traffic safety, and walking, bike, and transit modes of transportation. In my opinion, any further degradation of the already constrained east-west roadway network more than offsets the gains to north-south connectivity between the 2nd Ward and EaDo provided by the proposed frontage roads. That new north-south connectivity is highly desirable, but it should not come at the expense of east-west connectivity.

The metric for local roadway safety and operations appears to be negative.

Economic development opportunities: The proposed removal of the Pierce Elevated would open up several partial blocks of undeveloped, desirable real estate between Pierce Street and Gray Street (approximately 60% of the blocks are already available for development, and many of them already enjoy high levels of development). These partial blocks of undeveloped, desirable land would be made available at the expense of entire blocks of rapidly redeveloping, desirable land in EaDo. Many businesses would either close or be forced to move. Other businesses would be negatively impacted by the loss of leveraged commerce activities. For example, diners at Huynh restaurant may be less likely to walk down the street to Lucky's Pub for a drink after dinner if Huynh was forced to relocate, resulting in a loss for both Huynh and Lucky's Pub. This sort of leveraged commercial activity is one of the main components of a strong commercial district; the loss of businesses and business opportunities between Chartres and St. Emanuel would result not only in the direct loss of those businesses, but also a weakening of leveraged commercial activity for the remaining businesses and EaDO overall.

The metric for support of economic development appears would therefore appear to be mixed, and in my opinion, slightly negative overall for the project.

Visual aesthetics: The Downtown Loop Realignment would improve public aesthetics in some ways. By removing the aerial concrete structure that is the Pierce Elevated, the already beautiful Downtown skyline would be further improved. Burying the freeway on the east side would further remove some unpleasant aerial concrete obstructions and put them underground – at least for some blocks. For the 8 blocks between St. Joseph Parkway and Lamar Street, the amount of above-ground freeway structure and ramps would be approximately doubled from existing to accommodate both I-45 and I-69 as well as their managed lanes. Properties adjacent to those blocks on both the Downtown side and EaDO side

would face a massive gulf of concrete structure that is much more significant than the Pierce Elevated and, as a result, suffer from a sharply degraded aesthetic environment.

Even in the EaDO neighborhood adjacent to the proposed buried freeway section – that neighborhood which theoretically stands to gain the most from the visual benefits of a buried freeway – the overall aesthetic benefit is questionable. St. Emanuel Street serves as something of a Main Street for EaDO and is a relatively quiet, slow, bidirectional street with a wide sidewalk, full street tree canopy, and development on both sides that embraces the street and sidewalk network. Pedestrians walk comfortably down the street from business to business; bicyclists and cars safely share the roadway. It is quite a lovely street that is rapidly improving as private land owners redevelop property to take advantage of the street's benefits. There are few other streets in the region that create the same kind of comfortable, quaint urban environment.

With the proposed freeway plan, St. Emanuel Street would be replaced with a one-way northbound frontage road. Businesses on the east side of the road would no longer open to face other, complementary businesses on the other side of the road. They would instead open onto a wide, high-speed, high-traffic roadway with a vast open space beyond that may or may not eventually be converted into park space. Park space or no, it is hard to see this as a net aesthetic improvement over the unique environment that already exists along St. Emanuel.

The metric for supporting an appealing aesthetic would therefore appear to be mixed and, in my opinion, slightly negative overall for the project.

Minimize project costs: An argument has been presented that TxDOT needs to sell the land under the Pierce Elevated to offset other project costs. However, the sale of those partial blocks will come at the expense of full blocks between St. Joseph Parkway and at least Texas Avenue – 13 blocks, with many more partially impacted. Many of these blocks have existing development, including the substantial Lofts at the Ballpark Apartments between Capitol and Texas. This land may be less valuable than the Pierce land, but it does have value, and that will offset many of the cost savings.

Additionally, if cost savings are a primary objective, then it is hard to make a case for burying the freeways at all because burying is one of the most expensive construction methods. Buried roadways also have higher ongoing maintenance costs related to massive pumps, ventilation systems, and lighting. An above-ground structure would likely prove to be a much more cost-effective way to achieve roadway capacity and safety goals.

The metric for minimizing project cost would therefore appear to be mixed and, in my opinion, slightly negative, because there appear to be other ways to achieve project goals at lower cost.

Alternatives

I believe there exist other options that may do a better job of maximizing these metrics. Such a project would likely exhibit these general characteristics:

- Maintain general existing freeway layout and rebuild with improvements.
- Maintain and add to local roadway network.
- Maintain and add to local and regional connectivity.
- Elevate all freeways where burying them would impact local roadway network.

- Minimize takings of already-developed properties.
- Improve north-south connectivity between EaDO and 2nd Ward.
- Maintain St. Emanuel Street as a bidirectional street with adjacent development on both sides.

Several alternative designs with these characteristics have been presented. For example, I like many of the design elements of the Purple City plan. Among many other proposed modifications, the plan would keep the Pierce Elevated for managed lanes and minimize the width of the freeway segment adjacent to EaDo. The plan can be viewed here:

Summary Report:

[redacted]

Full Plan:

[redacted]

One suggestion of the Purple City plan that would further support improved aesthetics as well as project cost is the idea to use the area under the Pierce Elevated for development opportunities. Instead of fenced parking, the space could be developed and rented out to businesses, thereby creating an interesting, appealing street that also generates ongoing rent revenue for TxDOT.

Other alternatives have imagined the freeway ring around Downtown as a one-way loop, like a giant roundabout. I have not studied the idea in detail, but I think it is worth analyzing to determine if it could also better deliver on project metrics.

Conclusion

Again, I would like to applaud TxDOT for its ongoing efforts to support innovative design solutions that incorporate extensive public feedback. I acknowledge that TxDOT has been pursuing the Downtown Loop Realignment and larger I-45 reconstruction project for many years already, but I would urge them to continue embracing a patient spirit to solicit feedback, analyze alternatives, and present the best project possible. To this point, the organization has given me no reason to believe that they wish to abandon this spirit.

I have presented several metrics in these comments that I believe will be important to ensure project success. TxDOT is probably measuring many more and more detailed metrics, but I am confident that my general metrics are in their list in some form or fashion, presumably with high priority. Here's how I see the current plan for the Downton Loop Realignment scoring on the metrics presented here. I also present the scoring of a theoretical project with the characteristics discussed above.

Option 1: Current Plan

- Local Operations/Safety: DECLINE
- Freeway Operations/Safety: IMPROVE
- Economic Development: MIXED
- Cost: MIXED
- Aesthetics: MIXED

Option 2: **Alternative that maintains general existing freeway layout**

- Local Operations/Safety: IMPROVE
- Freeway Operations/Safety: IMPROVE
- Economic Development: MIXED
- Cost: IMPROVE
- Aesthetics: MIXED

Out of these metrics, the two that matter the most are the first two: local network and freeway network. Neither should be compromised at the expense of the other three. However, it appears that the current proposed design compromises on local roadway operations and safety for questionable benefits to economic development, project cost, and aesthetics. I believe we can and should do better.

I would strongly encourage TxDOT to vet other options that may score better based on these and other metrics before making a final design decision.

We get one shot at this. This project will be a massive expenditure of taxpayer resources, and it will dramatically impact the economy and culture of the Houston region for generations. Let us spend whatever time and resources required to make sure we get it right.

Respectfully,

Ian Hlavacek, PE

CC Congressman Gene Green, Congressional District 29
Senator Sylvia Garcia, Texas State Senate District 6
Representative Carol Alvarado, Texas State House District 145
Mayor Sylvester Turner, City of Houston
Council Member Ellen R. Cohen, Mayor Pro Tem, City of Houston District C
Council Member Dave Martin, City of Houston District E
Council Member Karla Cisneros, City of Houston District H
Council Member Robert Gallegos, City of Houston District I
Council Member Mike Knox, City of Houston At-Large 1
Council Member David Robinson, City of Houston At-Large 2
Council Member Michael Kubosh, City of Houston At-Large 3
Council Member Amanda Edwards, City of Houston At-Large 4
Council Member Jack Christie, City of Houston At-Large 5
East End Management District
East End Chamber of Commerce
Downtown Management District
East Downtown Management District
Superneighborhood 64 & 88
Eastwood Civic Association

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: i-45 draft EIS comments
Date: Friday, July 28, 2017 1:22:56 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 11:28 AM
To: Kelly Lark; Christine Bergren
Subject: Fwd: i-45 draft EIS comments

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:18:30 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: i-45 draft EIS comments**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
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From: Michael Huffmaster [redacted]
Sent: Thursday, July 27, 2017 10:56 PM
To: HOU-PIOWebMail
Subject: i-45 draft EIS comments

July 27, 2017

TxDOT Houston District Office
Director of Project Development
P.O. 1386

Houston, TX 77251-1386

Dear Pat Henry, TxDOT Development Manager

Dear Quincy Allen, TxDOT Project Engineer

I offer the following points to improve the proposed I-45 project. I also endorse the comments submitted by the neighborhood coalition under the letter consolidated by Michael Skelly.

The Draft Environmental Impact Statement does not adequately addresses the following points:

- The roadway facilities and related drainage and detention should be designed for 500 year storm event.

- In this project TxDOT should provide the amount of detention to meet full requirement for storm water runoff mitigation for the entire amount of impervious surface in the project. This should be a minimum of 0.5 ac ft of detention per acre of impervious surface. Detention requirement should not be set at the low bar of incremental impervious surface addition. What was built in past freeways and development is known to burden bayous with excessive storm water runoff load and flooding. This project should reduce those loads with detention to accommodate all impervious surface and also address any development runoff from property adjacent to ROW which would be accepted by TxDOT.

- Multi use detention such as structural detention (eg under parking structures) or integrated with green spaces or parks is recognized as adding value to community. The preference of wet bottom detention is questioned as regards impact of large areas of stagnant water and potential adverse influence on public health.

- Deck parks should be designed to accommodate real world loads, not proposed as structures inadequate to even support even a truck. High load circumstances should be adequately handled such as massive rains which would saturate soils or large crowds of people let alone light trucks or cars.

- Noise impact – should consider and evaluate use of linear (axial) grooving as low noise option for hydroplaning control

- Access roads should not be alternative freeway lanes; design for local use and slow traffic

- An alternative to massively modifying existing serviceable freeway infrastructure should be assessed. Handling of traffic which is destined to flow through town rather into downtown should be addressed by routing around town rather than through downtown. In particular consideration should be given to improving capacity of 610 from I45 to I45 along the east side of Houston. Impacts on communities, land use and

land values could well be substantially lower.

Regards,

Michael Huffmaster

[redacted]

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDot I-45 Project
Date: Friday, July 28, 2017 3:15:31 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:55 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDot I-45 Project

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:23:42 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDot I-45 Project**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: CCM [redacted]
> Sent: Thursday, July 27, 2017 4:13 PM
> To: HOU-PIOWebMail
> Subject: TxDot I-45 Project
>
> Dear Texas Department of Transportation,
>
> I am opposed to certain aspects of the proposed reroute of I-45 around downtown Houston because of the detrimental impact on the environment and mobility in general. The Pierce Elevated should remain as a viable route to reduce congestion and provide access from the west side inside Loop 610. If the Pierce Elevated is removed,

congestion will increase with more stop and go traffic with addition pollution as residents have to cross through downtown to reach I-45. The proposed connections are inadequate for the non freeway traffic to connect to I-45.
The Pierce Elevated is an important alternative route to the proposed reroute of I-45 because we need the capacity to move traffic smoothly with a minimum of stop and go which pollutes the air. Also, it should remain as an alternative when the other route is shut down due to accidents so motorist don't sit with motors running polluting the air with no alternative. The Pierce Elevated should also be maintained as a significant evacuation route to move traffic efficiently and minimizing the deleterious impact of stop and go traffic.
Please save the Pierce Elevated-the idea of a high garden up there is ridiculous in light of Houston need for mobility.

Sincerely,

Catherine C. McCulley
[redacted]

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:18:55 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:00 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:23:44 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 3:59 PM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Sylvia Medina[redacted]
>
> [redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I-45 proj/59,segregates East End from Downtown; Wealthier communities in Downtown given priority. EE greatly underserved community this does nothing to help us develop. Polk St. is compromised GRB to expand. Polk gone, your team not transparent. No justice for the East End. Does away with biking into downtown. UNACCEPTABLE I OPPOSE THIS PROJECT!!

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Comments for North Houston Highway Improvement projects
Date: Friday, July 28, 2017 3:20:45 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:03 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Comments for North Houston Highway Improvement projects

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:23:45 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: Comments for North Houston Highway Improvement projects**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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Watch us @www.youtube.com/txdotpio

From: Tami Merrick [redacted]
Sent: Thursday, July 27, 2017 3:47 PM
To: HOU-PIOWebMail
Subject: Comments for North Houston Highway Improvement projects

Please see the attached comments for public record in the I 45 North and more project.

Tami Merrick, AIA
Senior Associate / Senior Project Architect
[redacted]

Tx Dot- I45 North and More Freeway expansion comments:

I am a board member of Avenue Community Development Corporation, Resident of First Ward, Railwatch Advocate and transportation liason for Super Neighborhood 22. I am an advocate for I-45 coalition comments and Make I45 Better Coalition letter. I am offering my support for the expansion project, but requesting that areas requiring further development, or parts of the expansion that remain unclear during schematic are completed vetted with neighborhood stakeholders and downtown entities. I suggest a process is developed to address the specific comments during design development and report back to stakeholders regarding both the actual design and Tx Dot's revisions to meet requirements of the environmental impact study.

Part 1

Comments regarding **First Ward Neighborhood in Segment 3,** Near Northside residential and Heights residential neighborhoods.

- All new **roadway bridges over the new freeway expansion** should have separated bike and pedestrian sidewalks with pedestrian friendly lighting. In the instances they are connecting residential neighborhoods, we are requesting attractive designs. We are requesting Tx Dot to work with the adjoining communities on specific bridge designs and give the cultural arts district an opportunity to consider added art installations particularly on bridges into the cultural arts district located in First Ward on Houston Avenue and Crockett.
- Continue to protect the President Head statues and park titled Statesmen park adjacent to the freeway in First Ward as shown on current plans.
- Tx Dot to ensure the bike path at Spring Street in First ward remains. Current plans show lanes on grade, and engineers were unable to clarify the design intent at the meetings. We are requesting roadways remain somewhat elevated to accommodate the bike pedestrian clearances facilitating connectivity from Northside to First Ward and Heights.
- The roadway at 1201 Spring Street is shown to have more right of way for the expansion. Removing vehicular access along the road is a detriment to property access and again this area needs re-evaluation to maintain both the house and the access to the driveway etc.
- Tx Dot installed temporary stick bollards on the Houston Avenue Bridge driving lane to create a temporary bike alternative path during recent ramp construction in this area. They are an extreme safety hazard as cars are driving over them mowing those down daily. They are not sufficient interim protection for pedestrians and cyclists. Tx Dot needs to provide barricades capable of preventing cars from driving onto a roadway bike path which has no visibility over the crown of the bridge.
- Work in and near the "Trigas Company" at the exchange of I-45 and I-10 requires a **safety plan** for freeway demolition and construction to mitigate any potential for a gas explosion endangering adjacent communities and motorists.

- First Ward is **requesting bike bridges be designed below the new fly ramps leading toward downtown**, to provide a connection over the roadways for cyclists and pedestrians safely separated from cars. The purpose of the bike bridges extended below the new fly ramps is to provide **connectivity from the current trails at Hogg Park/ Stude Park to Buffalo Bayou Park**. Alternative methods of connectivity are important for inner city communities providing alternative safe methods of transportation. Many lower income residents must rely on bikes.
- The new cap park north of I-10 and I-45 exchange has multiple feeder lanes and doesn't provide a safe way for pedestrian access from the neighborhood to the future cap park. The **traffic should be slowed** and **signals** provided that would allow pedestrians to cross safely. Landscaped green sound walls versus unsightly concrete walls utilizing suggested hardscape materials which absorb water to mitigate flooding. We want to see **landscape plans that are sensitive to the residential communities adjacent to the freeway.** We are requesting that trees and shrubs are planted to provide sufficient buffering of both the car traffic noise and the massive concrete visual of the freeway which is not compatible with the general expectations of residential neighborhoods.
- We want Tx Dot to continue to work with Metro and accommodate revisions as needed for the new capital improvement plans they are currently launching and likely to float bonds to meet mass transit needs. Mass transit initiatives should be part of the I-45 expansion concepts and not place any added burden of right of way on communities adjacent to the freeways.
- We want to maintain the opportunity to potentially **re purpose Pierce Elevated into an elevated public space beyond the Tx Dot I-45 Expansion project record of decision.** Allowing the City of Houston to further analyze the logistics and potential of this project as part of the new Twenty year vision plan.
- Numerous neighborhood groups have endorsed a proposal from Houston High-Speed Rail Watch for a public-transit connection (either METRORail or Bus Rapid Transit) from downtown to the anticipated high-speed rail station at 290/610 area. This proposed connection would run elevated over the main lanes of I-10 and route in the I-45 expansion corridor adjacent to First Ward. **It is preferred to enter downtown at the current location of the I-10 HOV ramp at Franklin Street** which Tx Dot shows to demolition. We are requesting Tx Dot works with Metro to incorporate this plan without placing additional burden of right of way on adjacent communities.

Part II

From the Downtown Connectors South of Buffalo Bayou- I am in support of depressed lanes on the west connectors that require new ramps into Midtown and the comments below from Make I45 Better Coalition - Houston

General Statement While the planned project will remove the I-45 main lanes from the west side of downtown, the planned "downtown connectors," their ramps and related surface streets will have significant impacts on Buffalo Bayou, Sam Houston Park, Fourth Ward and Midtown. With the assistance of the Downtown District, community representatives from the surrounding area have achieved consensus on modifications we

are asking TxDOT to make to its plans from Buffalo Bayou to Pierce Street during its FEIS phase:

Buffalo Bayou and Sam Houston Park

Sam Houston Park is Houston's most historic park, and Buffalo Bayou is Houston's greatest natural resource. The project should protect and even benefit both important civic assets.

1. Configure NB cloverleaf and SB ramps to and from Allen Parkway to allow for a cleaner bridge design over Allen Parkway and Buffalo Bayou.

2. The design of both bridges over Buffalo Bayou (elevated connectors and surface street) should minimize bridge piers and be carefully coordinated with design features of the park and bayou.

3. Our groups are inclined to support a proposal for a "signature bridge" over the park and Buffalo Bayou (pending design details)

In many areas, the project is converting overhead freeway lanes to below-grade except here where a freeway underpass is being replaced with an overpass at West Dallas.

1. With "low profile" bridge structures (thin slabs) and minimal re-grading, current standards can be met and still allow the elevated connectors to pass over Allen Parkway and then go below West Dallas as the I-45 main lanes do today.

2. Continue the downtown connectors below grade south of Andrews.

3. Include a direct pedestrian connection and gateway at Andrews Street from downtown to Fourth Ward.

4. Shift all roadways within the existing right-of-way to open up more space on the Fourth Ward side for a linear green space and high-comfort trail (see below).

5. Include the possibility of a small cap park on the north side of Andrews as part of the Fourth Ward Gateway.

Surface Streets

Reconnecting with Complete Streets communities that were split apart by the freeway is a critical component of the project scope.

1. Provide direct connections from Walker and McKinney to Houston Avenue (terminate two-way north-south surface street at this direct connection on north side of bayou).

2. Eliminate the Walker Street roadway to Allen Parkway that bisects Sam Houston Park.

3. Reduce the two-way surface street north of Allen Parkway by one lane in each direction.

4. Reduce Heiner Street to two lanes (three lanes once the Bagby ramp merges with Heiner Street) to accommodate the green space and high-comfort trail (see below)

5. Extend the NB Pease Street to West Dallas over the depressed downtown connectors to access Allen Parkway.

6. As an Option to #5, consider extending the two-way surface street north of Allen Parkway along Heiner Street to St. Joseph Parkway to improve the legibility of the street network.

Multi-Modal Trails and Green Space

Multi-modal connections between the area's high-density urban populations and Buffalo Bayou is a critical component of the project scope.

1. Along the west side of the right-of-way from Pierce to Allen Parkway, provide a high-comfort multi-modal trail from Midtown, south downtown and Fourth Ward to Buffalo Bayou.

2. It is critical that the at-grade Allen Parkway crossing be designed for pedestrian and cycling safety.

3. Provide a safe connection at Andrews Street from this high-comfort trail into the green space between the downtown connectors and then to Pierce Street (and possibly the Pierce Sky Park).

4. Preserve the option for the Pierce Sky Park from Andrews Street to Pierce Street, including a transition to the high-comfort trail accessing Buffalo Bayou.

5. Include gateways to Fourth Ward/Freedmen's Town at Andrews Street and West Dallas Street.

General Comments

The project's design should recognize that this is one of the most densely-populated and historic areas of Houston.

1. Reduce road noise with grooved pavement and slower speed limits.

2. Improve traffic safety with reduced speed limits as traffic approaches the city street network.

3. All surface streets should be designed as Complete Streets, not freeway frontage roads.

4. Roadway alignments and the project scope should allow for street trees and urban sidewalks.

5. Design of all structures should be high-quality and compatible with the surrounding urban and historic fabric.

END

Tami Merrick, **AIA**
Senior Associate / Senior Project Architect
[redacted]

Page/

[redacted]

Page Southerland Page, Inc.
[redacted]

ARCHITECTURE / ENGINEERING / INTERIORS / PLANNING / CONSULTING
Austin / Dallas / Denver / Houston / San Francisco / Washington DC /
International Affiliate Offices

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Pierce Skypark Team Comments for North Houston Highway Improvement project- July 27 2017
Date: Friday, July 28, 2017 3:09:27 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:45 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Pierce Skypark Team Comments for North Houston Highway Improvement project- July 27 2017

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:20:17 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: Pierce Skypark Team Comments for North Houston Highway Improvement project- July 27 2017**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> ---
>
> **From:** Tami Merrick [redacted]
> **Sent:** Thursday, July 27, 2017 5:10 PM
> **To:** HOU-PIOWebMail
> **Subject:** RE: Pierce Skypark Team Comments for North Houston Highway Improvement project- July 27 2017
>
> TX Dot Houston,
>
> Please include the following attached letter comments for the I-45 Expansion Project in the public record comments.

Page/ [redacted]

Page Southerland Page, Inc.
[redacted]

July 27, 2014

TXDOT Houston District Office
Director of Project Development
P.O. 1386, Houston, Tx 77251-1386

(Letter sent via email to HOU-PIOWebmail@txdot.gov)

Re:
Project: Repurposing the Pierce

The Pierce Skypark team is writing to Tx Dot encouraging they maintain the opportunity to potentially re-purpose the abandon sections of Pierce Elevated into an elevated public space beyond the Tx Dot I-45 Expansion project record of decision in Segment Three. Allowing the City of Houston to further analyze the logistics and potential of this project. The Houston Downtown Management District is in process of a project called "Plan Downtown" to look at the urban planning prospects for the 20 year future of Houston's downtown. As noted in public meetings, TxDot suggested it can credit any demolition costs saved by leaving components of Pierce Elevated in place to the City of Houston. The City of Houston should have the opportunity to use the real estate for public use as it was purchased with taxpayer funds. Our team has spent 4 years bringing awareness to many entities for the potential of re-purposing the Pierce Elevated may have to become an amenity and an economic driver to positive growth of our city.

In addition, our team was involved with studying the potential green belt and depressed lanes on the west side of segment three along with other entities. The connection from Midtown to Buffalo Bayou Park on the west portion of the I-45 expansion is crucial to facilitating a more complete connection that begins to circle downtown. We are in favor of depressing lanes in this area and support all the comments that have been outlined in detail below and the letter of DEIS comments from "Make I-45 Better Coalition."

General Statement
While the planned project will remove the I-45 main lanes from the west side of downtown, the planned "downtown connectors," their ramps and related surface streets will have significant impacts on Buffalo Bayou, Sam Houston Park, Fourth Ward and Midtown. With the assistance of the Downtown District, community representatives from the surrounding area have achieved consensus on modifications. We are asking TxDOT to add to its plans from Buffalo Bayou to Pierce Street during its FEIS phase:

Buffalo Bayou and Sam Houston Park
Sam Houston Park is Houston's most historic park, and Buffalo Bayou is Houston's greatest natural resource. The project should protect and even benefit both important civic assets.

1. Configure NB cloverleaf and SB ramps to and from Allen Parkway to allow for a cleaner bridge design over Allen Parkway and Buffalo Bayou.
2. The design of both bridges over Buffalo Bayou (elevated connectors and surface street) should minimize bridge piers and be carefully coordinated with design features of the park and bayou.
3. Our groups are inclined to support a proposal for a "signature bridge" over the park and Buffalo Bayou (pending design detail)
4. Include gateways to Fourth Ward/Freedmen's Town at Andrews Street and West Dallas Street.

Downtown Connectors South of Buffalo Bayou

In many areas, the project is converting overhead freeway lanes to below-grade except here where a freeway underpass is being replaced with an overpass at West Dallas.

1. With "low profile" bridge structures (thin slabs) and minimal re-grading, current standards can be met and still allow the elevated connectors to pass over Allen Parkway and then go below West Dallas as the I-45 main lanes do today.
2. Continue the downtown connectors below grade south of Andrews.
3. Include a direct pedestrian connection and gateway at Andrews Street from downtown to Fourth Ward.
4. Shift all roadways within the existing right-of-way to open up more space on the Fourth Ward side for a linear green space and high-comfort trail (see below).
5. Include the possibility of a small cap park on the north side of Andrews as part of the Fourth Ward Gateway.

Surface Streets

Reconnecting with Complete Streets communities that were split apart by the freeway is a critical component of the project scope.

1. Provide direct connections from Walker and McKinney to Houston Avenue (terminate two-way north-south surface street at this direct connection on north side of bayou).
2. Eliminate the Walker Street roadway to Allen Parkway that bisects Sam Houston Park.
3. Reduce the two-way surface street north of Allen Parkway by one lane in each direction.
4. Reduce Heiner Street to two lanes (three lanes once the Bagby ramp merges with Heiner Street) to accommodate the green space and high-comfort trail (see below)
5. Extend the NB Pease Street to West Dallas over the depressed downtown connectors to access Allen Parkway.
6. As an Option to #5, consider extending the two-way surface street north of Allen Parkway along Heiner Street to St. Joseph Parkway to improve the legibility of the street network.

Multi-Modal Trails and Green Space

Multi-modal connections between the area's high-density urban populations and Buffalo Bayou is a critical component of the project scope.

1. Along the west side of the right-of-way from Pierce to Allen Parkway, provide a high-comfort multi-modal trail from Midtown, south downtown and Fourth Ward to Buffalo Bayou.
2. It is critical that the at-grade Allen Parkway crossing be designed for pedestrian and cycling safety.
3. Provide a safe connection at Andrews Street from this high-comfort trail into the green space between the downtown connectors and then to Pierce Street (and possibly the Pierce Sky Park).
4. Preserve the option for the Pierce Sky Park from Andrews Street to Pierce Street, including a transition to the high-comfort trail accessing Buffalo Bayou.

General Comments

The project's design should recognize that this is one of the most densely-populated and historic areas of Houston.

1. Reduce road noise with grooved pavement and slower speed limits.
2. Improve traffic safety with reduced speed limits as traffic approaches the city street net work.
3. All surface streets should be designed as Complete Streets, not freeway frontage roads.
4. Roadway alignments and the project scope should allow for street trees and urban sidewalks.
5. Design of all structures should be high-quality and compatible with the surrounding urban and historic fabric.

Thank you for your consideration.

Sincerely,

The Pierce Skypark Team

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:25:10 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:11 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:23:59 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 9:33 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Roger Moore [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I am commenting on the $7B Houston District TxDOT I-45 project. We need to preserve the future opportunity to incorporate multi modal high capacity transit (i.e. elevated rail, etc.) into this project. Thank you!
Roger Moore

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:25:59 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:11 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:24:07 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 8:36 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Ms. Melissa Noriega[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: As a resident of Houston's East End, I am concerned about E-W connectivity into downtown. The grid has already been compromised w dead-ends into one-ways, poor signage, etc. It's not acceptable to cut off major connector like Polk or Leeland wo a serious re-work of the one ways & the areas around stadiums. A poor workaround is not acceptable.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: FW:
Date: Friday, July 28, 2017 3:22:51 PM
Attachments: TxDOT North Houston Highway Improvement Project Letter 7-26-17.pdf
ATT00001.htm

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:06 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: FW:

Sent from my iPad

Begin forwarded message:

> **From:** "HOU-PIOWebMail" <HOU-PIOWebMail@txdot.gov>
> **To:** "Pat Henry" <Pat.Henry@txdot.gov>
> **Subject: FW:**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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Watch us @www.youtube.com/txdotpio

From: Anne Olson [redacted]
Sent: Thursday, July 27, 2017 3:39 PM
To: HOU-PIOWebMail
Subject:

Attached please find a letter from Buffalo Bayou Partnership regarding the TxDOT North Houston Highway Improvement Project.

Thank you.

Anne Olson

President, Buffalo Bayou Partnership
[redacted]

We've moved! Please mail to: [redacted]

Buffalo Bayou Partnership is the non-profit organization revitalizing and transforming Buffalo Bayou, Houston's most significant natural resource.

[redacted]

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PARTNERSHIP

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Jonathan H. Brinsden, Vice Chair
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Bob Phillips
F. Max Schuette
Raymond Snokhous
Georgia Wilson

*deceased

President
Anne Olson

[redacted]

July 26, 2017

Mr. Quincey Allen, P.E.
Texas Department of Transportation, Houston District
P. O. Box 1386
Houston, Texas 77251

Dear Mr. Allen:

On behalf of Buffalo Bayou Partnership, I am writing to you regarding TxDOT's North Houston Highway Improvement Project. Please know that our organization is part of a coalition of park, civic, quality of life, historic preservation and neighborhood groups that has sent you a comprehensive list of concerns and recommendations relating to the North Houston Highway Improvement Project which include:

- Environmental Impacts (air and water quality, flooding)
- Visual Impacts
- Noise Impacts
- Multi-modal impacts
- Parks and green space impacts
- Economic impacts, particularly in disadvantaged neighborhoods

The purpose of this letter is to address specific areas of concern and offer recommendations pertaining to Buffalo Bayou and adjacent neighborhoods.

Southwest Quadrant of Downtown/Downtown Connector (DC)

Through the leadership of the Downtown Management District, community representatives including those from Buffalo Bayou Partnership, have reached consensus on the following recommendations for the Buffalo Bayou Sabine Promenade area in downtown. We believe these recommendations will provide for increased neighborhood connectivity between Downtown and the Fourth Ward in addition to improved connection between Midtown and the Buffalo Bayou Park/Sabine Promenade area.

- Configure northbound cloverleaf and southbound ramps to and from Allen Parkway to allow for a cleaner bridge design over Allen Parkway and Buffalo Bayou.
- The design of both bridges over Allen Parkway (elevated connectors and surface streets) should minimize bridge piers and be carefully coordinated with design features of the park and bayou.
- Design a "signature bridge" over the park and Buffalo Bayou.
- General modifications for DC alignment: With the indicated TxDOT right-of-way, adjust eastward the curvature of the DC and northbound/southbound frontage streets, in order to maximize the

space on the western side of DC for north-to-south pedestrian, bicycle, and landscape amenities adjacent to the Fourth Ward. This DC shift eastward may involve reconsideration of the DC exit to Bagby Street.

- To provide for the greatest improvement, grade separate the DC below Dallas and Andrews streets. Further, shift the "swing lanes" of the northbound frontage street to between Dallas and Andrews streets; this results in an eccentric bridging structure for the "swing lanes" which has been discussed within community meetings as a potential cap park benefitting both Fourth Ward and Allen Center.
- As an alternative to the preferred solution described previously, shift southward the embankments at the southern end of DC such that an east-west pedestrian and bicycle connection along Andrews Street can be established. Due to the historic condition of Andrews Street in the Fourth Ward, the objective is not to increase vehicular traffic on this narrow, brick-lined street, but rather to allow for pedestrian and bicycle access across (under) the DC. The proposed "swing lanes" of the northbound frontage street between Dallas and Allen Parkway are unaffected.

Buffalo Bayou Partnership views this area as one of the most densely-populated and historic areas of Houston and therefore recommends the following:

- Reduce road noise with grooved pavement and slower speed limits
- Improve traffic safety with reduced speed limits as traffic approaches the city street network
- All surface streets should be designed as Complete Streets, not freeway frontage roads
- Roadway alignment and the project scope should allow for street trees and urban sidewalks
- Design of all structures should be high quality and compatible with the surrounding urban and historic fabric

Northeast Quadrant of Downtown

The new alignment of IH-45 across Buffalo Bayou northeast of Downtown offers a unique opportunity to create a major new green space near Downtown combining Harris County's James Bute Park with the current freeway right-of-way. This area could serve as a major gateway from Downtown and Eado to parks and trails along Buffalo Bayou and be an attraction in its own right. The DEIS drawings show detention in this area. Projects in Houston like Art Storey Park have shown that detention ponds cannot only be part of great open spaces but actually make them more interesting. Buffalo Bayou Partnership would like to work with TxDOT on the design of this detention area and on opportunities to link the area to the possible cap park between Downtown and Eado, possibly including a pedestrian/bike bridge over the IH-10 and IH-69 ramps. The Partnership also encourages TxDOT to look at options for moving the IH-69 exit ramps farther east, closer to the remainder of the freeway, to keep this area more open.

In this same area, Buffalo Bayou Partnership is concerned about several North Houston Highway Improvement Project plans, and recommends the following:

- The closure of Runnels Street cuts off the area of the East End north of the West Belt Subdivision rail line and Buffalo Bayou, and limits access to Downtown to just the Franklin/Navigation underpass.
- Evaluate options for a northbound exit from US 59 main lanes to Runnels Street.
- Evaluate options for extending Canal Street across I-69/US 59/I-45 between Downtown and Second Ward.
- Existing two-way connection of Nance Street to Jensen Street is being replaced by one-way frontage road along Rothwell. Identify another two-way connection between Jensen Street and Jensen Street.
- Maintain Jensen Street exit from IH-10 eastbound or provide other alternatives to maintain connectivity without at-grade rail crossings.
- Identify options for ingress and egress from I-69 near Buffalo Bayou areas to improve access to and from Downtown, East Downtown, East End and Fifth Ward
- Proposed design has limited connectivity to the Fifth Ward areas north of Buffalo Bayou. The exit ramp for Jensen previously proposed has been removed. Provide alternate access from Fifth Ward to mitigate any loss of access. Evaluate options to extend Bringhurst across I-10 to enhance connectivity across I-10.
- Providing an additional crossing at IH-10 between Gregg Street and Hirsch Street would be very beneficial, given the potential Midway East River development.

Buffalo Bayou Partnership thanks TxDOT for its work on the North Houston Highway Improvement Project. In collaboration with other civic organizations, Buffalo Bayou Partnership looks forward to working with TxDOT representatives to enhance this important project.

Sincerely,

Anne Olson

Anne Olson
President

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Bayou Preservation Association Comments on North Houston Highway Improvement Project DEIS
Date: Friday, July 28, 2017 3:22:14 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:04 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Bayou Preservation Association Comments on North Houston Highway Improvement Project DEIS

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:23:48 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: Bayou Preservation Association Comments on North Houston Highway Improvement Project DEIS**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Linda Shead [redacted]
Sent: Thursday, July 27, 2017 3:35 PM
To: HOU-PIOWebMail
Cc: Rayburn, Robert; Hill, Susan
Subject: Bayou Preservation Association Comments on North Houston Highway Improvement Project DEIS

To: Mr. Quincy Allen, P.E.
Houston District Engineer
Texas Department of Transportation

Dear Mr. Allen:

Please accept the attached comments of the Bayou Preservation Association on the Draft Environmental Impact Statement (DEIS) released by the Texas Department of Transportation (TxDOT) concerning TxDOT's North Houston Highway Improvement Project.

Thank you for your consideration.

Linda Shead

Celebrating 50 years!

BAYOU PRESERVATION ASSOCIATION

Protecting our bayous and streams

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Len Waterworth
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Carla Wyatt
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July 27, 2017

Mr. Quincy Allen, P.E.
Houston District Engineer
Texas Department of Transportation
P.O. Box 1386
Houston, Texas 77251

VIA EMAIL to:
HOU-PIOWebmail@txdot.gov

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen:

Please accept this letter as the comments of the Bayou Preservation Association on the Draft Environmental Impact Statement (DEIS) released by the Texas Department of Transportation (TxDOT) concerning TxDOT's North Houston Highway Improvement Project, which will also be referred to in this comment letter as the Interstate 45 Expansion Project or "I-45 Expansion."

Bayou Preservation Association is a non-profit organization whose mission is to "celebrate, protect and restore the natural richness of all our bayous and streams in the Houston area." Founded in 1966 by a group led by the late Terry Hershey, Bayou Preservation Association has been a consistent advocate for preservation and improvement of the beauty and cleanliness of Houston's bayous and watersheds and a consistent advocate for public policies that reduce water pollution of Houston area bayous and streams. Though Bayou Preservation Association recognizes that the development of the Houston metropolitan area has led in past decades to many drainage projects involving channelization and concreting of Houston waterways, Bayou Preservation Association is committed to restoration of Houston waterways to a more nearly natural condition wherever that can be accomplished.

Bayou Preservation Association's concerns about the DEIS are the failure to adequately address the impacts on water quality and stormwater management. Bayou Preservation Association supports the comments of the I-45 Coalition on these points, as expressed in the excerpt of the Coalition letter that is quoted below. We have not addressed other points in the I-45 Coalition letter, because they fall outside the mission and goals of Bayou Preservation Association.

"Flooding Impacts and Water Quality Impacts

"The DEIS recognizes that 'potential impacts on surface water quality from the proposed project would be primarily related to storm water discharges into streams and drainageways that traverse' the project. Unfortunately, the DEIS analysis of water quality impacts falls into the same trap as the visual impact analysis. The latter suggests that because Houston is generally unsightly, making it a bit less attractive is not of great consequence. The water quality analysis basically says that Houston's bayous are hopelessly polluted, so a bit more pollution is not impactful.

"The DEIS recognizes that Buffalo Bayou, Little White Oak and White Oak Bayou are classified by TCEQ as 'impaired streams', and that 'the discharge of storm water runoff into these drainage features' (i.e., in our parlance, bayous), would be unavoidable. Further, it argues that because White Oak, Buffalo and Little White Oak are impaired, TxDOT has a lesser burden to protect existing water quality. Because these streams are impaired, TxDOT should have a greater obligation not to harm them further—especially since TxDOT itself is already contributing to the problem with its current practice of dumping freeway water directly into Houston's bayous.

"Any Houstonian who has walked along a bayou underneath a freeway in Houston knows exactly what this means – **every time it rains, or even when it's windy, tons of trash are dropped into our waterways, and flow into Galveston Bay, an important estuary for the greater region.**

"TxDOT's DEIS sets forth that it will meet stormwater discharge requirements during construction. Nowhere is it clear how TxDOT will prevent the flow of the thousands of tons of trash that are transported from freeways to bayous during Houston's frequent 'gullywashers'.

"Needless to say, the project will produce much more impervious surface with the potential to increase flooding and accelerate pollutants into the natural waterways. The DEIS should more clearly define creative strategies to minimize those potential impacts. Those strategies may include wet bottom detention basins that can filter water and roadside drainage filters to capture trash at its source. That work could be further expanded to include recreation and additional water quality functions.

"Waterways affected by the project are already listed as impaired waters. We ask that TXDOT model the runoff and stormwater discharges into Buffalo, White Oak, Halls and Little White Oak Bayous in order to meet state requirements that prohibit the addition of any pollutant load into impaired waters and focus instead on improving those waters through the additional application of more rigorous best management practices for stormwater and runoff. Similarly, please further adopt and disclose the best management practices and plans that will be adopted, including source controls, to avoid further discharge of trash into these waterways.

"Some of TxDOT's more recent flood control structures have made good strides in integrating the landscape with detention. Others have not. The detention basins planned on either side of Little White Oak Bayou, south of Patton, require thoughtful planning so that

water edges are accessible to wildlife, and pedestrian and bicycle trails connect both to the existing bike trail going north along Little White Oak Bayou from Calvacade [sic] and to Moody Park to the southeast. The detention basin recently constructed in the Heights stands out as an example of lost opportunity, where despite extensive community involvement, citizen input and repeated requests from local City Council members, TxDOT built a detention pond with a single use that is completely isolated from the surrounding community – this in one of the highest land value areas of the City of Houston.

"Despite requests to this effect during the scoping period in 2015, TxDOT has rejected the possibility of wet bottom detention areas unless someone else maintains them. We request that TxDOT further explain in the Final EIS why it should not have the responsibility for doing everything possible to deliver into Houston's bayous cleaner water from the highways it maintains and owns."

Bayou Preservation Association specifically re-emphasizes and calls attention to the general point raised in the Coalition letter to the effect that: "The water quality analysis basically says that Houston's bayous are hopelessly polluted, so a bit more pollution is not impactful."

Houston area bayous are impaired. TxDOT is not responsible for the entirety of the impairments, but the design and routing decisions of TxDOT in hugging the flood plains of Houston bayous and treating those bayous as drainage ditches has been one of the significant contributory causes of these impairments. The Bayou Preservation Association respectfully but urgently requests that TxDOT conduct a thorough review of the design and engineering premises of the I-45 Expansion Project, as a whole, and correct to the maximum degree possible, the pollution impacts imposed by TxDOT's projects.

The Bayou Preservation Association appreciates TxDOT's careful attention to the comments expressed in this letter and is ready to respond to any questions or issues TxDOT may have concerning it.

With this project, TxDOT and its local partners could have an excellent opportunity to reverse many ill-effects of routing and design choices made during the early days of freeway construction in Houston, when adverse pollution and water quality impacts of highway infrastructure were not well understood, and mitigation of such impacts non-existent.

Sincerely,
BAYOU PRESERVATION ASSOCIATION

Robert L. Rayburn
President

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Comments on North Houston Highway Improvement Project
Date: Friday, July 28, 2017 8:36:52 AM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, July 27, 2017 8:27 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Comments on North Houston Highway Improvement Project

Sent from my iPad

Begin forwarded message:

From: Rebecca Reyna [redacted]
Date: July 27, 2017 at 4:39:08 PM CDT
To: 'Pat Henry' <Pat.Henry@txdot.gov>
Cc: 'Quincy Allen' <Quincy.Allen@txdot.gov>, Jeanette Rash [redacted]
Subject: Comments on North Houston Highway Improvement Project

Dear Mr. Henry,

Please accept our attached comments on the NHHIP.

Do I also need to send it a hard copy?

We look forward to continuing to work with you and Mr. Allen on this project to ensure Northside is a better place to live, work, play, and where mobility is improved.

Respectfully Submitted,

Rebecca C. Reyna
Executive Director
Greater Northside Management District
[redacted]

ATTENTION PUBLIC OFFICIALS: A "Reply to All" of this e-mail could lead to violations of the Texas Open Meetings Act. A "Forward" of this e-mail to another public official could also lead to violations of the Texas Open Meetings Act if a quorum is eventually involved. Please reply only to the sender.

[redacted]

July 27, 2017

Mr. Pat Henry, P.E.
Director of Project Development
Texas Department of Transportation
P.O. Box 1386
Houston, TX 77251

RE: North Houston Highway Improvement Project

Dear Mr. Henry:

The Greater Northside Management District (GNMD) again appreciates the opportunity to comment on the Texas Department of Transportation's (TxDOT) proposal for the North Houston Highway Improvement Project. As we have commented before, this is a project that covers a majority of our District and will have an everlasting impact on our area.

We want to acknowledge the ongoing efforts that the TxDOT Houston office has made to meet with us and listen to our concerns. We feel that they have made attempts to listen to the community and, for that, we are very grateful. District Engineer Quincy Allen and staff have been available and accessible at every step of the process.

While some issues have been addressed, there are still some areas that we feel that have not been given adequate solutions or that need improvement in how they are moved forward. While we understand the constraints of certain areas, we feel that if modifications are not possible, additional strategies should be sought to minimize the impact.

We continue to have concerns about the economic impact caused during the construction phase of the project and as a direct result of the final alignment chosen. The final alignment affects many businesses in our District and impacts the access of our neighborhoods in particular sections. The economic health of our area is based on the connectivity of the area and maintaining, if not enhancing, the current level of access.

Our stakeholders have commented in various meetings that regardless of the selected alignment, the preferred alternative should offer a cost-effective mobility solution that increases the capacity of the freeway and takes into consideration the mobility of public transportation, pedestrians, cyclists and vehicles.

Information such as actual economic impact on segments, noise mitigation and environmental assessments, including the visual environment, are still not complete to make a fully informed judgment. We hope that all comments and concerns will be addressed and that we will see our comments given attention in the Final Environmental Impact Study (FEIS).

In reviewing each Segment, we have the following comments:

Segment 1:
In regards to Culinary Institute LeNôrte, we disagree that there is minimal impact due to the students being able to attend two other schools that offer the same services. The Draft Environmental Impact Study (DEIS) fails to mention the uniqueness of this school, which also offers classes to the community. LeNôrte is the only facility in the near vicinity that offers classes in cuisine and wine education. LeNôrte also offers a culinary experience that you cannot find anywhere else in the immediate area. Le Bistro is French-gourmet restaurant that offers affordable, high-quality meals that cannot be found anywhere else in the Northside. Businesses, employees and residents can experience French cuisine at Le Bistro -- something that many of us would not be able to do otherwise.

The overall loss of economic opportunities in Segment 1 is of concern and places an already financially at-risk community at further jeopardy for loss of jobs and revenue.

There is concern that the DEIS creates losses in Segment 1 that far outweigh any other segment, such as a loss of over 23,000 employees and 242 businesses with a $6 million loss of business property tax and $118.1 million in potential sales tax due to the displacement of businesses. Developable land is limited in some sections of Segment 1 due to the proximity to the Little White Oak Bayou. Per the DEIS, there are concerns about the ability for this area to create new opportunities to balance these losses. This places an unfair hardship in areas that have the lowest median average income and highest unemployment rates of any of the Segments.

Segment 2:
In Segment 2, there will be losses of $263,000 in business property tax and $550,000 in business sales tax. Strategies were not recommended in the DEIS on how this revenue will be recaptured in an area that is stated to have an adverse impact by this project.

The DEIS also takes into account the loss of developable land in many sections, such as Little White Oak Bayou. The District will lose existing open green space (e.g., the existing Heritage Trail will become covered by seven lanes of traffic, which does not create a desirable bike/pedestrian pathway). This project must take into consideration that loss and opportunities to create more open green space, especially along Little White Oak, which reaches through Segments 1 and 2. Green space would benefit this project and compensate communities that are losing homes, businesses and access.

There is no mention of the loss of Urbana Recording Studio at 3232 Mainford, which is owned and operated by La Mafia. La Mafia is a Grammy-winning, Tejano musical group that has been a mainstay in the Northside for over 30 years. This is a state-of-the-art music studio in the Northside where notable artists record their hits, including Jennifer Lopez, Mark Anthony, Lady GaGa, Enrique Iglesias and other international artists. The presence of La Mafia in the Northside is a badge of honor and pride, and the loss of this iconic studio cannot be measured monetarily.

There are concerns about the loss and movement of access points that can have a substantial impact on patterns of development. An example of this is the elimination of the eastbound Irvington exit. While this intersection is a chronic problem, eliminating this access point will change development patterns and possibly risk the economic health of long-established businesses along this corridor. This is not included in the DEIS as a potential impact.

The DEIS does not address the impact to existing businesses by the elimination of access points in Segment 2.

With loss of access in Segment 2, pedestrians and bike paths become even more important. We respectfully request that a separated pedestrian/bike path be developed for Hogan Bridge. We also request that a connector be built for a Hike-and-Bike path along Little White Oak that connects an existing path at Woodland Park to the Near Northside area.

We are very pleased that boxed beams will placed at the "Deck Park," which is one of the few positive highlights for this area. We have hopes that a Deck Park in this area will reconnect two neighborhoods that were originally separated by I-45. Yet, there is concern that the feeder roads will not be friendly places for pedestrians and cyclists to cross. We request that a traffic calming measure be taken into consideration to allow for safe access to the Deck Park, whether using on-street parking, bulb-outs, hawk crossings or some other strategy.

Segment 3:
A major concern is how the realignment of I-10 near downtown could affect the economic development of the Hardy Yards, a 40-acre development that only recently has seen movement. As mentioned in our 2015 public comments, the realignment will have potential aesthetic and noise impact to adjacent, existing and future development and could be detrimental to the revitalization of the Near Northside. In reviewing the DEIS, there does not seem to be an adequate response to this concern.

There is no mention of Wilson Industries, which has nine acres of land that will be eliminated by the realignment and expansion of I-10. Wilson Industries -- prior to the current chosen alternative -- worked with the Rice School of Architecture to create a vision for a nine-acre, mixed-use development at this site. This would be a much-needed development in the southern end of our District. They are unable to move forward with their plans, creating a potential loss of millions of dollars and economic development for this area with the current alignment. We request that this planned development be mentioned and studied in the FEIS and included in impacts that this project will have on existing conditions.

There is concern that the realignment and increase in lane heights will have an impact on possible development, especially in the Hardy Yards area. The DEIS mentions this increase of a visual and physical barrier, but the true economic impacts are not studied. We would like to see some mitigation addressed in the FEIS to compensate for the placement of a possible 50-foot barrier between Northside and the Central Business District.

While the DEIS mentions this will remove a barrier and open up vistas for the area west of downtown, it places additional hardships on the City's Northside. For us, it disrupts our existing views and increases noise while creating less opportunity for access in and out of the Central Business District. This is especially important in our lower, socioeconomic neighborhoods. We respectfully request that the potential harm to development along with noise and the loss of potential growth opportunities is studied and reviewed in the FEIS.

We also request a creative review of how to positively impact the movement of all modes of transportation including cyclists and pedestrians in the northeast area of the District. This area is already confusing for those not familiar with the area; with the new design, access in this area will be impacted even more.

The 5th Ward Lyons/Jensen area is growing and also has numerous transportation projects that will touch this area in the future. Besides the North Houston Highway Project, there will be a high increase of concrete structures in this area, including the Harris County Toll Road Expansion Project and the Elysian Viaduct Project. We request that the FEIS consider ways to mitigate the increase of concrete structures and large amounts of detention that will be in this area. The FEIS at a minimum should review and mention the possible economic impacts.

We also request that San Jacinto be extended at grade or below grade to connect to Fulton. Without the future expansion of San Jacinto, which has been planned for years as a connector to Hardy Yards and the Near Northside area, our community will be further isolated forever and placed at a disadvantage as we strive to develop this area. We also request that the FEIS review the potential harm that the elimination of alternatives for a San Jacinto extension could have on the area.

In our final review of the design, we are concerned that the loss of economic vitality and vibrancy -- seen in the Near Northside and the 5th Ward many decades ago with the original placement of I-45 and US-59 -- will once again occur. Both areas are experiencing a resurgence of activity. There is an opportunity for this project to help stitch the fabric of this urban area in positive ways, which is why we believe strongly that the treatment along the I-10 corridor bordering the Northside must be given further consideration.

Currently, there is one exit point (Providence) with limited accessibility. Vehicles on Providence will not be allowed to turn north onto North Main or gain access to the south for the University of Houston–Downtown (UHD). Vehicles will be forced to U-turn and seek ways through downtown streets to regain access to the Near Northside or UHD. With such limited access, it is imperative that San Jacinto be developed as an access point to Fulton Street. Without one or both of these points into and out of downtown, the economic health of the Hardy Yards and the rest of the North Main corridor is at risk.

The DEIS mentions that Alternative 11 received favorable public support and community consensus as extensive outreach was conducted to refine the design to benefit surrounding communities. We believe in the meetings held in Northside, concerns were presented verbally and in writing about the increased barriers placed between the Central Business District and the Northside.

Overall Comments:
In our opinion, there are areas where there is room for improvements for cyclists, pedestrians and/or public transit users. There is also concern that the design alternative chosen should allow for greater connectivity within the area and to the North Corridor Light Rail System. The alternative chosen seems to be one with significant impacts to residents and businesses in the area.

In looking for ways to make this project more equitable, we request that aesthetic treatment be given in the areas that impact the District. This includes artistic design of all bridges and connectors.

We appreciate how TxDOT has listened to our constituents and is willing to work with our community. While we feel that TxDOT has created the most modern highway system to move vehicles faster and safer, our urban District is also looking at the movement within our inner neighborhoods.

We respectfully ask that the agency review the impact this project will have on our District's present-and-future inner city neighborhoods and economic growth. Our vision for the Northside is to improve its economic development while retaining its historical features.

We recommend that you find innovative opportunities to improve the quality of life of the Greater Northside. We look forward to continuing to work with you to ensure the best transportation project for all concerned.

Sincerely,

Rebecca C. Reyna

Rebecca Reyna, Executive Director
Greater Northside Management District

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Comments Letter on North Houston Highway Improvement Project ("NHHIP")
Date: Friday, July 28, 2017 3:49:21 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:47 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Comments Letter on North Houston Highway Improvement Project ("NHHIP")

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:31:22 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: Comments Letter on North Houston Highway Improvement Project ("NHHIP")**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> ---
>
> **From:** Janet Roe [redacted]
> **Sent:** Wednesday, July 26, 2017 12:08 PM
> **To:** HOU-PIOWebMail
> **Cc:** Anibeth Carolina Turcios; Teresa Flores; Cynthia Reyes-Revilla; Gene Green; Gene Green; Sylvia Garcia; Jessica Ferrar; Ariana Campos; Karla Cisneros; Rebecca Reyna; Mary Lawler; Jenifer Wagley; Jim Weston; Susan Graham; Gwyn Guidy; Randy Baxley; Deborah Tesar; Stella Mireles; Christel Wommack; Sheila Jackson-Lee
> **Subject:** Comments Letter on North Houston Highway Improvement Project ("NHHIP")
>
> Please find below, the NHHIP comment letter from the Near Northside Super Neighborhood 51 Leadership Team.

Please let me know if you have any trouble opening this document.

Thank you.

Janet Roe
J Roe Photography
[redacted]

[redacted]

Super Neighborhood 51 Leadership Team

Houston's Near Northside

July 27, 2017

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386

HOU-PIOWebmail@txdot.gov

Re: North Houston Highway Improvement Project
Public Comments by Super Neighborhood #51 Leadership Team

Dear TxDOT Representatives:

The Super Neighborhood #51 Leadership Team has significant concerns about the effect that the proposed I-45 construction (Segments 2 & 3) will have on the quality of life and future development of the Near Northside. In the first instance, we urge that the North Houston Highway Improvement Project ("NHHIP") not be built. In ten years, the additional lanes will only mean more traffic and greater congestion. We agree that I-45 through downtown Houston needs to be revamped and improved, but as far as increasing traffic flow between downtown and north Houston, we believe a better use of resources would be to build a commuter rail down the middle of I-45. However, we are not so naive as to believe that the NHHIP will not be built. Therefore we address our concerns in this letter. To further understand them, it is necessary to appreciate (a) the history and demographics of the two neighborhoods bordering I-45, south of I-610 (the Near Northside and the Greater Heights), as well as (b) the injustice to the Near Northside that the NHHIP will cause.

PART 1

DEMOGRAPHICS, HISTORY AND INJUSTICE

Demographics:

Super Neighborhood #51 represents Houston's Near Northside, which is immediately north of downtown and south of Crosstimbers St., east of I-45 up to and including Elysian St. The Near Northside includes lower income residents of diverse ethnicity, the overwhelming majority (80%+) of which are Hispanic. Median household income (as of 2012) was $30,258 with 40% of residents earning less than $25,000 per year. Also, at that time, 45% of Near Northside Residents did not have a high school diploma. Housing was 54% renter occupied with 7% of the residents being unemployed and 40% not in the labor force. Spanish is the predominate language.

The demographics of the Near Northside contrast greatly with those of the Greater Heights Super Neighborhood 15, directly across I-45 from the Near Northside. In 2012, the median income in the Greater Heights was $70,102; 50% of the residents had a bachelor's degree or higher; and 72% were employed.

History:

Before the construction of I-45, these two neighborhoods (Near Northside & Greater Heights) were one with similar socio-economic demographics. After the construction if I-45, however, these two neighborhoods developed in drastically different ways with obvious wealth and development going to the Greater Heights neighborhood. Since the bifurcation, the Greater Heights has recently become one of the most sought after neighborhoods in the City of Houston, while the Near Northside has languished and often been "forgotten".

Injustice:

Many of our concerns about the proposed I-45 construction relate to the economic and environmental injustice that the project will exacerbate in the Near Northside. As stated by the NHHIP's Draft Environmental Impact Statement, ES-4, "All alternatives [of the construction project] would cause disproportionate high and adverse impacts to minority or low-income populations. While minority and low-income individuals and community facilities in the project area would be adversely impacted by the proposed project, no reasonable alternatives would avoid adverse impacts or have substantially less overall adverse impacts than other alternatives."

This is unacceptable. Alternative plans and solutions for the project's isolation of the Near Northside must be made. The Texas Department of Transportation ("TxDOT") recognizes that it is charged with developing strategies for environmental justice. The Draft Environmental Impact Statement states:

> "Executive Order (EO) 12898-Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations requires federal agencies to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations" (Office of the President 1994). EO 12898 also directs agencies to develop a strategy for implementing environmental justice."

To say there are "no reasonable alternatives" leaves disadvantaged neighborhoods such as the Near Northside in an untenable position. We strongly suggest that TxDOT reassess its position regarding environmental and economic injustice.

PART 11

ECONOMIC AND ENVIRONMENTAL INJUSTICE CAUSED BY ISOLATION OF THE NEAR NORTHSIDE

Our major concern is the isolation of the Near Northside due to NHHIP's plans to remove much of the current access into and out of the neighborhood. One of the most advantageous aspects of the Near Northside is its easy access to I-45, I-610 and I-69 as well as to downtown and the Greater Heights. The isolation caused by the NHHIP will result in the disadvantaged population of the Near Northside disproportionately bearing the burden of the project and will create greater economic and environmental injustice. Among these disproportionate burdens are significantly increased travel times, increased traffic on residential streets, increased noise and air pollution, decreased desirability of the area and decreased opportunity for economic development.

A. Isolation of the Near Northside Due to the Removal of the North Street Bridge

The proposed removal of the North Street bridge isolates the Near Northside from the Greater Heights as well as from a connection into downtown, to the First Ward and to the growing shopping areas on Sawyer, Studemont & Yale Streets.

The North Street bridge is vital to the surrounding neighborhood just east of I-45 because of the existence of the White Oak Music Hall ("WOMH"), at 2915 N. Main Street, and the traffic/parking issues that result from concerts there. So many patrons attend WOMH concerts that ending North Street at I-45 would significantly increase back-up and congestion in an area that already suffers a tremendous amount of congestion due to concert attendance. WOMH is one of the few new business endeavors in the Near Northside. Removing the North Street bridge would have a debilitating impact on its patrons as well as the nearby residents, resulting in further economic and environmental injustice.

The North Street bridge, because of less traffic during non-concert times, is also a vital bike & pedestrian connector into the Greater Heights, to Houston Avenue and subsequently to the First Ward and downtown. The bridge at North Main St. is far too busy to be conducive to bikes or pedestrians. The proposed northbound braided ramp from I-10 and I-45 should be moved south to allow for the North Street Bridge. If that is not feasible, the surrounding neighborhood must have access to the frontage road or other egress to I-45 other than North Main St. since blocking off the end of North St. (as a dead end) at I-45 will cause unmanageable congestion.

B. Isolation Due to Loss of Access to and from the Near Northside

The NHHIP will result in a severe decrease in access to and from the Near Northside. The disadvantaged population of the Near Northside disproportionately bears the burden of the project. Among the disproportionate burdens are significantly increased travel times, increased traffic and pollution on residential streets, decreased desirability of the area, decreased opportunities for development, and greater difficulty for both those with and without cars to travel to jobs or other destinations or to take advantage of resources outside the neighborhood. The following points of access to and from the Northside are negatively impacted by the NHHIP.

1. Loss of Access to I-45 N and I-610 E & W from the Cavalcade Frontage Road

Currently, vehicles are able to access both I-45 N and I-610 E and W from the frontage road just north of Cavalcade St. It appears from the NHHIP video that both these entrances will be lost by the new construction, which will unduly restrict access from the Near Northside to these thoroughfares. The burdens of loosing this access to both freeways from Cavalcade St. are significant:

- To enter I-45 N from anywhere in the Near Northside (north of the Quitman St. entrance/exit), residents will have to travel on the frontage road under the I-610 interchange all the way to the entrance between Airline and Tidwell at Buress St. - a distance of three or more miles. Alternatively, to have to backtrack to Quitman St. to access the Quitman St. entrance would significantly increase travel times and increase residential street traffic and congestion.
- To enter I-610 W from the Near Northside, residents will have to either (a) travel on the frontage road up to and under the I-45/I-610 interchange, turn west on the I-610 frontage road and travel to the entrance to I-610 W between North Main St. and Yale St OR (b) travel west on Cavalcade St. into the Greater Heights; turn north on North Main St. and proceed to the frontage road at I-610.

- To enter I-610 E from the Cavalcade frontage road, residents will have to travel north on the I-45 N frontage road; turn east on the I-610 E frontage road; cross the Metro Rail at Fulton St. (a lengthy light & congested intersection) as well as the light at Irvington St.; and proceed all the way to the entrance to I-610 E at Chapman St.

Clearly, this is a "disproportionately high and adverse . . . environmental effect . . . on minority populations and low-income populations." (Executive Order 12898). Entrances from the Cavalcade frontage road to I-45 N and I-610 E & W must either be maintained or reconstructed.

2. Loss of Access to the Near Northside Due to Removal of the Entrance from I-610 E to Irvington St.

The only access to the Near Northside while driving east on I-610 is the exit from I-610 E to Irvington St. The NHHIP removes this entrance into the Near Northside further isolating the community.

3. Loss of Access from the Near Northside Due to Proposed Removal of the Entrance to I-45 N and I-610 W from Irvington St.

The existing entrance from Irvington St. to I-45 N and I-610 W will be removed by the NHHIP. Residents will thus be forced to travel much further on the frontage roads (a) north to the Buress St. entrance on I-45 N and (b) west to the entrance between North Main St. and Yale for access to I-160 W, which requires crossing the light rail at Fulton - an already congested crossing due to long lights waiting for the Red Line Metro trains.

C. Isolation Due to Loss of Entrances into the Near Northside when Traveling South on I-45

The NHHIP removes exits into the Near Northside at Patton St. and North Main St. Other than the exit at the other end of the neighborhood at Quitman St., the only exit into the Near Northside left by the project is at Cavalcade. The removal of the Patton and North Main St. exits severely restricts access to the Near Northside, further isolating it.

D. Isolation from Downtown

Access to downtown is critical for the economic development of the Near Northside. Access to downtown for cyclists and pedestrians is extremely limited. Many of the residents who bike and walk in the Near Northside do so out of necessity, rather than from a desire to exercise. Continuing isolation from downtown's jobs and city resources exacerbates environmental/economic injustice. To remediate this isolation, in Segment 3, a bike/pedestrian trail from the Near Northside into downtown should be constructed. Additionally, in conjunction with Metro, a pedestrian walkway should connect the University of Houston Downtown to the Burnett Transit Center.

E. Isolation Will Cause Decreased Response Time by First Responders

All of the foregoing losses of access to the Near Northside will greatly and adversely impact the ability of first responders to travel to and from the neighborhood. Many of our first responders are headquartered outside the Near Northside. The nearest police station for the Houston Police Department ("HPD") is the Central Division, located downtown. The nearest HPD substation is located in the Heights, across from I-45. The same is true for the Precinct 6 and Precinct 1 Constables who cover the Near Northside. Precinct 6 is headquartered in the East End on Canal St. and the Precinct 1 Constable offices downtown. The Near Northside does have a Houston Fire Department ("HFD") station on Hogan, but any fires requiring more than its capacity, will require travel from outside the neighborhood. We are

equally concerned about the ability of any other first or disaster responders to access the Near Northside. Loss of access to the neighborhood by first responders clearly burdens this low-income, hispanic neighborhood.

F. Evacuation Concerns Due to Isolation of the Near Northside

Restricted egress from the Near Northside through the loss of entrances to I-45 and I-610 will be a further burden on the Near Northside low-income residents in the case of an evacuation (due to a hurricane or other disaster). Traffic will further back up inside the area and more time will be spent getting on the evacuation routes, thus inequitably decreasing the safety of Near Northside residents.

PART III

ADDITIONAL CONCERNS ABOUT THE ADVERSE IMPACT OF THE NHHIP ON THE NEAR NORTHSIDE

We have the following additional concerns that negatively affect the quality of life and safety in the Near Northside.

A. Safety Concern: Insufficient Distance from Cavalcade Exit (I-45N) to Make a Right Turn - Segment 2

The northbound exit from I-45 to Cavalcade St. enters the frontage road only 1/2 block from the corner of the frontage road and Cavalcade St. This is not enough distance for vehicles exiting I-45 N to cross the frontage road and move into the right lane to turn right at Cavalcade St. Either the northbound Cavalcade exit should be moved back closer to Patton or other accommodations should be made to address this safety concern.

B. Inequitable Displacement (Destruction) of Residences in the Near Northside

NHHIP calls for the destruction of a disproportionate number of residences (both single and multifamily) in the Near Northside. Compared with proposed destruction of residences in the Greater Heights across I-45, there are vastly more residences to be destroyed in the Near Northside. Such destruction results in a loss of affordable housing and low rent residences, both very necessary to a low-income neighborhood.

We also understand that there will be a significant loss of tax revenue and business income from NHHIP. We do not comment on the latter, since the Greater Northside Management District ("GMND") addresses commercial concerns and is responding to TxDOT with its own comments on the NHHIP.

C. Inequitable Blocking of the View of Downtown

The beautiful view of downtown from many areas in the Near Northside is one of the advantages of the neighborhood. These beautiful views will be blocked by NHHIP's new placement of I-10 and I-45 coming out of downtown, especially when going over the Red Line Metro Rail. Again, the project unduly burdens the disadvantaged residents of the Near Northside, by making the area less desirable for development and economic growth.

D. Design of Bridges at North Main, Quitman & Hogan Streets

The bridges in the Montrose/University area over I-69 are artistically and uniquely designed to draw attention to the area. The new bridges in the Near Northside over I-45 between I-610 and I-10 should have the same attention to artistic detail and design as those in the Montrose/University area. Not to create artistic bridges on this section of I-45 would be to discount a low-income neighborhood. TxDOT needs to work with the community to assure artistic creation and design of the North Main, Quitman and Hogan Street bridges comparable to that in the Montrose/University areas..

E. Loss of Connection between White Oak Bayou Bike Trail and Spring Street Bike Trail

As stated earlier, the bike trails in the Near Northside are critical to its residents because of the number of residents using their bikes out of necessity for transportation. The White Oak Bayou Bike Trail currently connects to the Spring Street Bike Trail and creates the ability for Near Northside cyclists to ride to the First Ward and its shopping areas (including Target) without endangering themselves on busy city streets. The NHHIP shows freeway (I-45) lanes on grade which would cut off the connection between these bike trails. The two trails in some way need to remain connected or be re-connected, possibly by elevating the grade lanes enough for bikers and pedestrians on the trail to pass underneath.

F. Connector to Bike Trails on Both Sides of Hogan St.

Two bike trails currently exist on both sides of Hogan St. As currently constructed, cyclists and pedestrians must leave the trail on one side of Hogan, go up to street level, cross Hogan and then proceed down to the bike trail on the other side. These two trails need to be connected in some fashion by a connector that joins the two trails together and increases cyclist and pedestrian safety.

G. Increased Semi Traffic on Local/Residential Streets

We understand that TxDOT proposes to purchase the Love's Truck Stop and surrounding area to create a retention pond. We want to underscore that this MUST BE ACCOMPLISHED. If Love's remains, the I-45 frontage road will become even more congested than it will due to the removal of entrances/exits to I-45. This increased congestion on the frontage road will further impair residents' access to I-45 N and S and to I-160 E and W. Moreover, increased frontage road congestion will result in semis seeking quicker routes through residential streets. In addition to the obvious undesirability of semis traveling down residential streets, such streets are not constructed to bear the burden of those heavy vehicles.

H. Retention Ponds Should Be Designed as Park Areas

There are a number of retention ponds created by the NHHIP. Because these are in an urban area and subject to urban blight (trash, overgrown plants, places for the homeless to congregate and kids to do drugs, etc.), these areas should be designed as park areas and TxDOT should work with the Houston Parks and Recreation Department to insure city maintenance and oversight of these parks. The last thing the Near Northside needs is more vacant land succumbing to urban blight.

I. Concerns about Noise and Air Pollution

We understand that TxDot plans to announce at a later date, plans to measure actual air pollution and to deal with increased noise pollution from the project. We are concerned about both types of pollution. Adding lanes to I-45 N and S will clearly increase traffic and congestion. Any plans or methods of dealing with these two forms of pollution must include the Near Northside as an area for which the increased noise and air pollution must be addressed.

J. Access to "CAP" Park Area and Nature of Frontage Roads

We understand that the plans for a park over the "CAP" on the depressed I-45 are dependent upon organizations other than TxDOT raising necessary funds to implement and execute plans for such a park.

1. If a "CAP" Park Is Not Created

If funds are not raised and a park is not created, we are concerned about the appearance and effect on quality of life in the neighborhood of a long cement "CAP" over the freeway. That expanse of cement will be ripe to become an urban dumping and graffiti zone. TxDOT should have plans in place for maintenance and clean up of the "CAP" unless and until a park is created.

2. If a "CAP" Park Is Created

If a park is created over the "cap", we have significant concerns about pedestrian access to that area. There are no plans for bridges over the frontage roads or pedestrian crossings. It will be too dangerous for pedestrians (especially with kids and dogs) to cross the frontage roads to get to the park. The frontage roads should be redesigned so that instead of traffic-carrying thoroughfares that encourage high speeds, they are roads akin to residential streets where pedestrian crossings are expected and vehicle speeds are slower. (See next paragraph.)

3. New Design Philosophy for Frontage Roads

The design philosophy for all the frontage roads in urban areas, especially on I-45 between I-610 and I-10, should be to create roads with actual slow car speeds as well as the impression that high speeds (over 30 mph) are not possible/permissible; similar to the impression that one has driving on residential streets. NACTO's Urban Street Design Guide should be used as a reference. Additionally, the frontage road design in this section of I-45 should conform to the City of Houston's Infrastructure Design Manual (including, for example, 11 ft lanes, no right turn slip lanes, small curb radii, and protected bike lanes as called for in the City of Houston bike plan).

K. Addition of "Managed Lanes"

We oppose "managed lanes" (i.e., toll lanes for the purpose of faster travel) because we believe they further exacerbate economic inequality: if you are poor, you sit in traffic; if you are rich, you get to go fast.

PART IV
SUMMARY

This concludes the concerns of the Super Neighborhood 51 Leadership Team. We understand that we have neither the time nor the expertise of TxDOT. We are, however, committed to and adamant about assuring that the Near Northside does not adversely suffer from the plans for, and ultimate construction of, the NHHIP. We strongly urge TxDOT to take another look at compliance with Executive Order 12898 and to reconsider the unjust economic and environmental impact of the NHHIP project on the Near Northside.

We will continue to work with the I-45 Coalition on any issues that the Greater Heights and the Near Northside have in common.

Thank you very much for the opportunity to address our concerns. Please do not hesitate to contact us with any questions, changes or follow-up.

Sincerely,

Janet S. Roe
Member of and Representing the Super Neighborhood 51 Leadership Team

§201.811(a)(5) DISCLOSURE

Per Texas Transportation Code, §201.811(a)(5), I affirm that neither I am, nor to my knowledge any member of the Super Neighborhood 51 Leadership Team is: (1) employed by TxDOT; (2) doing Business with TxDOT; or (3) possibly benefiting monetarily from the project (NHHIP) or other item about which I am commenting in this letter.

Janet S. Roe

SUPERNEIGHBORHOOD 51 LEADERSHIP TEAM:

Susan Graham [redacted]
Gwyn Guidy [redacted]
Randall Baxley [redacted]
Stella Mireles [redacted]
Debbie Tesar [redacted]
Janet Roe [redacted]
Cristel Wommack [redacted]

cc:

Congressman Gene Green
Congresswoman Sheila Jackson-Lee
State Senator Sylvia Garcia
State Representative Jessica Ferrar
Council Member Karla Cisneros, District H
Rebecca Reyna, Executive Director Greater Northside Management District
Greater Northside Chamber of Commerce
Mary Lawler, Executive Director Avenue CDC
Jenifer Wagley, Deputy Director Avenue CDC
Cynthia Reyes-Revilla, Community Coordinator at Avenue CDC for the Near Northside
Jim Weston, President of The I-45 Coalition

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: I-45 re-routing and expansion
Date: Friday, July 28, 2017 3:16:14 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:56 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: I-45 re-routing and expansion

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:23:43 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: I-45 re-routing and expansion**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
Watch us @www.youtube.com/txdotpio

From: Kyle Rogers [redacted]
Sent: Thursday, July 27, 2017 4:00 PM
To: HOU-PIOWebMail
Cc: [redacted]
Subject: I-45 re-routing and expansion

All,

I'd like to agree with my neighbor Ian and add my name to the critique he sent to these parties just the other day, see link:

[redacted]

Thank you,
Kyle Rogers

[redacted]

The Art + Soul of the City | EaDo

July 27, 2017

Mr Pat Henry, PE
Director of Project Management
Texas Department of Transportation
PO Box 1386
Houston, TX 77251

Re: North Houston Highway Improvement Project

Dear Mr Henry:

The East Downtown Management District appreciates this opportunity to submit the following comments regarding the TXDOT North Houston Highway Improvement Project (the "Project"). We have reviewed and discussed the Project's impacts to the East Downtown corridors and community.

The East Downtown Management District (EaDo) provides services to the area funded through the collection of a special assessment paid by commercial property owners. Takings of private properties by TXDOT for the proposed expanded Right of Way for I-45/I-69 will negatively impact the EaDo budget for these services as described in the Ten Year Service and Improvement Plan and Assessment Plan for fiscal years 2016 – 2026.
We request TXDOT's coordination to mitigate negative EaDo budget impacts however possible during the property acquisition process. Additionally, we request that any unused Right of Way be returned to private property following construction wherever possible.

Due to the compromised connection on Polk Street between EaDo and Downtown at I-45/I-69 in the proposed plan, we request that a westbound connection directly into the downtown grid on Leeland Street be restored. This may be achieved by connecting westbound Leeland Street to Bell Street as in the current street configuration, or by operating Leeland as a 2 way traffic corridor from Saint Emanuel Street to Labranch Street.

Also due to the compromised connection on Polk Street, We request that Infrastructure be added for a safe and intuitive Pedestrian and Bicycle connection on Polk between EaDo and Downtown.

Should you have any questions, please feel free to contact our offices at 713-591-2014.

Sincerely,

Anton Sinkewich
Executive Director
EaDo | East Downtown Management District

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: I45 DEIS Comment letter
Date: Friday, July 28, 2017 3:13:11 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:52 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: I45 DEIS Comment letter

Sent from my iPad

Begin forwarded message:

> **From:** "HOU-PIOWebMail" <HOU-PIOWebMail@txdot.gov>
> **To:** "Pat Henry" <Pat.Henry@txdot.gov>
> **Subject: FW: I45 DEIS Comment letter**

> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio

> -----Original Message-----
> From: Michael Skelly [redacted]
> Sent: Thursday, July 27, 2017 4:33 PM
> To: HOU-PIOWebMail
> Subject: I45 DEIS Comment letter
>
> Attached please find a letter from a group of citizen groups interested in the proposed I-45 expansion project.
>
> Michael Skelly
>
> CLEAN LINE ENERGY PARTNERS LLC

July 27, 2017

Mr. Quincy Allen, P.E.
Houston District Engineer
Texas Department of Transportation
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

We write to you as a coalition of Houston neighborhood, civic, parks, transportation, quality of life and historic preservation groups. All of our organizations have worked for many years to improve our city. And although we all fully recognize the need for thoughtful infrastructure and mobility improvements for our growing region, we share strong concerns that TxDOT's North Houston Highway Improvement Project is being designed in a manner that runs counter to our work and to what makes Houston great – our diverse neighborhoods, our parks, our connections to one another, and our bayous.

Our groups believe that this project must be evaluated in the context of Mayor Turner's drive for Complete Communities, particularly given the unfortunate legacy of highway projects that split communities, especially low-income neighborhoods. The project must serve Houston's current and future economic development needs – not just from the perspective of developed land which will permanently come off the tax rolls and be unavailable for commerce and industry – but also from the perspective of all those qualities which make our city a desirable place to live.

We understand from TxDOT's "purpose and need" statement that the I-45 expansion must be viewed in a regional context. Some of the traffic the project is estimated to carry will have its destination inside the City of Houston, but much of it will have regional destinations. For this reason, it is critical that TxDOT delivers a project that leaves Houston in a better position than before, and takes care to ensure that the I-45 expansion does not negatively impact the city in order to deliver benefits to surrounding areas.

We believe that while the I-45 expansion may offer regional mobility benefits, it must also be evaluated against the broader goal of intra-city and neighborhood mobility. To serve Houston's interests, at a minimum, the project should improve mobility across all transportation modes within the city, and it should improve mobility on surface streets for all modes of transportation, whether people or engine-powered.

Our concerns have grown as we have closely reviewed the Draft Environmental Impact Statement (DEIS) that TxDOT has made available for public comment. Many organizations within this coalition participated in the scoping process for the proposed project in 2015, as did the City of Houston. The DEIS does not reflect far too many of the scoping suggestions made by both the City and our

organizations during that public comment period. Furthermore, despite these suggestions, TxDOT has made very few commitments in response to those scoping comments.

The proposed rebuilding and rerouting of I-45 / I-10 at the expense of numerous neighborhoods, signature parks, and Houston's evolving linear park system represents the kind of single-purpose, massive highway project that most American cities are actively dismantling, not building. Projects such as this divide and often have the effect of destroying communities. This potential for division is not adequately addressed in the DEIS. At a time when Houston seeks to build complete communities, TxDOT takes a single-purpose approach to land use in Houston. Where the DEIS does disclose certain impacts, it transfers the necessary mitigation of these impacts to others. Furthermore, the DEIS does not adequately identify which other entities will be responsible for mitigation or the agreements reached with those third parties. Other than passing references to Metro and the Houston Bike Plan, it largely fails to put the Highway Improvement Project into a comprehensive transportation plan context. Consideration of integrating mass transit, local streets and pedestrian / bike routes, and new linear parks being built around the city are not contemplated in the DEIS.

We have set forth below general comments and examples of how this project does not meet Houston's transportation, neighborhood and quality of life needs. We have also attached a detailed list of the specific issues we urge TxDOT to address. In our comments, we have broadly characterized these deficiencies across several areas:

- Disproportionate impact to low-income communities
- Impact to economic development opportunities
- Impact to parks and recreation areas
- Poorly conceived highway/urban interfaces
- Noise impacts
- Air quality impacts
- Visual impacts
- Impacts on walkability and cycling
- Water quality and flooding impacts

We understand the North Houston Highway Improvement Project's automotive benefits, but the project will have significant impacts on communities, multi-modal safety, and the environment that the DEIS does not adequately address. Given the substantive deficiencies in the DEIS, it should be supplemented and the public process kept open until such time as TxDOT fully addresses the impacts as summarized in this letter and its attached detailed comments.

Disproportionate Impact to Low-Income Communities

The DEIS clearly states that the proposed project will have a "disproportionate impact on low-income and disadvantaged communities." A plain reading of the DEIS indicates that these impacts include visual, noise, air pollution, and the splitting of communities.

Executive Order 12898 requires that Federal agencies make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority populations and low-income populations. The Federal Highway Administration delegated to TxDOT their Federal

and NEPA compliance responsibilities; the document fails to explain how this responsibility is being fulfilled by TxDOT.

The DEIS makes clear that the project will displace dozens of single-family homes, many hundreds of multi-family housing units (many of which are public housing), thousands of jobs, houses of worship, schools and social services. These impacts will occur largely in low-income black and Hispanic communities. The project will exacerbate physical barriers between neighborhoods, and between neighborhoods and downtown, and again, most of these affected communities are low-income.

The proposed project further separates low-income neighborhoods from opportunities. For example, Polk Street's connection to downtown will be eliminated, despite its important role as a critical east-west connector between Downtown and routes to the East End and Third Ward for vehicles, pedestrians, and bicyclists.

On the segment between 610 and Beltway 8, which includes the edge of the historic Acres Homes neighborhood, TxDOT proposes widening I-45. Unlike higher income areas of town, or even in the areas between I-10 and 610, TxDOT does not propose to build the highway below grade.

The U.S. Census Bureau shows the largest share of people who bike, in large car-dependent cities like Houston, are in lower-income brackets. Given the immediate surrounding neighborhoods and the location of our Bayou Greenways, current and future bicycle infrastructure, bicycle connectivity is of paramount concern for these low-income communities (see below for more detail).

Impact to Economic Development Opportunities

The proposed project will take significant amounts of private land currently on Houston's tax rolls and will eliminate the possibility of economic activity on a permanent basis. These include high value real estate in the EaDo area and many other acres of land across the city. TxDOT estimates an annual $789,000 residential property tax loss, $1.2 million business property tax loss, $1.0 million other property tax loss, and $5.2 million potential sales tax loss. These losses do not account for degradation of property values due to visual and noise impacts. Discounting these losses at the City of Houston's cost of capital of approximately 4%, the present value of these losses is on the order of $200 million, again without accounting for the loss in value to adjacent properties due to noise and visual impacts.

The DEIS does not propose any mitigation strategy for these impacts, other than the possibility of platforms upon which to build parks costing hundreds of millions of dollars, paid for by unidentified third parties, that may enhance nearby property values.

Impact to Parks and Recreation Areas

The DEIS simply ignores or dismisses the impact of the project on parks, recreation, and open space, and dramatically underestimates the impact to Houston's bayou parkland. Using TxDOT's May 2017 Schematic to estimate Bayou Greenway and parks impacts, Houston will lose approximately 27 acres of current open space. These impacts are not disclosed or contemplated in the DEIS. The following tables estimate the park and recreation area impacts of the proposed project.

	Freeway to be Added	Freeway to be Removed	Net Total
White Oak Bayou Greenway / Freed Park	22 ac	4 ac	18 ac
Little White Oak Bayou Greenway	13 ac	3 ac	10 ac
Buffalo Bayou Greenway / Downtown Parks	4 ac	5 ac	-1 ac
		Net Loss of Greenway	**27 ac**

Detailed Breakdown of Park Impact (acreages are included in the above Greenway calculations)

	Freeway to be Added	Freeway to be Removed	Net Total
Freed Park	0.17 ac	-	0.17 ac
Linear Park	2.35 ac	0.01 ac	2.34 ac
Sam Houston Park	0.63 ac	-	0.63 ac
Sabine Promenade	0.13 ac	-	0.13 ac
		'Current' Parkland Impacted	**3.27 ac**

Existing Trails (By Others) Lost by Freeway Expansion

	Trail Removed
Little White Oak Bayou Greenway	0.2 mi

As TxDOT points out in the DEIS, "Section 4(f) of the Department of Transportation Act of 1966 prohibits the Secretary of Transportation from approving any program or project that requires the "use" of 1) any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance as determined by federal, state, or local officials having jurisdiction thereof…" This project has considerable impact on such areas.

White Oak Bayou Greenway

The White Oak Bayou Greenway is part of Bayou Greenways 2020, a $220 million public/private investment by the City of Houston to provide continuous linear parks and recreation areas, with hike/bike trails, along 150 miles of Houston's major waterways. The White Oak Bayou Greenway extends over 15 miles from the city limits to UH Downtown where a federally funded TIGER project, currently under construction, is connecting White Oak Bayou Greenway to Buffalo Bayou Park. That TIGER project also includes neighborhood connections to Main St. and Leonel Castillo Community

Center, plus bikeways to the transit centers on Fulton. It represents the kind of complete community effort that Houston is working toward and for which federal funds are currently being deployed.

The 1,100 feet of White Oak Bayou Greenway from the current I-45 overpass at UH Downtown west to Hogg Park are completely open to the sky and the bayou except for small under crossings at the railroad bridge and Hogan Street. The linear park features wildflowers and a hike / bike trail maintained by the Houston Parks Board. It offers amazing views of downtown for most of its length. The impact to this visual resource and to the Greenway itself is not described in the DEIS. All that sense of open space will be significantly impacted by the North Houston Highway Improvement Project. The project will extend seven new highway over-passes above the Greenway's widest stretch. The new overpasses would create an overwhelming new visual and audible intrusion onto the landscape. Moreover, additional lanes parallel to the bayou encroach further into the south side of the Greenway to the point where they impose on the bayou itself.

The DEIS appears to suggest that if the project maintains just the hike/bike trail, no impact results. That ignores the impact to the Greenway and open space itself of which the hike/bike trail is just a component. The project eliminates that open space. While some freeway will be removed by the project, the Houston Parks Board estimates a net loss of 18 acres of open space effectively covered by the project in just the stretch between UH Downtown and Hogg Park. That open space will be lost forever. Because the DEIS fails to identify the impact, it fails to offer alternatives or mitigation to minimize that impact as required.

Little White Oak Bayou Greenway

The project will remove and/or impair greenspace that now de facto serves the community as a place of respite and even as an active park with informal trails. Houston has active plans to take that acreage and make it a greenway park. The DEIS does not discuss this impact. The Final EIS should address acreage of open land lost on Little White Oak, both to be covered and impaired.

Little White Oak Bayou represents a prime opportunity to extend open space connectivity north from White Oak Bayou Greenway to Woodland and Moody Parks and beyond up to Halls Bayou and ultimately Acres Homes. This connection between Acres Homes and downtown would benefit many of the underserved communities directly impacted by the North Houston Highway Improvement Project. Through most of Segment 2 the project follows the course of the Little White Oak Bayou. The 20 lanes of the new I-45 will eliminate 10 acres of open space along Little White Oak Bayou. It is imperative that the project fully embrace the ecological values and open space potential offered by Little White Oak Bayou. The DEIS must be supplemented with specific design features to preserve this potential.

The DEIS suggests that lack of immediate funding for some of these related projects relieves the North Houston project from addressing or mitigating impacts it creates. That is not the point. The project has an obligation to fit within larger identified Houston land use initiatives, not become another single-purpose barrier to larger land use schemes. Attachment 1 contains specific segment by segment comments on these impacts.

Woodland, Sam Houston, and Other Parks

The DEIS identifies less than an acre of impacts to City of Houston parks. It dismisses that impact as related to marginal greenspace rather than the "use of facilities". The Houston Parks Board calculates the total loss of open space in City parks at 3.27 acres (see above). In a letter to the City of Houston's Parks and Recreation Department dated February 24, 2017, TxDOT is seeking a "de minimis" certification from the City of Houston for these impacts. The City of Houston, to date, has not concurred with this conclusion. Our coalition would not support such a conclusion. As with the Bayou Greenways, the DEIS dismisses the impact to green space and open space as non-existent if the project does not impact other features of the park.

The DEIS ignores the noise and visual impact to all of these parks. Although currently below grade at Woodland Park, I-45's constant din of freeway noise is already part of the fabric of a Woodland Park visit. With an added upper deck, above grade, the noise will be even more oppressive and incessant.

In recent years, the Sabine Promenade/Buffalo Bayou Park area has undergone a nearly $90 million enhancement. TxDOT's plan for this area is not appropriate since it encourages faster turn movements in a location where people should be driving slowly to be aware of people walking and biking. In addition, given the visibility of downtown from Buffalo Bayou, TxDOT's freeway standards are not appropriate. Furthermore, nearby Sam Houston Park is one of Houston's most important historical destinations, featuring the oldest building on its original construction site in Houston and the oldest surviving building in Harris County. Sam Houston Park is also a State Archaeological Landmark and contains four buildings designated as Registered Texas Historic Landmarks. One of these buildings is also registered under the NRHP. The DEIS fails to mention the visual and noise impact to this showcase of Houston's heritage. The DEIS fails to disclose whether or not these properties are registered under the NRHP, and whether the Texas SHPO has or has not concurred with the effects of the project.

Deck Parks

The DEIS makes reference to potential deck parks while clearly absolving the project from any responsibility in funding and creating the parks. Many of our organizations have been involved over the years in raising private and public funds to expand parks in Houston and provide other amenities. These deck parks discussed in the DEIS can only be designed if the capping greenspace is designed to account for the weight of the parks. These designs must be created and paid for as part of the highway project, or TxDOT's suggestion of decking is meaningless.

It will be difficult to raise private and public money for deck parks if TxDOT is permitted to destroy the open spaces unlocked by the Bayou Greenways Initiative. The project exacerbates divides created in Houston by freeways by creating a massive trench with double freeway width on the east side of downtown. A proposed deck park there appears to be approximately 30 acres in area adjacent to the convention center. Klyde Warren Park is a great asset for Dallas but it is comparatively small at five acres and provides a limited connection over one freeway at a cost of over $100,000,000. Projecting similar costs for Houston, a deck park would cost more than $500 million. Without full funding, the deck park proposal has limited meaning and **attempts to shift the cost from the proponent of the project to the community impacted**. In doing so, it fails to mitigate the impact created by the project. Houston already has major fundraising initiatives before it to improve and expand its current park system. Diverting those efforts to cover up an expanded freeway expansion by the state would be very difficult, especially given the strong need to improve

parks across the city. Furthermore, by failing to analyze the impacts of the project "with and without deck," TxDOT makes a full evaluation of the impacts of the project impossible to achieve.

Because of these deficiencies in the DEIS, our organizations request that TxDOT conduct a Supplemental DEIS under applicable Federal law as carried out by TxDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated 12-16-2014, and executed by FHWA, in order to properly measure park and open space impacts, options, and to propose reasonable mitigation strategies.

Poorly Conceived Highway/Urban Interfaces

TxDOT does an enviable job of designing highways for efficient flow of traffic, a track record of which the Department is justifiably proud. Nevertheless, over the years TxDOT has done a very poor job of ensuring that its projects integrate with an urban context where traffic slows from 65 to 30 MPH. The cumulative result over the years has meant that in Houston freeways become barriers between neighborhoods, dump freeway traffic into residential areas with very serious impacts, eliminate pedestrian walkability, erect barriers to bicycle access, and create many unsafe conditions for motorists and non-motorists alike.

In its comments to TxDOT in May of 2015 as part of TxDOT's scoping process, the City of Houston's Planning Department pointed out that "The City of Houston has adopted a Complete Streets policy to ensure streets are constructed for all users of the system. The City also required the streets should be built using Context Sensitive Design guidelines as those recommended in the *ITE - Design Walkable Urban Thoroughfares: A Context Sensitive Approach* and *NACTO – Urban Street Design Guide*, and others." Since the project location is within an urban area of the city, including Downtown, any future engineering design should meet these guidelines. Unfortunately, multiple streets have been shown with sweeping, large radius turns. Several of these match the existing roadway curb lines which may have been designed at a different time for different users. TxDOT should not ignore the opportunity to modernize its approach and correct these outdated designs as it expands I-45.

In its comments during the 2015 scoping process, the Houston Parks Board suggested that "the termination of the proposed spur at Allen Parkway should be designed in order to accommodate safe pedestrian crossings at that intersection and in a way that drivers are reminded that they are entering a park." TxDOT has ignored this suggestion.

There is no indication that TxDOT intends to design the project's highway-urban interfaces taking into account Houston's Complete Streets policies. Section 7.3 of the DEIS includes no reference to these criteria or to the City's scoping comment.

Noise Impacts

The DEIS states that the I-45 expansion will have noise impacts. The brunt of these noise impacts will be borne by low-income communities like Acres Homes, Near Northside, Brooke Smith Addition, and the Fifth Ward.

Nevertheless, TxDOT avoids making any affirmative commitments to mitigate noise impact, and instead sets forth obtuse language about neighborhood choices that will enable TxDOT to avoid

sound walls in the future. The DEIS sets forth countless ways to avoid having to construct noise barriers. In some instances, TxDOT claims that abatement is reasonable when "there was more than 50 percent residential land use, otherwise abatement was not considered feasible and reasonable" – thus excluding any neighborhood with many empty lots. In other instances, TxDOT carves out another exemption by stating that "traffic noise barriers would be located along the outside of the frontage road/right-of-way where barriers could be continuous, without gaps for driveways or streets." Note that TxDOT has not followed this practice in high-income areas like Bellaire. We request that TxDOT ensure that low-income areas and park users are afforded the same deference as other parts of town with populations that have higher household incomes.

The DEIS is silent with respect to noise impacts on parks and recreation areas, another reason why we believe that TxDOT should conduct a Supplemental DEIS to disclose the impact on parks and recreation areas. Failing to do so would violate the terms of its MOU with the FHWA that delegated Federal responsibility for analyzing such impacts under Section 4(f).

Air Quality Impacts

The DEIS states that the project "would be included in the Statewide Transportation Improvement Program (STIP)/Transportation Improvement Program (TIP) and RTP, and the STIP/TIP and RTP would conform to the State Implementation Plan (SIP)." Purportedly, this inclusion would assure that the project is in compliance with air quality under the Clean Air Act (CAA) and environmental justice under Title VI of the Civil Rights Act of 1964 and Executive Order 12898. As TxDOT is well aware, air quality impacts are notoriously complex.

This group requests that TxDOT incorporate in its Final EIS all of the information gleaned from TCEQ studies of air quality impacts along Houston's highways (see http://www.houstonchronicle.com/news/houston-texas/texas/article/State-to-measure-air-pollution-along-freeways-4769770.php for more information.

Our coalition is particularly interested in the incorporation of this air quality analysis given the close proximity of the project to low-income areas, schools, and churches, as well as the project's many interfaces with Houston's signature Sabine Promenade, Buffalo Bayou Park and White Oak Bayou.

Visual Impacts

TxDOT adopts the assumption that "most viewers do not pay full attention to the I-45 corridor because the presence of the transportation infrastructure has become integrated into their routine" and that therefore "the sensitivity of the residential viewer ranges from low to moderate depending on the location of the viewer." To our organizations, it is inconceivable that the visual impact of a highway expansion of this scope and magnitude, creating one of the largest highways in the United States, does not rise beyond the level of "low to moderate."

The DEIS seems to imply that "most viewers" are residents or daily commuters that travel along I-45; it fails to recognize in this visual impact analysis that many users are from out of the region, and that tourists, visitors or newcomers to Houston would experience this visual effect for the first time.

In fact, the terrible appearance of I-45 has for many years been recognized by the business and civic communities of Houston as a major first-impression problem that negatively affects the city's ability to attract visitors, events, and job relocations to Houston. I-45 as the main airport corridor gateway

is recognized as the most important viewshed in Houston from an economic development perspective, yet it's widely understood that businesses explicitly instruct potential new hires not be transported from the airport on I-45 because of its unsightly character**.** While TxDOT has utilized federal grants over the last number of years to add trees and landscaping along area freeways, TxDOT offers no plan here to integrate context-sensitive design elements to ensure that the I-45 project is a visual asset, not a concrete scar across the community.

A part of the impact, it must be said, has the potential to be positive in the corridor: the removal of a number of billboards. TxDOT makes no mention of how they are to be removed. The cost of removal must be entirely part of the project. TxDOT makes no mention of its plan at all in the DEIS, no mention of the number of billboards to be removed, when or how they are to be removed or the cost of removal. The full cost of total removal of the billboards must be included in the project and not be transferred to local government. Nor should the removed billboard structures be forced on other stretches of Houston freeway through relocation.

The DEIS states that "elevated lanes in the center of I-45 would create an additional visual barrier and potentially alter the existing visual conditions of the area." In another section of the DEIS, TxDOT claims that "the vividness of this landscape unit is moderately low. The areas containing Moody Park, Little White Oak Bayou, and the historic cemeteries provide a distinct viewshed within this landscape unit. The overall visual quality of this landscape unit is moderate."

Apparently because the quality of these park and historic cemetery landscapes is "moderate" in TxDOT's estimation, additional impact does not merit further attention. By this logic, because Houston's scenic beauty is relatively limited, further impacts are entirely acceptable.

TxDOT fails to consider the visual impact of the I-45 expansion on historic structures in Sam Houston Park. TxDOT's DEIS has no information with respect to how the new highway will be lit and how that lighting scheme will affect adjacent low-income neighborhoods, making an evaluation of such impacts impossible at this stage. In terms of impacts on other historic resources, the project segment between 610 and I-10 impacts several historic neighborhoods. Three designated historic districts are located along I-45 south of North Main Street. The project's effect on the National Register-listed Near Northside Historic District on the east side of I-45 must be addressed as part of the review process along with potential impacts on two city-designated historic districts on the west side of I-45: Germantown and Woodland Heights. Both of the city-designated districts are potentially eligible for listing in the National Register. The Brooke Smith Addition on the west side of I-45 and the north side of North Main Street is also potentially eligible for listing in the NRHP. The project's potential impact on historic resources in the First Ward, on the west side of I-45 south of I-10, should also be considered, particularly the National Register-listed Jefferson Davis Hospital (1925).

TxDOT's visual impact analysis concludes by saying that "because significant adverse impacts are not anticipated, this resource is not anticipated to be analyzed further in the detailed cumulative impacts analysis."

Our group disagrees with TxDOT's DEIS conclusions on visual impact, and requests that in the Final EIS, TxDOT include detailed visual simulations from the roadway, from all the perspectives of affected parks and recreation areas, neighborhoods, cemeteries, and historic structures. These analyses should include information on daytime and nighttime visual impacts. Tree and landscape plantings impact the visual nature of the freeways and air quality, runoff, and water quality. TxDOT should

address how landscape and tree planning, Green Ribbon and other funds will be used within this project, and should address whether special actions being taken to accumulate the required expenditures as mitigation within this specific project or whether or not the funds will be spent throughout the region.

Impacts on Walkability, Cycling and Other Transportation Modes

In scoping comments prior to the preparation of the DEIS, both the City of Houston's Planning Department and the Houston Parks Board commented on the dangers of "the proposed 15' shared use lane along frontage roads due to safety concerns arising from the speed differential between bicycles and other vehicles in these environments. Bicycle accommodations should be provided in the form of a 10' shared use path or protected bike lane." TxDOT ignored this comment in the DEIS; we can find no evidence of an analysis performed on this important safety issue.

The City of Houston requested that TxDOT ensure all bridges across the freeway and street crossings under the freeway provide for a minimum 6' unobstructed sidewalk, and that NACTO criteria are incorporated in all highway/surface street intersections. There is no indication in the DEIS that such criteria will be incorporated into the project, and we can find no reference to an analysis performed on this important accessibility issue.

For example, as the City of Houston noted in 2015, many intersections in Segment 1 are proposed with suburban intersection design considerations. This segment falls within an urban area and all intersections should be designed to improve pedestrian and bicycle accessibility. To this end, an intersection design that incorporates a free flow right turn lane with a pedestrian island creates an unsafe environment for pedestrians since many drivers do not yield to pedestrians at such intersections. There is no indication that TxDOT has incorporated ideas like this in the DEIS.

As another example, a wider freeway through the Near North Side will create a significant community impact further dividing the Woodland Heights and Near Northside communities. Eliminating North Street removes a very practical, low volume, multi-purpose crossing of the current I-45. A deck park may help mitigate the further divide and loss of connectivity resulting from the project, but only if the deck and park are fully funded by the project, and the park is not separated from the community by the high-speed access roads set forth in the DEIS (see above for general discussion of Deck Parks).

As the site of many fatal accidents in Houston, access roads should be designed to be safe. Twelve foot lanes, three one-way lanes, and high design speeds, mixed with entering and exiting traffic, does not make for a safe road. The DEIS does not explain why high speed designs and high volumes are required on these roads. The Final EIS should explain why TxDOT has made these trade-offs of faster highway access at the expense of public safety.

Flooding Impacts and Water Quality Impacts

The DEIS recognizes that "potential impacts on surface water quality from the proposed project would be primarily related to storm water discharges into streams and drainageways that traverse" the project. Unfortunately, the DEIS analysis of water quality impacts falls into the same trap as the visual impact analysis. The latter suggests that because Houston is generally unsightly, making it a bit less attractive is not of great consequence. The water quality analysis basically says that Houston's bayous are hopelessly polluted, so a bit more pollution is not impactful.

The DEIS recognizes that Buffalo Bayou, Little White Oak and White Oak Bayou are classified by TCEQ as "impaired streams", and that "the discharge of storm water runoff into these drainage features" (i.e., in our parlance, bayous), would be unavoidable. Further, it argues that because White Oak, Buffalo and Little White Oak are impaired, TxDOT has a lesser burden to protect existing water quality. Because these streams are impaired, TxDOT should have a greater obligation not to harm them further—especially since TxDOT itself is already contributing to the problem with its current practice of dumping freeway water directly into Houston's bayous.

Any Houstonian who has walked along a bayou underneath a freeway in Houston knows exactly what this means – **every time it rains, or even when it's windy, tons of trash are dropped into our waterways, and flow into Galveston Bay, an important estuary for the greater region.**

TxDOT's DEIS sets forth that it will meet stormwater discharge requirements during construction. Nowhere is it clear how TxDOT will prevent the flow of the thousands of tons of trash that are transported from freeways to bayous during Houston's frequent "gullywashers".

Needless to say, the project will produce much more impervious surface with the potential to increase flooding and accelerate pollutants into the natural waterways. The DEIS should more clearly define creative strategies to minimize those potential impacts. Those strategies may include wet bottom detention basins that can filter water and roadside drainage filters to capture trash at its source. That work could be further expanded to include recreation and additional water quality functions.

Waterways affected by the project are already listed as impaired waters. We ask that TXDOT model the runoff and stormwater discharges into Buffalo, White Oak, Halls and Little White Oak Bayous in order to meet state requirements that prohibit the addition of any pollutant load into impaired waters and focus instead on improving those waters through the additional application of more rigorous best management practices for stormwater and runoff. Similarly, please further adopt and disclose the best management practices and plans that will be adopted, including source controls, to avoid further discharge of trash into these waterways.

Some of TxDOT's more recent flood control structures have made good strides in integrating the landscape with detention. Others have not. The detention basins planned on either side of Little White Oak Bayou, south of Patton, require thoughtful planning so that water edges are accessible to wildlife, and pedestrian and bicycle trails connect both to the existing bike trail going north along Little White Oak Bayou from Cavalcade and to Moody Park to the southeast. The detention basin recently constructed in the Heights stands out as an example of lost opportunity, where despite extensive community involvement, citizen input and repeated requests from local City Council members, TxDOT built a detention pond with a single use that is completely isolated from the surrounding community – this in one of the highest land value areas of the City of Houston.

Despite requests to this effect during the scoping period in 2015, TxDOT has rejected the possibility of wet bottom detention areas unless someone else maintains them. We request that TxDOT further explain in the Final EIS why it should not have the responsibility for doing everything possible to deliver into Houston's bayous cleaner water from the highways it maintains and owns.

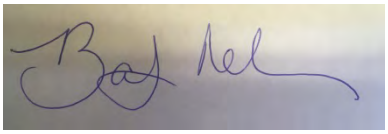
Conclusion

The I-45 Expansion Project is a once-in-two-generations project that needs to be executed very carefully to avoid the serious impacts to the community at large that the current plan represents. Without a truly comprehensive review of the project, the DEIS fails in its fundamental purpose to inform the design and decision making process required before creating such a serious impact on the City of Houston.

We urge TxDOT to go back and take the hard look required under NEPA and review required by Section 4(f) to more fully address the issues outlined here. The undersigned organizations stand ready to work directly with TxDOT on the North Houston Highway Improvement Project to produce the best possible result for the greater Houston area, but that work can only proceed from a planning document that fully acknowledges the impacts of the project and seeks to identify ways to improve it.

Thank you for your careful consideration of these issues.

Sincerely,



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John Long
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BikeHouston

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Kevin Moore
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Eastwood Civic Association

Eileen Lawal
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Freedmen's Town Preservation Committee

Becky Houston
President
Friends of Woodland Park

Bob Stokes
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Galveston Bay Foundation

Wendy Parker
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Germantown Historic District

Mark Williamson
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Greater Heights Super Neighborhood 15

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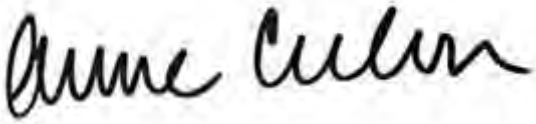
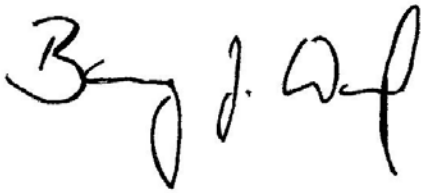
Kathleen O'Reilly
President
Museum Park Super Neighborhood 66



Anne Culver
President
Scenic Houston



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Kathy Vossler
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Robert S. Lee
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White Oak Bayou Association

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CC:

Local Representatives & Officials

Sylvester Turner, Mayor of the City of Houston

Mike Knox, Houston City Council, At-Large Council Member, Place 1
David Robinson, Houston City Council, At-Large Council Member, Place 2
Michael Kubosh, Houston City Council, At-Large Council Member, Place 3
Amanda Edwards, Houston City Council, At-Large Council Member, Place 4
Jack Christie, Houston City Council, At-Large Council Member, Place 5

Brenda Stardig, Houston City Council, Council Member, District A
Jerry Davis, Houston City Council, Council Member, District B
Ellen Cohen, Houston City Council, Council Member, District C
Dwight Boykins, Houston City Council, Council Member, District D
Dave Martin, Houston City Council, Council Member, District E
Steve Le, Houston City Council, Council Member, District F
Greg Travis, Houston City Council, Council Member, District G
Karla Cisneros , Houston City Council, Council Member, District H
Robert Gallegos, Houston City Council, Council Member, District I
Mike Laster, Houston City Council, Council Member, District J
Larry Green, Houston City Council, Council Member, District K

Ed Emmett, Harris County Judge
Rodney Ellis, Harris County Commissioner, Precinct 1

Jack Morman, Harris County Commissioner, Precinct 2
R. Jack Cagle, Harris County Commissioner, Precinct 4

State Representatives & Officials

John Whitmire, Texas State Senator, District 15
Borris L. Miles, Texas State Senator, District 13
Sylvia R. Garcia, Texas State Senator, District 6

Senfronia Thompson, Texas State Representative, District 141
Armando Walle, Texas State Representative, District 140
Jarvis Johnson , Texas State Representative, District 139
Harold V. Dutton Jr., Texas State Representative, District 142
Jessica Farrar, Texas State Representative, District 148
Carol Alvarado, Texas State Representative, District 145
Sarah Davis, Texas State Representative, District 134
Garnet Coleman, Texas State Representative, District 147

Tryon D. Lewis, Chair, Texas Department of Transportation Commission
Jeff Austin III, Commissioner, Texas Department of Transportation Commission
J. Bruce Bugg, Jr., Commissioner, Texas Department of Transportation Commission
Laura Ryan, Commissioner, Texas Department of Transportation Commission
Victor Vandergriff, Commissioner, Texas Department of Transportation Commission

Federal Representatives & Officials

John Cornyn, U.S. Senator for the State of Texas
Ted Cruz, U.S. Senator for the State of Texas
Sheila Jackson Lee, U.S. Representative for the 18th District of Texas
Ted Poe, U.S. Representative for the 2nd District of Texas
Gene Green, U.S. Representative for the 29th District of Texas
Al Green, U.S. Representative for the 9th District of Texas

ATTACHMENT 1

CONNECTIVITY AND MULTIMODAL CONSIDERATION

The City of Houston adopted a Complete Streets policy in 2013 to ensure streets are constructed for all users of the system. The City also requires that streets should be built using a Context Sensitive Design guidelines as those recommended in the Institute of Transportation Engineers (ITE) - Design Walkable Urban Thoroughfares: A Context Sensitive Approach and National Association of City Transportation Officials (NACTO) – Urban Street Design Guide and others. Since the project location is within the urban core of the City, the design on the proposed project should meet these guidelines.

The existing freeway infrastructure built in the 1960's separated communities, impacted neighborhoods and had a significant impact on the City of Houston. The NHHIP should improve connectivity between communities in and around Downtown; not reduce it. Where possible, strong connections should be maintained and new ones should be added to the existing street network. Reducing street connectivity in areas in the urban core of Houston should be avoided or mitigated wherever possible. Connectivity should be considered not only for vehicular traffic, but for all modes of transportation; inclusive of people on foot, people on bicycles, transit users, and for freight.

Based on the schematic exhibits it's not clear if local street network operations have been analyzed at the same level of detail as freeway operations. While the freeway operations are critical for regional circulation, the local circulation is critical for the City of Houston and for the adjoining communities impacted by this project. Improving connectivity, by providing multiple routes where people can travel, is critical to avoid relocating congestion from freeways to local streets.

The NHHIP project should be built to reflect the infrastructure needs for the next 50 years. This can only be achieved if multimodal consideration of transit and freight are integrated into the proposed design. Houston is a multi-centric city. Activity centers are located throughout the region and integrating two-way high capacity transit into the design benefits the overall region. The proposed MaX Lanes concept could be designed and operated to ensure that reliable and frequent high capacity transit could be operated to connect all regional activity centers. The existing HOT lanes operations do not allow for reliable transit operations resulting in significant increase in single occupancy trips in our region.

The U.S. Census Bureau shows that the largest share of people who bike, in large car dependent cities like Houston, are in lower-income brackets. Given the immediate surrounding neighborhoods and the location of our bayou greenways, current and future bicycle infrastructure, bicycle connectivity is of paramount concern. Providing for high-comfort bikeway connectivity across and along the proposed project is essential to the changing demographics in our region. It is also needed to address the additional barrier between neighborhoods, especially the increased barrier between lower social-economic neighborhoods and the Central Business District. In areas where vehicular connectivity may be removed, options should be evaluated to preserve pedestrian and bicycle connectivity.

The proposed schematic drawing does not identify sidewalks along sections of the proposed project. In general, sidewalks should be identified along all frontage roads and public streets on the schematics in

all typical sections. All bridges should have wide sidewalks for safe crossing. Ensuring access to pedestrian and ADA accessibility along all public streets is critical.

We look forward to coordinating with TxDOT on the proposed deck structure across the freeway; however, it is also important to have safe connectivity and accessibility to these areas across the proposed frontage road. The deck structure should also be coordinated with the City and other adjoining entities to ensure appropriate design and infrastructure for proposed improvements over these decks.

SEGMENT 1

- Consider extension and direct connection from I-45 MaX lanes to Greens Road to serve Greenspoint area. This will help with redevelopment of the area and support potential METRO Limited Stop Downtown to Airport Route (e.g., Downtown> Shepherd> Greenspoint> IAH)
- Ensure Halls Bayou Crossing north of W. Mt. Houston is designed to allow trail crossings under freeway and frontage roads.
- Connections on Crosstimbers, Victoria/Lyerly, Tidwell Rd., Cortlandt/E Witcher, Rosamond, W Parker Road, Rittenhouse, etc. should be designed with high comfort intersections for bicyclists and pedestrians. These are vital connection for the Independence Heights, Garden Oaks, Oak Forest and Acres Homes areas to safely reach either Little White Oak Bayou or the Red Line into downtown.
- The HOV ramp from Airline Drive providing access to Independence Heights and Northside Community is being removed. Provide alternative access for the communities to managed lanes.
- Provide local street connection between Veterans Memorial and I-45 southbound frontage road along the METRO T-Ramp.
- Little White Oak Bayou extends north of I-610 to Crosstimbers in Independence Heights and ultimately to Acres Homes. See Segment 2 comments and apply to Segment 1. Also, design any detention basins along this section of the bayou to be accessible green space.

SEGMENT 2

- Clarify end of streets like North Street, Woodland Street and Farwood Street on the east side of I-45. Ensure connectivity to the Frontage Road for some, if not all streets.
- Consider extending IH-610 Segment east to allow Helmers Street connection across the freeway. Helmers would be a very useful north-south connection, potentially as a residential minor collector, as it is continuous from Fulton Street on the South to Berry Street on the north, a distance of almost 3 miles. Right now, only north-south connections through here are Fulton and Irvington and Fulton has Red Line impacts. Extension of Helmer may allow for safe pedestrian and bicycle connectivity between neighborhoods across IH-610.
- Assess the option to bring pedestrian and bicycle trail underneath freight railroad north of Stoke Street. If pedestrian and bicycle connection cannot be provided under the freight rail line, integrate pedestrian and bicycle facility into frontage road design to cross rail ROW and provide connection to Stokes Street.

- The removal of North Street Bridge creates greater access issues between Heights and Northside possibly leading to more traffic congestion. Provide pedestrian and bicycle connection along I-45 and Little White Oak Bayou to mitigate the removal of the North Street bridge.
- Little White Oak Bayou: This bayou section is an important piece of the expanding high comfort bicycle network that provides connectivity from outside the N Loop 610, under I-45 away from traffic, and into downtown making further east and west connections through Buffalo Bayou. Acknowledgement of this bayou as a necessary connector for bicyclists, pedestrians, and naturalists is unaddressed in this design and crossings (Hogan/Crockett, Houston, Quitman/White Oak Dr., Main St, Patton, Cottage etc.) allowing full access to Little White Oak Bayou need to be maintained and carefully designed with high comfort bicycle and pedestrian crossings. Surrounding neighborhoods are historically under-served and connections via bicycle and on foot are measurably significant. The project should replace the existing culvert north of Patton Street with a bridge span designed to allow trails on both sides of the bayou. At I-610, a safe route along the bayou should be included (could suggest replacing this culvert, also or high comfort bike lane at signalized frontage road intersections). The new trail should connect to the existing bike trail along Little White Oak Bayou between Enid and Calvacade, on the west side of I-45 and to a new park at the retention pond areas on the east side of I-45 (where Love's Truck stop is currently), and on to Moody Park/Woodland Park/White Oak Bayou trail. Mitigate for loss of green space along the bayou in this area and replace the existing trail with an equivalent trail.
- Deck Park over I-45 near North Main - The original I-45 construction bisected one community into two. This has become a permanent separation resulting in different community cultures on either side of the freeway. There are constant efforts to reunite the communities but the swath of freeway that separates them remains a physical barrier. Create a deck park over the freeway near North Main. This will be a physical reattachment point, reuniting the divided communities. Address the accessibility issue to the proposed Deck Park location near Main Street with the proposed multilane frontage roads and U-turn ramps.
- Justify the need for 1 lane northbound frontage road from Quitman Street widening to 4-lanes near Main Street. Ensure pedestrian and bicycle accessibility along he proposed frontage road.
- The proposed design has significant impact on the adjoining neighborhoods. Address the additional barrier between neighborhoods, especially the increased barrier between the Northside neighborhood and the Central Business District. See Segment 3 comment about a Fulton-North San Jacinto Street connection.
- Connectivity in and out of Northside neighborhoods needs to be addressed in a way that it becomes improved not worse by new design.

SEGMENT 3

SOUTH: US 59/I-69

- Ensure proposed design does not prohibit future two-way high capacity transit on I-69/US 59 with focus on Spur 527. Direct or expedited connections from the existing HOV/HOT to Wheeler

TC should also be explored.

- With the proposed reconfiguration of I-69 at Wheeler Transit Station, there is an opportunity to improve multi-modal circulation, access to the transit center and plan for future capacity needs with the University Corridor and US 90A transit connections. Coordinate with City and METRO to ensure this area is designed to maximize future transit and development opportunities. The Deck Park Cap at this location provides an opportunity for public and private investment to develop a Transit Oriented Development. TxDOT should actively engage in the development and implementation of the Wheeler Area Park Cap and related street and transit connections.
- Evaluate options to maintain Blodgett connection from San Jacinto to Main St. This is very useful connection and very helpful to the bus operations at the Transit Center. With the redesign of the San Jacinto on-ramp to east side of street, this should be achievable.
- IH-69 exit to Main Street near Wheeler TC should be designed to allow improved pedestrian and bicycle connectivity and safe crossings as identified in Houston Bike Plan/METRO Bike & Ride studies.
- Ensure all bridges, including Montrose, La Branch, Austin and Almeda bridges are wide enough for safe pedestrian and bicycle crossings.
- The proposed project allows for separated pedestrian and bicycle facility along the south side of US 59 between Graustark and Main Street and the Center Point utility corridor. This would safely connect the Montrose and Boulevard Oaks neighborhoods to the Wheeler Transit Center. Evaluate feasibility of grade separated trail extension below Montrose bridge since midblock crossing at the bridge may be challenging.
- Links to Downtown should support high-quality, fast, reliable connections to major activity centers.
- As currently proposed, the primary access to and egress from the SH 288 Managed Lanes or Toll Lanes would be provided on Chenevert Street south of Elgin, adjacent to the Houston High School for International Studies and Baldwin Park. This configuration is suboptimal for everyone involved. Drivers using the Managed Lanes will more likely be destined for Downtown than Midtown, or might be trying access another freeway to continue. Either way, ending up on Chenevert Street will introduce unnecessary delay and confusion. Presence of the existing freeway ramps disrupt the neighborhood fabric and introduce unsafe vehicle speeds in a residential area. The proposed design would set this problem in concrete for another 50 years. Like other managed lanes connections, the SH 288 Managed/Toll Lanes could just be connected to the SH 288 main lanes near Alabama. The other option would be reconfigured the ramps to connect to Hamilton and Chartress that serve as the frontage road along this section of the freeway. Doing so would make access much more intuitive, improving the chances of success for the Managed Lane project. It would also give drivers headed toward Downtown or other connecting freeways a more convenient route for doing so than Midtown surface streets.
- As part of the removal of the ramps from the neighborhood, the grid of local streets be reconnected including Francis Street, Chenevert Street, and Holman Street. Re-gridding the streets would create surplus land for redevelopment to mitigate the impact of the project on adjacent neighborhoods. Connecting Holman Street through to Hamilton Street would obviate the need for the freeway-style ramps connecting to Chenevert Street south of Holman Street.

Removing them would be more consistent with the context of the neighborhood while improving safety, reducing right-of-way acquisition, and creating more surplus right-of-way.

EAST: I-69, I-45, SH 288

- Connectivity on the east side has historically been limited and the project should ensure that this issue is appropriately addressed. There is no proposed street that provides direct two-way east-west access between Downtown and the East Downtown / East End area along the stretch between IH- 45 South to IH-10, a distance of nearly 2 miles. Even those streets that cross the proposed IH- 45/IH-69 trench require switching to an adjacent street through several turns to continue east/west.
- The loss of connections such as Polk, Leeland/Bell and Runnels are significant. Include Runnels to McKee or Canal to Ruiz connection. The loss of Runnels cuts off the area of the East End north of the West Belt Subdivision rail line and Buffalo Bayou and limits access to Downtown to just the Franklin/Navigation underpass. Other option for residents is to backtrack to Harrisburg, which doesn't connect to downtown that well due to the street network, stadiums and large parking lots in the area. One of these proposed connections would be significant improvement.
- Evaluate options for northbound exit from US 59 main lanes to Runnels Street.
- Evaluate options for extending Canal Streets across I69/US 59/I-45 between Downtown and Second Ward.
- Existing two-way connection of Nance Street to Jensen is being replaced by one-way frontage road along Rothwell. Identify another two-way connection between Jensen and Nance Street. This is especially important since the westbound frontage road along I-10, which is not proposed to be extended across I-69.
- Maintain Jensen Street exit from IH 10 eastbound or provide other alternatives to maintain connectivity without at-grade rail crossings.
- Identify option for ingress and egress from I-69 near the Buffalo Bayou areas to improve access to and from Downtown, East Downtown, East End, and 5th Ward.
- Proposed design still has limited connectivity to the 5th ward areas north of Buffalo Bayou. The exit ramp for Jensen previously proposed has been removed. Provide alternate access from 5th Ward to mitigate any loss of access. Evaluate options to extend Bringhurst across I-10 to enhance connectivity across I-10. Providing an additional crossing of IH-10 between Gregg St and Hirsch St would be very beneficial, given the potential Midway East River development of the KBR site and Lovett Homes development on MDI superfund site in the East End.
- Evaluate options to maintain Polk Street Connection across I-69 / I-45
  Coordinate with the City, adjoining management entities to evaluate design options to bring I-45 Main Lane ramps and I-45 to I-69 N ramps down below grade between Polk and Rusk. Maintain critical Polk Street connection (Adjust Polk alignment and grades as needed). This proposal eliminates crossings for Dallas, Lamar, McKinney (similar to today).
    - This change would reduce the size of the proposed Park Cap by several blocks (from 10+ blocks to 7) to a more manageable size. For reference, Klyde Warren is about 5 acres, the east side park cap as proposed is nearly 30 acres.
    - The potential park area as currently conceived is as big as 15 Market Square Parks or 2.5 Discovery Greens. That is a lot of park space to program and maintain. Some of the space should be envisioned with the potential to be developed with walkable one to two story buildings, potentially as a home for the businesses displaced in East

Downtown. Freeway support structure should be designed with this in mind. For example you could relocate all the bars and restaurant along St. Emanuel demoed by the freeway widening to location on top of the cap creating an instant destination linking the convention center and stadiums. Would be similar to the bar/meeting space that is on top of Klyde Warren and provide revenue to support maintenance.

- Polk Street pedestrian and bicycle connection is a critical connection to Downtown. The Lamar Street separated bike lane is proposed to be extended along Polk Street to connect East Downtown and other East End neighborhoods to Downtown, Main Street Rail and Buffalo Bayou as part of TIGER Grant. In any scenario, maintaining this pedestrian-bicycle connection is vital for residents and businesses in the area.
- The loss of Downtown to East End/East Downtown connectivity at Polk and Runnels also impacts METRO service from the East End to Downtown. Routes 40, 41, 48 will need to find separate routes for eastbound and westbound trips. This will increase complexity, impact reliability for customers, and potentially incur service costs for METRO. Keeping Polk open would mitigate some of these issues and is recommended.
- Proposed Lamar St at St. Emanuel intersection is difficult to see on the schematic but seems awkward with difficult geometry. Keeping Polk open (with related ramp changes) would address connectivity issues and eliminate need for this funky design.
- Connect Leeland to a Leeland/Bell one-way pair as it is currently. This will require redesign of the freeway off-ramp connected to Bell, which seems achievable. If Polk connection is eliminated, TxDOT should identify funds for grade separation of Leeland at the West Belt Subdivision rail lines so that major east west connection exists without barrier between Eastwood and downtown.
- Maintain Walker Street crossing between St. Emanuel and Hamilton as an extension of Columbia Tap trail to west side of SB frontage road (instead of as a street crossing) then bring trail south to Polk St. along the back of the convention center.
- Ensure Buffalo Bayou trails can connect to East End/Fifth Ward though detention area and freeway crossings. This is critical connection for the East End and must be excellent.
- Consider making more bridges and related traffic control two-way (e.g., Leeland, Commerce). This should be paired with consideration of more two-way streets in downtown. At the proposed box/beam structure behind the GRB, Rusk, Capital, Leeland, and Commerce Street connectivity travel is diminished between downtown and southeast Houston.
- Southeast Houston is a historically under resourced area and an area that relies on bikes to safely travel throughout the city. Crossings at these points need to be designed with wide sidewalks and high comfort bike lanes complete with physical barriers, green paint, signage, and a continuation of the Bike Plan's programmed projects to build these streets out as dedicated on-street bicycle lanes. In addition, consider sustaining the connection on Polk Street as it connects to the Harrisburg and Columbia Tap trails.

NORTH: I-45, I-10

- This realigned segment of I-10 and I-45 has significant impact on existing businesses and could benefit by improving the connectivity in this area, which is already hampered by freight rail lines and the Bayou. Coordinate with the City and UPRR on the potential to realign the freight main along the passenger main to remove existing freight crossings through Downtown.

- Integrate connection to link area north of UPRR on the north side of the post office site to Downtown. This could potentially be incorporated into Downtown Connector, Bagby, Washington Avenue extension design.
- Plan for the extension of San Jacinto Street to Fulton including potential grade separation at the UP Passenger Main crossing which is hugely impactful to drivers and transit in this area. This extension could help mitigate the impacts along the north side of Downtown.
- Provide improved version of existing pedestrian and bicycle bridge crossings of freeway east of Elysian and link to a new north-south trail connecting to Near Northside.
- The schematic drawings do not define street network under the freeway segment of IH-10 north of Downtown. This area is designated "Excess ROW" and has significant potential to transform the warehouse district area. Coordinate with the City and Downtown District on the alignment of roadway network to ensure circulation in this area.
- Consider abandoning Conti Street between McKee and Frontage Road. Space could be abandoned and reallocated to development space. Also evaluate the option to clean up transition from Lyons to McKee to make smoother and more legible. McKee and Hardy streets provide pedestrian bicycle connectivity between Buffalo Bayou and the Northside neighborhood. Ensure bridges across I-10 are designed to incorporate safe and high comfort bike facilities.
- Links to Downtown should support high-quality, fast, reliable connections to major activity centers or the northwest transit center. The loss of the existing downtown connector tied into Franklin, should be re-evaluated to see if it could be better used as part of high capacity transit network or as an alignment for a light rail extension.
- Coordinate with City, METRO and TCP to explore High Capacity Transit connection to northwest Transit Center and proposed High Speed Trail Terminal. The existing I-10 corridor west of Segment 3 could be planned to include the extension of METRO's purple and green light rail lines. The current North Houston Highway Improvement Project plans do not consider this connectivity, and in fact, would preclude it, since the plans call for the demolition of the HOV ramp.

WEST: Downtown Connector, Pierce Elevated

While the planned project will remove the I-45 main lanes from the west side of downtown, the planned "downtown connectors," their ramps and related surface streets will have significant impacts on Buffalo Bayou, Sam Houston Park, Fourth Ward and Midtown. With the assistance of the Downtown District, community representatives from the surrounding area have achieved consensus on modifications we are asking TxDOT to make to its plans from Buffalo Bayou to Pierce Street during its FEIS phase:

Buffalo Bayou and Sam Houston Park

Sam Houston Park is Houston's most historic park, and Buffalo Bayou is Houston's greatest natural resource. The project should protect and even benefit both important civic assets.

- Configure NB cloverleaf and SB ramps to and from Allen Parkway to allow for a cleaner bridge design over Allen Parkway and Buffalo Bayou.
- The design of both bridges over Buffalo Bayou (elevated connectors and surface street) should minimize bridge piers and be carefully coordinated with design features of the park and bayou.

- Our groups are inclined to support a proposal for a “signature bridge” over the park and Buffalo Bayou (pending design details)

Downtown Connectors South of Buffalo Bayou
In many areas, the project is converting overhead freeway lanes to below-grade except here where a freeway underpass is being replaced with an overpass at West Dallas.

- With “low profile” bridge structures (thin slabs) and minimal re-grading, current standards can be met and still allow the elevated connectors to pass over Allen Parkway and then go below West Dallas as the I-45 main lanes do today.
- Continue the downtown connectors below grade south of Andrews.
- Include a direct pedestrian connection and gateway at Andrews Street from downtown to Fourth Ward.
- Shift all roadways within the existing right-of-way to open up more space on the Fourth Ward side for a linear green space and high-comfort trail (see below).
- Include the possibility of a small cap park on the north side of Andrews as part of the Fourth Ward Gateway.

Surface Streets
Reconnecting with Complete Streets communities that were split apart by the freeway is a critical component of the project scope.

- Provide direct connections from Walker and McKinney to Houston Avenue (terminate two-way north-south surface street at this direct connection on north side of bayou).
- Eliminate the Walker Street roadway to Allen Parkway that bisects Sam Houston Park.
- Reduce the two-way surface street north of Allen Parkway by one lane in each direction.
- Reduce Heiner Street to two lanes (three lanes once the Bagby ramp merges with Heiner Street) to accommodate the green space and high-comfort trail (see below)
- Extend the NB Pease Street to West Dallas over the depressed downtown connectors to access Allen Parkway.
- As an Option to #5, consider extending the two-way surface street north of Allen Parkway along Heiner Street to St. Joseph Parkway to improve the legibility of the street network.

Multi-Modal Trails and Green Space
Multi-modal connections between the area’s high-density urban populations and Buffalo Bayou is a critical component of the project scope.

- Along the west side of the right-of-way from Pierce to Allen Parkway, provide a high-comfort multi-modal trail from Midtown, south downtown and Fourth Ward to Buffalo Bayou.
- It is critical that the at-grade Allen Parkway crossing be designed for pedestrian and cycling safety.
- Provide a safe connection at Andrews Street from this high-comfort trail into the green space between the downtown connectors and then to Pierce Street (and possibly the Pierce Sky Park).
- Preserve the option for the Pierce Sky Park from Andrews Street to Pierce Street, including a transition to the high-comfort trail accessing Buffalo Bayou.
- Include gateways to Fourth Ward/Freedmen’s Town at Andrews Street and West Dallas Street.

Other comments

- Review need/potential to maintain IH-10 HOV Connector near Amtrak Station coordinating with Metro's upcoming planning to address express transit connectivity from downtown to NW transit center. Maintenance as a transit only facility could have significant value. If the existing IH-10 Connector is removed as currently proposed, Washington Avenue should be connected to the Post Office site. Ideally the connector could be maintained and designed to allow the Washington Avenue connection, and incorporate a transit stop to serve post office redevelopment.
- Coordinate with the City of Houston, and adjoining communities and management districts on the opportunity to along the Pierce Elevated between Downtown and Midtown to ensure the preservation of multimodal opportunities to connect East Downtown, to Buffalo Bayou Park.

DESIGN

This project represents a once in a lifetime opportunity, and the details which impact how people safely get around need to be fully thought out. This requires careful planning and a greater level of detail than has been provided by the current schematics. Focus on well thought out design of safe intersections, sidewalks and bikeways, transit stops, frontage roads, and connections have the potential to greatly enhance mobility options. Failure to do so would be a huge detriment to the project. Elements like wide outside lanes for bicyclists, which are likely to be eliminated as guidance from the next AASHTO bikeway design guide, should not be included in this project. The design needs to be forward looking and incorporate best practices for safe multimodal streets. Transit, including how the NHHIP can be designed to support faster transit trips between major activity centers and destinations, should be much more prominently considered in the plan. This should include rail expansion opportunities as well as the potential for an optimized express bus network.

Ensure bridge widths throughout the project include sufficient space for quality sidewalks and high comfort bikeways as called for in City of Houston standards and guidelines, and not be designed to match existing cross-section or old standards. Ensure all bridges across the freeway and street crossings under the freeway provide for a minimum 6' unobstructed sidewalks. Where appropriate wider sidewalks should be provided since there is limited buffer between the vehicular lanes and the pedestrian.

All lanes on city streets and frontage roads should comply with City of Houston's 11' lane standards and encourage appropriate travel speeds and safe travel. Having different lane width for different roads create inconsistent driver experience. 12' lanes are freeway lane standards and not local streets. They encourage excessive speeds through urban area where higher speeds are out of context and unsafe. It is also recommended that the local street network and the frontage road be designed with target/design speed not to exceed 30 mph, especially in the urban areas.

Define which intersections are proposed with traffic signals and all-way stop control. It is impossible to truly assess whether the design supports safe walkability, bikeability, and transit use without this information. Traffic control recommendations should be developed with multi-modal safety and connections in mind.

Entire design should be reviewed to ensure optimized bus stop locations have been considered. Stops (and access to stops) must be designed to ADA and METRO standards with room for shelters to support high quality transit experience.

Of the bicycle features proposed, a clear design criterion with the safety of bicyclists in mind is not apparent. The City of Houston has committed to building only high comfort bicycle lanes and facilities through the recently adopted Bike Plan. A high comfort bicycle lane minimizes people's interaction with high volume, high speed traffic, and requires more separation and protection as these traffic characteristics increase. Design standards for bicyclists and pedestrians need to be set to reflect the Houston Bike Plan's high comfort commitment.

Design bikeways for people of All Ages and Abilities in line with the high-comfort bikeway guidelines set out in Houston Bike Plan. Protected bikeways or side paths set behind the curb should be designed for all bike connections. Bike lanes should be 6' wide minimum. 14' wide outside lanes designed as shared bicycle facilities are unacceptable and should not be included in this project. Intersections should be designed for safe crossing to accommodate bikeways and sidewalks.

Along frontage roads, the bikeways constructed in this project need to sustain a high level of comfort for both motorists and cyclists to create a clear and safe space for both parties to travel with no room for misinterpretation.

The proposed bicycle lanes along the outside of the frontage roads do not provide adequate protection for cyclists and create more opportunity for bicycle/motorist collisions. Instead, it is recommended any bikeway associated with these roadways be completely separated from vehicular traffic, be positioned behind the outermost curb, be at least 6 feet wide and separated from pedestrian traffic.

An intersection is the most likely place for a vehicle-bicycle collision. A protected intersection (or Dutch Junction) for bicyclists and pedestrians is recommended and makes travel considerably safer for all parties. This design includes small islands as buffers from right-turning motorists. Green paint is then used to direct the cyclist from one protected lane to the next in a circular fashion moving counter-clockwise. College Station, TX has already completed a similar design and the protected intersection in the Energy Corridor in Houston is planned to be implemented in the fall. It is recommended that TxDOT use such safer intersection design treatments and consider design guidance from NACTO in the design of intersections.

Multiple streets have been shown with sweeping, large radius turns. Several of these match the existing roadway curb lines which may have been designed at a different time for different uses. This project should take the opportunity to minimize these issues, especially in areas where large numbers of people walking can be expected around Downtown and Buffalo Bayou. Sweeping right turns, not limited to Sabine Street and the IH-69 exit to Main Street, need to be avoided. This design makes it difficult for both the motorist and the cyclist to anticipate a potential collision.

It is not clear if local street network and intersections have been analyzed in any way. Given the impact of the project on adjoining communities and the City, coordinate with the City and included this analysis in the plan and FEIS analysis. If not, it is a serious oversight to understand the proposed plan impacts.

In general, creating excess unproductive space should be avoided in street design (e.g., small triangles of isolated land) unless there is clear plan to address the use of the space (e.g. public art projects).

Consider all detention areas and how to make these attractive and usable green spaces.

The City of Houston has adopted a Complete Streets policy to ensure streets are constructed for all users of the system. The City's Infrastructure Design Manual also requires streets should be built using a Context Sensitive Design guidelines as those recommended in the ITE - Design Walkable Urban Thoroughfares: A Context Sensitive Approach and NACTO – Urban Street Design Guide, and others. Since the project location is within the dense urban core of the Houston, especially Segments 1 and 2 any future engineering design should meet these guidelines. Segment 3 should be designed to General Urban context guidelines.

While the freeways are designed to FHWA and AASHTO design guidelines; all frontage roads, adjoining local streets and intersection should be designed consistent with the City's Context Sensitive design guidelines.

It is important to ensure that all freeway overpasses are designed with lighting to ensure safety of all user of the roadway. Coordinate with the City, adjacent community, and management entities for identify opportunity for peacemaking improvements under the freeway.

SEGMENT 1

- Evaluate how the Airline, Victoria Drive and Northbound I-45 Intersection would operate safely and legibly to people traveling through any mode of travel. Existing configuration should be improved to ensure safety for all users of the roadway.
- Clarify plan for Werner Street in northeast corner of Tidwell intersection with I-45.
- All intersection should also be designed with special care for safe, comfortable crossings for pedestrians. Most arterials crossing I-45 are on METRO's bus network, have significant nearby boardings and will require safe crossings to serve stops for people traveling in both directions. Additionally, development adjacent to I-45 should be safely accessible for people walking. In particular, the intersection of Shepherd and I-45 is directly adjacent to the N. Shepherd Park & Ride. This intersection should be assessed to ensure that is safely traversable by people walking.
- N. Shepherd Transit Center would be logical extension for METRO Red Line. We encourage consideration of how that connection could be made and to consider that in design so as to not preclude options. For example, consider making West Little York and Parker crossing spans wide enough as these would be potential point for light rail to cross I-45 to reach N. Shepherd.
- Most intersections in Segment 1 are proposed with suburban intersection design considerations. This segment falls within an urban area and all intersections should be designed to improve pedestrian and bicycle accessibility. To this end, an intersection design that incorporates a free

flow right turn lane with a pedestrian island creates an unsafe environment for pedestrians since many drivers do not yield to pedestrians at such intersections. Additionally, several intersections have dedicated right turn lanes. Ensure the traffic counts warrant dedicated right turns. 5-6 lane/multi-lane frontage roads are daunting for pedestrians to cross. Coordinate with City of Houston on all intersection designs.

- Ensure adequate clearance across Halls Bayou to allow for adequate natural drainage conveyance, and a pedestrian and bicycle trail along the bayou.
- Provide dedicated left turn lane at the proposed Blue Bell Interchange.
- Justify the need for 5-lane frontage road for portion I-45 between West Road Blue Bell Road, a minor collector street.

SEGMENT 2

- The proposed extension of frontage roads under IH-610 at I-45 interchange are beneficial. These roadways and intersections should be designed to also allow safe pedestrian and bicycle crossings as there is not another crossing for approximately ½ mile in either direction. The large radius turn lanes are not typically supportive of safe, comfortable crossings at these locations.
- Entire design should be reviewed to ensure optimized bus stop locations have been considered and stops (and access to stops) would be designed to ADA and METRO standards to support high quality transit experience. For Segment 2, this is most critical for the Cavalcade St. bridge crossing and the operation of the existing 44 Acres Homes which travels on a section of Main St and Houston Avenue impacted by the NHHIP project
- Justify the need for proposed multi-lane frontage road along northbound I-45 between Quitman and N. Main. A single lane north of Quitman is expanded to 4 lanes at N. Main Street creating significant impact on adjacent properties. Additionally, this creates a design that encourages high speed adjacent to the proposed park deck.
- Add safe pedestrian crossings, and bike lanes, to cross, and continue east, on Calvacade (has existing bike lanes), Patton, and Cottage St-Searle Dr. These are to have access to the red line train stops at Calvacade and Moody Park, as well as shops, the MD Anderson YMCA, the new park (see below), and neighbors
- Add shade trees along sidewalks and bike lanes on Calvacade, Patton, and Cottage St – Searle Dr.
- Ensure a location to post a Welcome to Brook Smith/Montie Beach sign at the I-45 and N. Main intersection
- Ensure the design maintains safe multi-modal accessibility across the I-45 and I-610 interchange.
- Reconfigure the design of the local network to the new frontage road along I-610 and I-45 on the northeast side of the interchange. Create two-way T-intersection instead of the proposed one way connection to Reid Road. Evaluate the option to extend Melbourne Street to I-45 northbound frontage road

SEGMENT 3

SOUTH: US 59/ I-69

- Ensure Wheeler Bridge is designed to accommodate University Corridor LRT, 4-lanes vehicular and pedestrian accommodations. Current proposal does not take into account the proposed high capacity transit along Wheeler Street.
- Consider widening Almeda bridge to allow simple buffer buildings (See example of I-670 in Columbus, OH). This would reduce view of freeway and make a more seamless commercial corridor experience on this important roadway.
- Justify why Caroline Street warrant 4-lanes with dedicated left turn lane at Wheeler Street. Maintain the current 4-lane configuration with wide median across I-69 to maintain the existing character of Caroline Street.
- Area south of Baldwin Park should be redesigned to more of a neighborhood context without sweeping high speed curves in streets. For example, Francis Street could be designed as a T-Intersection with Chenevert. This would allow block between Chenevert, Francis, Jackson and Stewart to be reassembled at full city block. This could be used for green space or redevelopment opportunities given the impact of the proposed project.
- Proposed access from Chenevert to the extension of Hamilton Street can be designed as a 2 lane local street and limit impacts on adjacent properties and would be a context sensitive design solution.
- Where frontage roads are proposed, such as between Midtown and Museum Park or between Downtown and the East End, it would be helpful to know which intersections would be proposed for signalization or all-way stop control. This will greatly impact people's ability to safely cross at these locations, especially those walking or biking. It would likely be beneficial if all of these are considered for either a signal or all-way stop control.
- Ensure Wheeler Transit Center can function effectively for all users with this project. Current Schematic does not show exit point for Transit Center driveway. This project presents opportunity to rethink operations.
- The design of the street network near Wheeler Transit Center should be optimized to maximize TOD opportunity. Main goal would be to minimize train/roadway conflicts (e.g., train does not cross streets in the middle of intersections) while maximizing transit operations and TOD potential. Design should be developed to accommodate future two-way express bus service on I-69/US 59 with particular focus on Spur 527. Direct or expedited HOV connections to Wheeler TC should also be explored.

EAST: I-69, I-45, SH 288

- Tuam Street is a local street and does not warrant 4 lane redesign as 2 lanes with left turn lane and dedicated bike lanes.
- Re-evaluate the need for 5 lanes on McGowen Street. Two lanes with dedicated left turn lane and bike lanes may be adequate based on the existing and projected capacity.

- Revise the design of Hamilton and McGowen Street to remove free flowing right turn lane.
- Propose Chartres Street at McGowen Street should be redesigned to limit ROW taking from the new residential development in Third Ward.
- Redesign Webster Street and Hamilton Street intersection as a T -intersection to improve pedestrian accessibility along Hamilton .
- Light new bridges along I-69 in a manner similar to those in Montrose along I-69.
- The project appears to take out HPD's South Central command station. How is this impact being mitigated and have alternate location been identified to relocate the facility in the area?
- Include bike lanes and wide sidewalks on Elgin, Tuam and McGowen bridges. Light new bridges in a manner similar to those in Montrose along I-69.
- Southbound Hamilton at McGowen and northbound Chartres at Elgin should be designed without sweeping right turn lane
- When reconstructing Green/Purple crossing of I-69/I-45 trench between East End and downtown, design larger radii turns to support faster train operation speeds. Improve signal operations for rail crossing at St. Emanuel and design Hamilton crossing to work effectively. Coordinate with the City of Houston and METRO and potential for dedicated transit lanes on Capital and Rusk as well as rail connection through proposed cap park.
- Ensure potential bottle necks are evaluated in the design process
    - Could I-45 to I-69N to I-10 ramp be separated to eliminate some of the likely weaving though that section? I-45 N to I-69 N connection could occur in vicinity of Runnels. This has potential to reduce weaving through that area overall.
    - I-69 S south of merges seven southbound lanes (2 from Hamilton/Webster, 4 from I-69 S main lanes, 1 from I-45N) in 6 lanes, which drop to 4 lanes once two lanes are peeled off to local streets on south end of midtown. This seems like it will end up as a major bottle next similar to existing I-69 NB at the Spur. Don’t really have a solution but seems like it will be challenge at day one of opening.
- In the area, north of Minute Maid Park, the operations of the proposed southbound frontage road and existing Hamilton appears problematic. Having two parallel one-way street traveling the same direction and located 100’ apart seems like a recipe for conflicting queues and confusing operation for motorists both on these streets and crossing them. There is significant potential for wrong way turns from crossing streets as drivers are used to the alternative pattern of one-way street Downtown. Consider consolidation of these streets or revisions to ramp access to Downtown.
- Ensure underpass at Commerce/Navigation proposed by GCFRD can be constructed with acceptable and safe grades/visibility for all modes of traffic.
- The intersection of Franklin and St. Emanuel frontage road seems poorly thought out given existing grades, typical travel speeds, and sight distance, should the full underpass mentioned above not come to fruition.
- Ensure rail underpasses are built with drainage improvement to avoid flooding.
- Ensure at grade crossing of railroads is avoided in the proposed design for enhance freight and vehicular circulation and safety.

- Design the proposed detention basin north of Runnels as a wet bottom basin that is publicly accessible gateway feature from the bayou trail system.
- Include landscaping and noise mitigation along widened freeway adjacent to Fifth Ward, East Downtown, East Downtown, Downtown, First Ward, Third Ward and Midtown.

NORTH: I-45, I-10

- Reconstruct Hogan, Quitman, McKee and Hardy bridges with safe pedestrian and bike friendly crossings and sidewalks.
- Ensure the design of Providence and Rothwell accommodates pedestrian and bicycle users.

WEST: Downtown Connector, Pierce Elevated

- Sabine Street at Allen Parkway should be shown as T-intersection without sweeping right turn design. These are not appropriate for the context, given walking and biking crossings and desired travel speeds along Buffalo Bayou Park.
- The removal of the existing freeway and the proposed configuration of Downtown Connector will have significant impact on Buffalo Bayou Park and Sam Houston Park. Coordinate on design and identifying opportunities to enhance the parks, with City of Houston, Buffalo Bayou Park, Downtown District and HCFCD is critical to minimize impact on our parks, bayous and its users.
- Minimize the number of piers supporting the downtown connector bridges over Buffalo Bayou.
- Realignment of I-45 along Pierce Elevated creates a unique opportunity to connect adjoining neighborhoods like East Downtown, Third Ward, Midtown, Downtown, and Fourth Ward with a unique urban space. We encourage the City, Midtown District, Downtown District, and other adjacent neighborhoods to develop the best solution that would meet the goals of the City and our neighborhoods. We look forward to these partners to work with TxDOT over the next few years to discuss options along this corridor since this is the last phase of the NHHIP Segment 3 project.
- Design and locate the downtown connectors to preserve the option of retaining some of the existing freeway bridge structures, similar to the Pierce Sky Park concept, where possible.
- Evaluate the opportunity to create a deck park or green belt extension between W. Gray and St. Joseph to allow for the opportunity to extend greenway along the Pierce Elevated, connecting Buffalo Bayou, Midtown and Downtown to Third Ward and East Downtown.

PARKS AND OPEN SPACE

The proposed project has a significant impact on parks, open space and recreation areas in the Houston Region. The project should identify opportunities to limit this impact and mitigate any impact proposed.

SEGMENT 1

- Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Little White Oak Bayou between I-610 and East Parker Road and Shepherd. Develop the detention basin between I-610 and Crosstimbers as a wet bottom basin and publicly-accessible green space tied the bikeway along the bayou. Install a trash mitigation system that will collect both heavy debris and floating debris.
- Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Halls Bayou along I-45.

SEGMENT 2

- Little White Oak Bayou represents a prime opportunity to extend open space connectivity north from White Oak Bayou Greenway to Woodlands Park, Moody Parks and beyond up to Halls Bayou. It also connects neighborhoods like Near Northside, Independence Heights and Acres Homes. This connection between Acres Homes and downtown would benefit many of the underserved communities directly impacted by the North Houston Highway Improvement Project. Through most of Segment 2 the project follows the course of the Little White Oak Bayou. It is imperative that the project fully embrace the ecological values and open space potential offered by Little White Oak Bayou.
- Improved greenspace and pedestrian accessibility to Woodland Park along Little White Oak Bayou east of I-45.
- In 1914 Woodland Park was a 26 acre park in a neighborhood which included the two communities of Woodland Heights and Near Northside. In 1959, TxDOT acquired one third of the park (8.5 acres) to construct I-45 just to the north of downtown. The remaining 17.5 acres of I-45 Woodland Park is now situated entirely to the west of I-45 within the Woodland Heights. Because of I-45, Near Northside residents no longer have access to this park except via the North Street Bridge. Improve greenspace along Little White Oak Bayou east of I-45, with hike and bike trails connecting to Moody Park. This will provide Near Northside residents with access to greenspace and Little White Oak Bayou.
- Connectivity from Woodland Park to the Little White Oak Bayou east of I-45. This could be through an improved channel conduit under I-45 that would provide a safe walking and biking path along the bayou connecting Woodland Park on the west of I-45 to the hike and bike path along Little White Oak Bayou on the east side of I-45.
- Connectivity of public parks, HPARD's "String of Pearls", can be achieved by connecting Woodland Park to Moody Park along Little White Oak Bayou. Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Little White Oak.

SEGMENT 3

- The White Oak Bayou Greenway is part of Bayou Greenways 2020, a $220 million public/ private investment by the City of Houston to provide continuous linear parks and recreation areas, with hike/bike trails, along 150 miles of Houston's major waterways. The White Oak Bayou Greenway extends over 15 miles from the city limits to UH Downtown where a federally funded TIGER project, currently under construction, is connecting White Oak Bayou Greenway to Buffalo Bayou Park. The DEIS does not reflect the impact on White Oak Bayou greenway which clearly serves an open space and recreation area with the project. TxDOT should address this issue and work with the stakeholders to mitigate the impact on the White Oak Bayou Greenway.
- Sam Houston Park is one of Houston's most important historical destinations, featuring some of the oldest structures in the city. The proposed one-way connection from Walker/McKinney loop street should be removed since it separates Sam Houston Park from Buffalo Bayou. This roadway cuts through the original Sam Houston Park, which originally extended to Buffalo Bayou. This is also the primary biking and jogging route from downtown to the bayou and creates a very dangerous crossing point on a heavily-used route.
- Sabine Promenade/Buffalo Bayou Park area has undergone a nearly $90 million enhancement. TxDOT's should design roadways in a context sensitive manner to ensure accessibility and safety of people walking and biking.
- Lighting improvement is needed under the ramps at Lyons Avenue and Gregg Street. These Improvements should be coordinated by TIRZ 18 and the Houston Arts Alliance.

COORDINATION & PROCESS

This project will be transformative, for the region and City TxDOT closely coordinates with the City of Houston, METRO and other entities such as Management Districts, TIRZs to make the project as strong as possible. This means thinking beyond the direct right-of-way of the project to understand opportunities and impacts on street, bikeway, greenway, and transit networks. It also means working to tie communities together, not separating them further with ever wider freeways serving as barriers.

The project impact facilities managed by multiple agencies, entities and organization. While TxDOT has engaged these organizations on planning level concepts, additional coordination warranted ensuring the design drawings and details are coordinate with these agencies, entities and organization. Develop a process for coordination to ensure major issues are resolved early in the design phase of the project. This could be achieved through workshop for design level discussion and decision for the proposed project.

Several stakeholders have submitted recommendations that have potential to significantly improve connectivity but have not been reflected in current plans. Plans state that these are "subject to change". Clarify to the public the process to consider these changes.

Ensure coordination with the City and other organization to ensure safe pedestrian bicycle access for trails along Buffalo Bayou and White Oak Bayou.

Ensure coordination with local business being impacted during the construction phase of the projects to identify opportunities to limit impact to businesses.

ECONOMIC DEVELOPMENT

A project of this magnitude has significant impact on potential development, both positively and negatively. It will also impact the City's tax base through acquisition of valuable land in the City's urban core. The design should be optimized to support high quality development opportunities that are beneficial to the City of Houston and the surrounding communities. To pretend this is solely a mobility project and to overlook the development impacts would be huge missed opportunity. TxDOT and its partners should work to identify and incorporate development opportunities into the project in the initial design, especially in areas where the project eliminates significant existing tax base.

Segment 1 has significant impact, approximately 212 acres, proposed widening of the project. TxDOT should identify other options and meaningfully engage the neighborhoods to limit this impact on the community.

NOISE & ENVIRONMENTAL

In general noise and environmental impacts should be mitigated proactively as a part of the project. Plan should designate where noise walls are proposed to mitigate neighborhood impacts. Reduce road noise with grooved pavement and slower speed limits especially in the densely-populated and historic areas.

Roadway alignments and the project scope should allow for street trees and pedestrian realm designed to urban standards. Add landscaping along freeway lanes and frontage roads plus noise walls to mitigate for increased traffic from wider freeway. Develop a landscape plan and coordinate with the City and stakeholders along the corridor to reduce visual impacts along the corridor.

The NHHIP project will have a significant impact on Houston neighborhoods and businesses. Provide a landscape plan for the project where landscape screening will be provided along the project to screen the freeway and also help mitigate the air quality and noise impact from the freeway while improving aesthetics.

Waterways affected by the project are already listed as impaired waters. TxDOT should model the runoff and stormwater discharges into Buffalo Bayou, White Oak and, Halls and Little White Oak in order to meet state requirements that prohibit the addition of any pollutant load into impaired waters and focus instead on improving those waters through the additional application of more rigorous best management practices for stormwater and runoff. Similarly, TxDOT should adopt and disclose the best management practices and plans that will be adopted, including source controls, to avoid further discharge of trash into these waterways.

SEGMENT 1

- All alternatives would result in traffic noise impacts. The current DEIS does not adequately address mitigation.

SEGMENT 2

- Ensure all neighborhoods with noise impacts, irrespective of existing conditions, are mitigated appropriately with options such as noise/sound wall including the southeast corner of I-610 and I-45 adjacent to Delaney Street.
- Provide for noise mitigation along the eastern border of Woodland Park. There is constant din of freeway noise is part of the fabric of a Woodland Park visit. With an added upper deck, above grade, the noise will be even more oppressive and incessant. Provide state-of-the-art sound mitigation with an additional shielding of tall trees and vegetation.
- The TxDOT plan proposes to increase the amount of flow of Little White Oak Bayou under I-45 via a larger culvert or channel will result in hydrologic changes within the LWOB channel in Woodland Park. Increased water flow upstream, at the I-45 culvert, will add increased flooding pressure and erosion downstream within the park.
- Erosion can be mitigated with careful planting of appropriate vegetation particularly along the steep banks of the Little White Oak Bayou channel to prevent collapse and further instability due to increased flood water pressure.
- Little White Oak Bayou continues to be one of the top 10 polluted waterways in the greater Houston area. The bayou suffers from freeway pollution from both run-off and litter. It makes a small meander on the east side of I-45. Current TxDOT plans include detention basins on the east side of the freeway along the Little White Oak Bayou channel. Currently most of the channel is not accessible and is tremendously polluted with dissolved pollutants, heavy trash within the channel, and floating debris of cups and plastic bags, much of this coming from the freeway.
- Create detention ponds that are open and unfenced, planted with native plants which filter dissolved pollutants from freeway run-off.
- Install a trash mitigation system that will collect both heavy debris and floating debris. There are several locations along Little White Oak Bayou where this could be installed and maintained. Ideally it would be located upstream of both Moody Park and Woodland Park.

SEGMENT 3

- The proposed realignment of the freeway near Hardy Yards will have significantly larger noise and visual impact on the Hardy Yards area. The current DEIS does not adequately address mitigation along this area.
- Include landscaping and noise mitigation along widened freeway adjacent to Third Ward and Midtown.
- Impacts of run-off on Buffalo Bayou west and northeast of downtown. Provide wet bottom detention where detention is being proposed along this section.

- Ensure detention ponds that are open and unfenced, planted with native plants which filter dissolved pollutants from freeway run-off.
- Install a trash mitigation system that will collect both heavy debris and floating debris.

HISTORIC

The project segment between 610 and I-10 impacts several historic neighborhoods. Three designated historic districts are located along I-45 south of North Main Street. The project's affect on the National Register-listed Near Northside Historic District on the east side of I-45 must be addressed as part of the review process along with potential impacts on two city-designated historic districts on the west side of I-45: Germantown and Woodland Heights. Both of the city-designated districts are potentially eligible for listing in the National Register. The Brooke Smith Addition on the west side of I-45 and the north side North Main Street is also potentially eligible for listing in the NRHP. The project's potential impact on historic resources in the First Ward, on the west side of I-45 south of I-10, should also be considered, particularly the National Register-listed Jefferson Davis Hospital (1925).

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
[redacted]

ER 17/0203
File 9043.1

Pat Henry, PE
Director of Project Development
Houston District
Texas Department of Transportation
PO Box 1386
Houston, TX 77251-1386

Dear Mr. Henry:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS) for the North Houston Highway Improvement Project, Harris County, Texas. The U.S. Department of the Interior (DOI) has reviewed the document and hereby submits these comments for your consideration.

SECTION 4(f) RESOURCES COMMENTS

DOI recognizes that the DEIS includes identification of Section 4(f) historic resources and a discussion of the impacts of each recommended alternative for the three segments that make up the scope of the project. In summary, the DEIS does not identify any Section 4(f) historic resources for any of the alternatives under Segments 1 and 2. For Segment 3, Table 3-34 states that for Proposed Recommended Alternative 11, six historic resources would be impacted, for four of which TxDOT is considering making *de minimus* impact determinations as defined in Section 4(f) regulations, Cheek-Neal Coffee Company Building, San Jacinto Warehouse, Walter's Downtown [former Bottling Works], and the Houston Warehouse Historic District. The two resources for which *de minimus* impacts are not being considered (*i.e.*, having adverse effects) are Reader's Distributor's Warehouse (demolition) and Carlisle Plastics (partial demolition). Under Alternative 10, TxDOT is considering *de minimus* determinations for all five of the historic resources identified. Finally, under Alternative 12, nine historic resources are listed, five of which TxDOT is considering determining as *de minimus*. The draft EIS states in its Abstract, Executive Summary ES 4.1.14, and Section 7.18, that <u>the Section 4(f) Evaluation has not been completed</u>.

We understand that TxDOT is working with the Texas Historical Commission to meet NHPA Section 106 requirements. As such, a more detailed explanation of how you intend to resolve adverse effects and complete your Section 106 consultation would be helpful. We look forward to receiving the completed Individual 4(f) Evaluation, so that we may review it in accordance with our responsibilities under Section 4(f) of the Department of Transportation Act of 1966, as amended.

We appreciate the opportunity to review this document. Should you have questions in response to these Section 4(f) comments, please contact David Hurd, Environmental Protection Specialist, National Park Service, Intermountain Regional Office, at 303.987.6705.

Sincerely,

Stephen R. Spencer, PhD
Regional Environmental Officer

cc: Al Alonzi, Administrator, Texas Division, Federal Highway Administration
[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: NHHIP comments
Date: Friday, July 28, 2017 2:57:28 PM
[redacted]

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 2:36 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: NHHIP comments

Sent from my iPad

Begin forwarded message:

> **From:** "HOU-PIOWebMail" <HOU-PIOWebMail@txdot.gov>
> **To:** "Pat Henry" <Pat.Henry@txdot.gov>
> **Subject: FW: NHHIP comments**

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

Follow us on twitter @txdothoustonpio
Watch us @www.youtube.com/txdotpio

From: [redacted] **On Behalf Of** Christof Spieler
Sent: Thursday, July 27, 2017 8:21 PM
To: HOU-PIOWebMail
Subject: NHHIP comments

See attached for my public comments on the North Houston Highway Improvement Project.

~Christof Spieler
[redacted]

[redacted]

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386
HOU-PIOWebmail@txdot.gov

Comments on North Houston Highway Improvement Project

Submitted by:

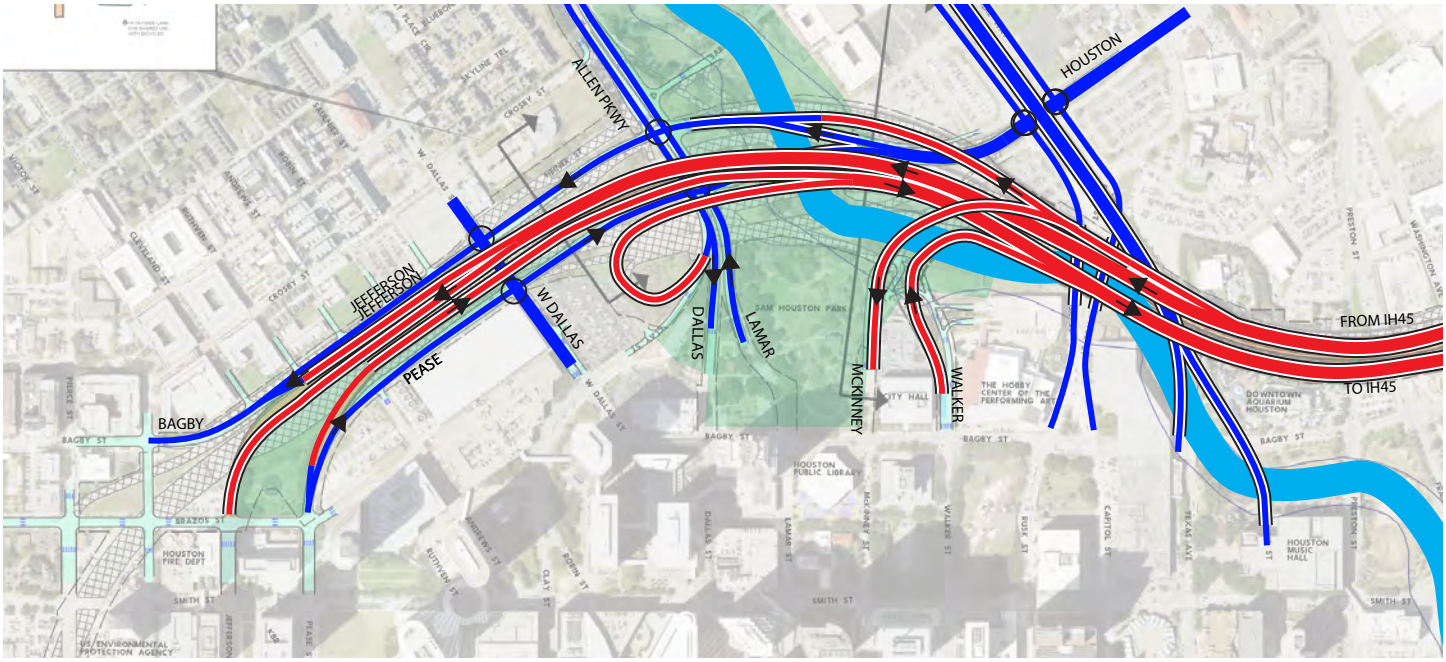
Christof Spieler
[redacted]

(I am employed by a firm that has done work with TxDOT, and I am a METRO board member. These comments are submitted as private citizen and as a property owner in the project area.)

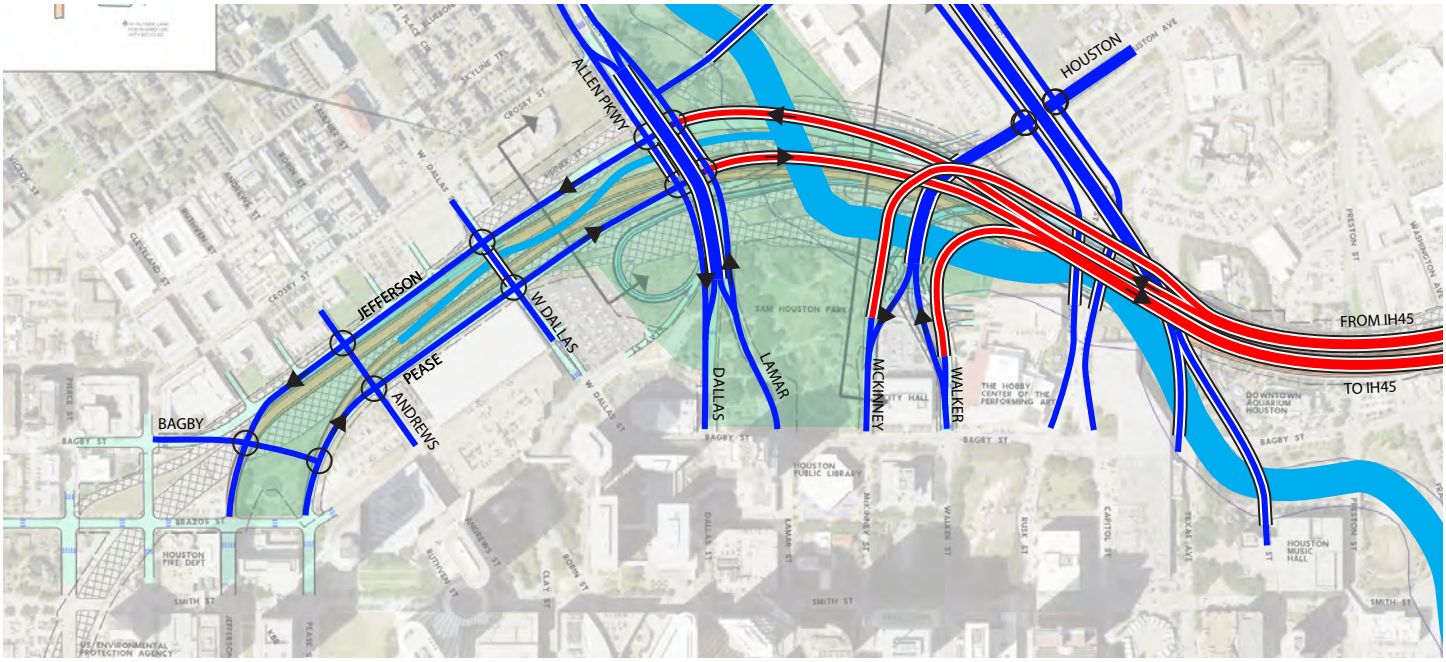
This is a transformative project, and it will shape Downtown Houston and the surrounding neighborhoods for decades. I appreciate the creativity with which TxDOT has approached this project, and the openness to find new and dramatically better ways for the downtown freeway network to function. In particular, I appreciate that TxDOT is using creative design solutions to not only mitigate the impacts of this project but to remedy past decisions that have impacted Downtown Houston and its surrounding neighborhoods. In that spirit, I believe there are five other areas where the project design could be modified to improve the overall transportation network.

1. The West Side Spur

The construction of the Pierce Elevated in the 1960s divided Downtown from the 4th Ward, Montrose, and Midtown. Relocating IH45 offers the opportunity to undo this damage. However, the DEIS plans continue elevated freeway ramps as far south as Jefferson and Pease. This is a missed opportunity. All freeway ramps should end at Allen Parkway, with a true surface parkway extending south from there that would function like other street couplets in Downtown that feed into freeway ramps. This would reconnect the historic street grid, spread traffic across more connections, and provide more connectivity, remove a barrier to pedestrians and bicyclists, and allow the space occupied by the ramps to be used for an extension of Buffalo Bayou Park, dramatically improving access to hike and bike trials and open space. This would still leave three different off ramps from IH45 (Milam, McKinney, and the Parkway) with excellent access to the different parts of Downtown. Experience in places like San Francisco has shown that parkways are effective replacements for freeway spurs and that traffic flows adjust accordingly. Capacity could be increased at the intersection where the ramps meet Allen Parkway by elevating Allen Parkway over the intersection, allowing thorough traffic form Allen Parkway to Downtown to bypass it, and by brining pedestrians underneath the intersection to Buffalo Bayou.



AS SHOWN IN DEIS



ALTERNATE

2. Polk

Polk is an essential connection between the East End and Downtown for pedestrians, cars, bikes, and buses. Major public projects, including the George R. Brown Convention Center, Minute Maid Park, Toyota Center, and BBVA Compass Stadium; have disconnected the majority of east-west streets Downtown; there is currently no through street between Eado/East End between Texas and Polk, a stretch of 7 blocks. As a result, The DEIS drawings show the closure of Polk at the highway, increasing this stretch to 10 blocks. A U-turn lane is shown to allow EB traffic to turn north, then reverse direction at Lamar. This requires cars and buses to merge across three lanes of traffic northbound, then do the same southbound, and it adds a 4 block detour. Eastbound traffic faces a 6 block detour. This is not acceptable. Alternate options might include elevating Polk over the freeway or creating a "U" shaped alignment for Polk above the freeway that avoids the sloping ramps but creates conventional intersections at St. Emanuel and Hamilton. More radically, Dallas could be extended through the ground floor of the convention center, allow Polk to be abandoned to facilitate southwards expansion of the convention center. The solution may have impacts on loading at the George R Brown, but the operations of the convention should not take priority over the connectivity to the neighborhood, especially since the construction of the convention center created these connectivity issues in the first place.

3. IH69 ramps north of Minute Maid Park

Today, traffic from the Eastex Freeway (IH69) main lanes and HOV lanes in Downtown exits onto Jackson, with a corresponding onramp from Chenevert. Both of these streets run on three blocks before terminating at Minute Maid Park. This results in a high volume of turns to and from Commerce, Franklin, and Congress, and since nearly all downtown destinations are south of these streets, a high volume of turns in the Downtown historic district to the west.

The DEIS drawings move the off-ramp from Jackson to Hamilton. This is a significant improvement since it provides easy access to Capitol, which brings cars into the center of Downtown. However, the corresponding on-ramp, and the HOV ramps, remain on Jackson/Chenevert.

TxDOT should look at alternate options for the 59 ramps that improve connectivity to Downtown. This could take the form of making Hamilton a two-way street (allowing cars from Texas to turn north to 59) or connecting 59 to the paired access roads along the combined IH45/IH69.

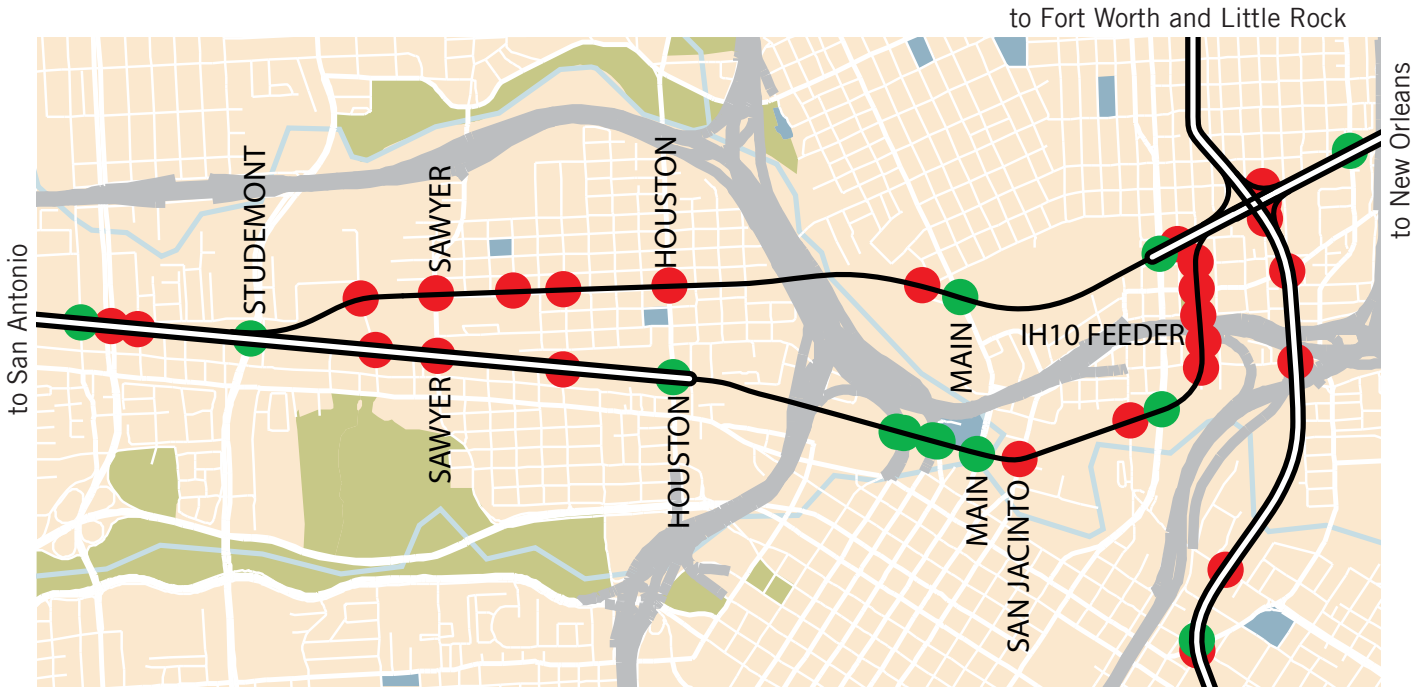
4. Inner Katy

The connection along IH10 from Downtown to the Northwest Transit Center at I-10 and 610 is one of the most critical transit corridors on Houston. Today, it carries around 10,000 riders a day on local bus and commuter bus. However, today's infrastructure is inadequate; a two-way ramp connects Downtown to I-10 near Sawyer, and another 2-way ramp connects to the Northwest Transit Center, but in a 3.5 mile gap in between buses are caught in often congested traffic on freeway mainlanes. This needs to be improved with a continues HOV, BRT services, or an extension of the Green and Purple light rail lines. Today's ramp is suitable of all of these; it provides a 2-way HOV that could carry BRT as well as commuter buses, and it could be upgraded in place to carry light rail. However, the DEIS plans show the elimination of this facility and its replacement with ramps off of unmanaged express lanes that also carry through traffic on IH10. This is a significant downgrade in transit infrastructure in a corridor that needs an upgrade. TxDOT must find a way to preserved the current ramp or replace it in kind.

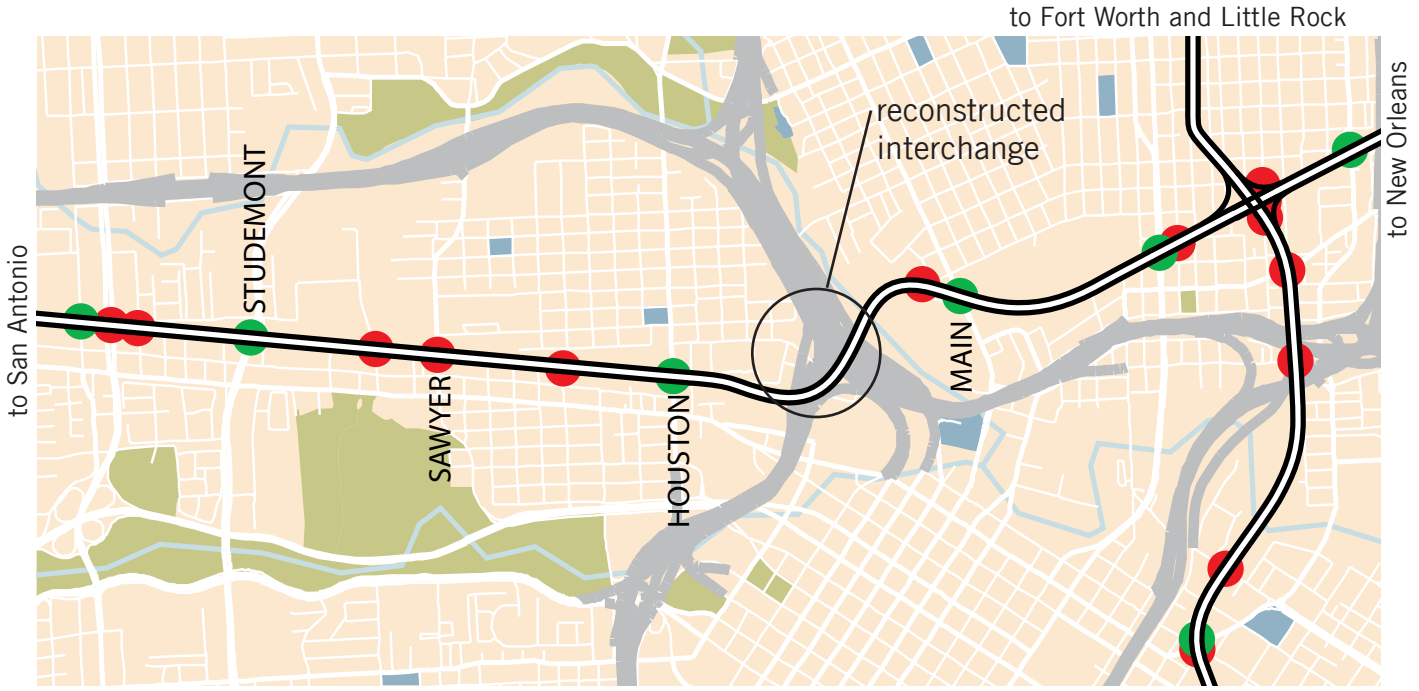
INNER KATY CORRIDOR

5. Terminal Subdivision

The Union Pacific's Terminal Subdivision, the main rail route between New Orleans and Los Angeles, divides as it passes Downtown. A pair of single track rail lines, the Freight Main (to the north) and the Passenger Main (to the south) each carries roughly half the trains. Each has significant impacts on neighborhoods and traffic flow. East of IH45, the Passenger Main crosses San Jacinto at grade, causing frequent delays to traffic on a major access route to IH10, disrupting circulation around the county jail complex, and impacting three major bus routes. West of IH45, the Freight Main runs down residential Winter Street in the First Ward, feet away from front porches, and crosses Houston Avenue at grade. The UH45 project offers an opportunity to fix these issues. A new connection between the Passenger Main and Freight Main could combine the west side of the Passenger Main and the eastern end of the Freight Main into a single double track line. This would provide the same railroad capacity as the existing line but eliminate the Winter Street route and a dozen grade crossings including San Jacinto and Houston Avenue grade crossings. A new Amtrak station could be provided at the Burnett Transit Center. This is not an easy project, and it requires extensive railroad coordination, but the IH45 is the only chance to do this.



TERMINAL SUBDIVISION EXISTING CONDITIONS



TERMINAL SUBDIVISION ALTERNATE

single track

double track

grade separated roadway crossing

at grade roadway crossing

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:24:35 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:11 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:23:51 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 9:39 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. William Tomlinson[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: We need to preserve the future opportunity to incorporate multi modal high capacity transit like elevated rail into the $7B TxDOT I-45 project. It's the only viable long-term transportation solution. Building more roads is short-sighted. Public transit has all kinds of additional benefits such as improved safety and environmental sustainability.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:26:40 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:12 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:24:43 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 7:38 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Gary Tran[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: We should make certain that Houston has the ability to build a viable Public Transit System. We build miles and miles of elevated ramps. Why not Metro tracks? We need to be able to move people without just only cars. Dallas and Austin are moving forward, and so should we. LA, DC, NYC, Chicago, Paris, London invest heavily in public transit.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:23:56 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:10 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:23:52 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 9:36 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. James Wixted[redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I am supportive of the North Houston Freeway Improvement project; especially Segment 3. I would advise that pilot projects like the asphalt grooving done on I-10 West at the Beltway 8 be applied to all flyover sections of the new freeway as well as considering polymer aggregates to retard tire degradation and micro-particulate pollution. Thank you.

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Friday, July 28, 2017 3:27:59 PM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 3:13 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: TxDOT Internet E-Mail

Sent from my iPad

Begin forwarded message:

> **From:** HOU-PIOWebMail <HOU-PIOWebMail@txdot.gov>
> **Date:** July 28, 2017 at 10:27:55 AM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: FW: TxDOT Internet E-Mail**
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076
> Kristina.Hadley@txdot.gov
>
> Follow us on twitter @txdothoustonpio
> Watch us @www.youtube.com/txdotpio
>
> -----Original Message-----
> From: [redacted]
> Sent: Thursday, July 27, 2017 12:11 AM
> To: HOU-PIOWebMail
> Subject: TxDOT Internet E-Mail
>
> Name: Mr. Jun Wong [redacted]

[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: I support the elevated metro project please expand the Metro in any way possible to improve Houston traffic and transportation!

[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: NHHIP Comment via CSTAR
Date: Monday, July 31, 2017 7:48:37 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 5:00 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: NHHIP Comment via CSTAR

Sent from my iPad

Begin forwarded message:

> **From:** Kristina Hadley <Kristina.Hadley@txdot.gov>
> **Date:** July 28, 2017 at 4:13:35 PM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Cc:** Danny Perez <Danny.Perez@txdot.gov>
> **Subject: NHHIP Comment via CSTAR**
>
> Good afternoon,
>
> Received this via CSTAR:
>
> "The North Houston Highway Improvement Project's proposed closure or Polk Street would greatly and negatively impact the growing East End. People are flocking to the East End because of its historic homes, charm, and it's relative accessibility to Downtown. This closure (either Polk or Leland) is unacceptable. Please find an alternative solution. Date of Occurrence: Location: Polk Street"
>
> Emily Brents
> [redacted]
>
> Kristina Hadley
> Public Information Office
> TxDOT-Houston District
> Phone: (713) 802-5076

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Comments via CSTAR
Date: Monday, July 31, 2017 7:47:14 AM

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, July 28, 2017 4:59 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: Comments via CSTAR

Sent from my iPad

Begin forwarded message:

> **From:** Kristina Hadley <Kristina.Hadley@txdot.gov>
> **Date:** July 28, 2017 at 4:19:35 PM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Cc:** Danny Perez <Danny.Perez@txdot.gov>
> **Subject: Comments via CSTAR**
>
> Having a major thruway run thru a totally residential neighborhood is irresponsible and unsafe. Along the effected roads is all homes as well as parks and schools. Who are the public officials who are supposed to be protecting residents? What are they doing? Date of Occurrence: 7/25/2017 Location: Chenevert and Elgin- proposed 288 toll lane to run thru midtown
>
> Mathew Guinn
> [redacted]

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Comments received via CSTAR
Date: Sunday, August 06, 2017 12:58:06 PM

Patty,
Comment…go ahead and include this in the PHSR
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, August 04, 2017 4:15 PM
To: Kelly Lark; Christine Bergren
Subject: FW: Comments received via CSTAR

From: Kristina Hadley
Sent: Friday, August 04, 2017 4:14 PM
To: Pat Henry
Subject: Comments received via CSTAR

Afternoon,

Comment below received via complaint system

"I'd like to submit my support for the proposed $7BN TX DOT 1-45 project in houston. the project is much needed to alleviate the congestion on HWY 45. We also need more public transportation options like a metro rail that extends along the major thoroughfares like every other major city has in the U.S. and Canada. Date of Occurrence: 8/1/1504242000795 Location: I-45 Hwy"

Santana Perez
[redacted]

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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[redacted]

From: Kelly Lark
To: [redacted]
Subject: NHHIP Comments FW: Comments Letter on North Houston Highway Improvement Project ("NHHIP")
Date: Sunday, August 06, 2017 1:27:18 PM

Patty,
Comment…Please include with PHSR comments
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Friday, August 04, 2017 11:40 AM
To: Kelly Lark; Christine Bergren
Subject: FW: Comments Letter on North Houston Highway Improvement Project ("NHHIP")

From: HOU-PIOWebMail
Sent: Friday, August 04, 2017 10:15 AM
To: Pat Henry; Danny Perez
Subject: FW: Comments Letter on North Houston Highway Improvement Project ("NHHIP")

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Janet Roe [redacted]
Sent: Wednesday, August 02, 2017 5:45 PM
To: HOU-PIOWebMail
Cc: Karla Cisneros; Rebecca Reyna
Subject: Fwd: Comments Letter on North Houston Highway Improvement Project ("NHHIP")

Dear Houston District TxDOT representatives,

For your information and consideration, we are forwarding the attached letter from Congressman Gene Green regarding the *Super Neighborhood 51 Leadership Team*'s letter about the proposed North Houston Highway Improvement Project.

It appears that Congressman Green agrees with some major points of our analysis.

Thank you for considering his opinions.

Best,
Janet Roe

Janet Roe
J Roe Photography
[redacted]

Begin forwarded message:

From: "Congressman Gene Green" [redacted]
Subject: Re: Comments Letter on North Houston Highway Improvement Project ("NHHIP")
Date: July 31, 2017 at 5:24:26 PM CDT
To: [redacted]

[redacted]

July 31, 2017

Ms. Janet S. Roe
[redacted]

Dear Ms. Roe:

Thank you for sharing a copy of the Near Northside Super Neighborhood 51 Leadership Team's letter to TxDOT regarding the proposed North Houston Highway Improvement Project. I appreciate receiving this information from the community and share many of the concerns expressed.

The leadership team's analysis raises a number of valid points regarding the feasibility of this proposed project that would disrupt or displace numerous residences and businesses along its right of way, create greater traffic congestion within residential areas and further divide communities. TxDOT should carefully consider input from the public and use this feedback to revise their plans to create a more acceptable proposal.

Thank you again for taking the time to share this document with me. I will continue to monitor the progress of this proposal and welcome input from my constituents.

Sincerely,

Gene Green
Member of Congress

[redacted]

[redacted]

From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: FW: NHHIP Comments FW: CSTAR Complaint
Date: Monday, July 24, 2017 4:48:13 PM

From: Kelly Lark [mailto:Kelly.Lark@txdot.gov]
Sent: Monday, July 24, 2017 1:04 PM
To: Matthews, Patty
Subject: NHHIP Comments FW: CSTAR Complaint

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Monday, July 24, 2017 12:35 PM
To: Kelly Lark; Christine Bergren
Subject: Fwd: CSTAR Complaint

Treat as comment.

Sent from my iPad

Begin forwarded message:

> **From:** Kristina Hadley <Kristina.Hadley@txdot.gov>
> **Date:** July 24, 2017 at 12:16:53 PM CDT
> **To:** Pat Henry <Pat.Henry@txdot.gov>
> **Subject: CSTAR Complaint**
>
> Afternoon,
>
> Received this via CSTAR:
>
> "I have concerns in regards to this new project that is in the making. Im not sure if its a rail or freeway that will and could affect a ton of neighborhoods. There's been sevetal meetings but alot of people in the neighborhood were unaware of these meetings and now im finding out that this project may land somewhere in front of my home literally Date of Occurrence: 7/26/2017 Location: 610 west and North loop
> Cross street link"
>
> LaQuisha peavey
> [redacted]

From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: FW: NHHIP Comments FW: Comments on TxDOT North Houston Highway Improvement Project
Date: Thursday, July 20, 2017 11:22:54 AM
[redacted]

From: Kelly Lark [mailto:Kelly.Lark@txdot.gov]
Sent: Thursday, July 20, 2017 10:36 AM
To: Matthews, Patty
Subject: NHHIP Comments FW: Comments on TxDOT North Houston Highway Improvement Project

Patty,
Comment…
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

From: Pat Henry
Sent: Thursday, July 20, 2017 9:43 AM
To: Kelly Lark; Christine Bergren
Subject: FW: Comments on TxDOT North Houston Highway Improvement Project

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From: HOU-PIOWebMail
Sent: Thursday, July 20, 2017 8:16 AM
To: Pat Henry
Subject: FW: Comments on TxDOT North Houston Highway Improvement Project

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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From: Ian Hlavacek [redacted]
Sent: Wednesday, July 19, 2017 11:35 AM
To: HOU-PIOWebMail
Cc: [redacted]
Subject: Comments on TxDOT North Houston Highway Improvement Project

TxDOT representatives and other interested stakeholders:

Please find attached my comments on the North Houston Highway Improvement Project and the Downtown Loop Realignment segment. I have major concerns about the disproportionate negative impacts of the project on Houston's inner city neighborhoods. If these impacts can be mitigated or avoided, I believe this project has a real potential to positively impact the Houston region for many generations to come.

I look forward to working with you on the continuing development of this project. Please let me know if you have any questions.

Sincerely,
Ian Hlavacek, PE
[redacted]

From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: FW: NHHIP Comments FW: TxDOT Internet E-Mail
Date: Thursday, July 20, 2017 10:36:30 AM

-----Original Message-----
From: Kelly Lark [mailto:Kelly.Lark@txdot.gov]
Sent: Thursday, July 20, 2017 10:34 AM
To: Matthews, Patty
Subject: NHHIP Comments FW: TxDOT Internet E-Mail

Patty,
Comment...
Kelly

Kelly Lark
Environmental Coordinator, TxDOT, Houston District
(713) 802-5989

-----Original Message-----
From: Pat Henry
Sent: Thursday, July 20, 2017 9:32 AM
To: Kelly Lark; Christine Bergren
Subject: FW: TxDOT Internet E-Mail

-----Original Message-----
From: HOU-PIOWebMail
Sent: Thursday, July 20, 2017 8:12 AM
To: Pat Henry
Subject: FW: TxDOT Internet E-Mail

Kristina Hadley
Public Information Office
TxDOT-Houston District
Phone: (713) 802-5076
Kristina.Hadley@txdot.gov

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-----Original Message-----
From: [redacted]
Sent: Wednesday, July 19, 2017 3:17 PM
To: HOU-PIOWebMail
Subject: TxDOT Internet E-Mail

Name: Ms. Renee Surette[redacted]

[redacted]

Reason for Contact: Customer Service
Complaint: No

Comment: Our new home is at 610 N & Irvington St area. After numerous community meetings & much discussion, I'd like to emphasize how important a flyover at Fulton Street will be. It will be the access to our neighborhood. The METRO train can be dangerous & cause delays. An option while using the feeder to bypass over or turn on Fulton is necessary.

[Connecting Texans to what matters most. Texas Department of Transportation: 1917-2017 #txdot100]
<http://www.dot.state.tx.us/txdot100/>

Mail Comments

COMMENT FORM
(FORMA DE COMENTARIOS)

North Houston Highway Improvement Project – Additional Opportunity for Review and Comment
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Proyecto de Mejoras de la sistema de carreteras de Norte Houston – Oportunidad Adicional para Revisión y Comentario
Desde la US 59/I-69 y Spur 527 hasta la I-45 y Beltway 8 Norte
KL: CSJ No. 0912-00-146

May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Sucharita Jana
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial)
__**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Nextdoor

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) X **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): I own a home just south east of the I-10 / I-45 / I-59 interchange. I am opposed to the proposed project because not only does the proposed project not include any improvements to access to this area, but rather, makes access to the area substantially worse. This area is currently growing, and the upcoming Midway project will add thousands of residents and business traffic to the area. I'm hoping, at this point, to merely maintain the status quo. I request that TXDOT: ① Maintain the Gregg I-10 East entrance ramp, ② Keep Nance St. as a two-way frontage road →

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

This comment form may be turned in tonight, mailed, or emailed by June 27, 2017 to the address below:
(Esta formulario de comentarios puede ser entregado esta noche, por correo, o por correo electrónico a más tardar el 27 de junio de 2017 a la siguiente dirección:)

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Texas Department of Transportation – Houston District
P.O. Box 1386
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Email: HOU-PIOWebMail@txdot.gov

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between Jensen and Meadow (not one-way), and ③ Maintain the Jensen exit on I-10 west. If TXDOT were to consider increasing access to the area, I request: ① A Clinton Dr. exit from 59 north, and ② US 59 South exit ramp to Lyons.

Please feel free to contact me if you have any questions.

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(KL: CSJ No. 0912-00-146)

COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Ed Mears
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial) ✓ **Business property owner or lessee** (Propietario o inquilino del negocio)
✓ **Other (Please explain)** (Otro [Favor de explicar]) General Contractor

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
✓ I do business with TxDOT (Hago negocios con TxDOT)
✓ I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓ **Other** (Please explain) (Otro [Favor de explicar]) TxDOT website

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ✓ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): We support the project to improve traffic and reduce traffic congestion in Houston. This project will improve the corridor for Economic Development and benefit the employees of ~~of~~ our firm.
Further, we strongly recommend the use of Design-Build contracting to accellerate construction and provide a variety of design and construction solutions for TXDOT.
Lastly, the project will provide need jobs for our industry, jobs which provide local economic benefit.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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Texas Department of Transportation – Houston District
P.O. Box 1386
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COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Jamie Volkmer
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) Neighbor

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) X **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Closing Polk Street (Emancipation Ave) will aggrivate parking problems at events at Convention center and Toyota. → If the project included a walking/bike bridge over where Polk currently is, it would allow parking on the EaDo side without forcing people to walk at least 6 blocks out of their way to get to events. It would also allow buisnesses on the EaDo side to benefit from

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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those events by getting more people near their buisnesses.

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(KL: CSJ No. 0912-00-146)

COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Ad ón [Opcional]):
Name (Nombre)_____ Mr Daniel Barnum
Address (Dirección)__ [redacted]
Telephone (Teléfono)_ [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓**Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

✓**Newspaper** (Periódico) ✓**Notice in the Mail** (Aviso por Correo)
✓**Other** (Please explain) (Otro [Favor de explicar]) Notice from Midtown Management

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ✓ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Given the coming improvements in transit and coming self-driving cars, I think you are overestimating traffic volumes.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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NORTH HOUSTON TX 770

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TX DOT
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77251-138686

COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) JAMES LARIMORE
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓ **Residential property owner or renter** (Propietario o inquilino residencial) ✓ **Business property owner or lessee** (Propietario o inquilino del negocio)
✓ **Other (Please explain)** (Otro [Favor de explicar]) Taxpayer + User

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓ **Other** (Please explain) (Otro [Favor de explicar]) e mail

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) ✓ **No** (No) __**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Please see my 1 page attached letter

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

This comment form may be turned in tonight, mailed, or emailed by June 27, 2017 to the address below:
(Esta formulario de comentarios puede ser entregado esta noche, por correo, o por correo electrónico a más tardar el 27 de junio de 2017 a la siguiente dirección:)

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(KL: CSJ No. 0912-00-146)

5/19/2017

TxDOT's planners have done a tremendous job except for one glaring mistake = not to have had an Alternative #4 = make what is there, better. There is ONE glaring need, the big intersection of I-45 & I-69. Do we really have to spend 7 BILLION DOLLARS to fix it!

ALL the roads are very good AND after ALL this envisioned 7 BILLION DOLLAR work, the traffic won't be any better. Look at all the work on I-10 and the traffic is just as bad (I guess). There, at least, the work expanded the main lanes. Here they are not being expanded!

The north section gets an added HOV lane. NO NEW MAIN LANES for 3 BILLION DOLLARS! A lane could be added to the Hardy for 1/100 of the cost. OK, we will have 2 hov lanes going opposite rush hour = NOT NEEDED! OK, we will have better feeder lanes = NOT NEEDED!

YES, some work is needed on the north section. There is one huge problem with a very very simple fix! Simply close the Southbound entrance at Crosstimbers. Cars enter and cross 3 lanes of very crowded traffic which creates daily backups. The entrance is not needed. There is another just before it.

Make proper breakdowns areas EVERYWHERE. Extend the Hardy to downtown.

The problem intersection of I-45 and I-69 is a HUGE problem and needs to be fixed! SO, fix it and keep the Pierce Elevated. This TOTAL redo is way overkill. The planners have done a good job but there is simply one big problem intersection that daily creates problems, BUT THAT IS IT. Otherwise the roads work very good all around downtown.

Downtowns all around America are trying to have places for bicycles and tourists. In the hot, half a year, summer time in Houston, the under-the-expressways of The Pierce and I-69 (and I-45) create a shady space that can be easily converted to beautiful landscaped areas. Currently they are terrible and that is what many people think of these spaces. BUT, urban planners can do wonders to these spaces with just a semblance of investment. They don't have to be crime ridden! Invest and it will be better. That is what money does, it will make it better and it is a ring all around downtown that can become a tourist attraction.

TxDOT has built very good roads that we are currently thinking of totally wrecking down and starting from scratch. This is such a HUGE WASTE of money, agony and resources!!! Most of our expressways currently have the one lane DEDICATED hov. It is a great system that we need to use more and more, and especially with park and rides. Most areas of town we have ALTERNATIVES, where one simply looks at the current traffic problems and can choose a path. We need more alternatives (& mass transit). WE DON'T NEED TO DESTROY AND WASTE MONEY.

James Larimore
[redacted]

COMMENT FORM
(FORMA DE COMENTARIOS)

North Houston Highway Improvement Project – Additional Opportunity for Review and Comment
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Proyecto de Mejoras de la sistema de carreteras de Norte Houston – Oportunidad Adicional para Revisión y Comentario
Desde la US 59/I-69 y Spur 527 hasta la I-45 y Beltway 8 Norte
KL: CSJ No. 0912-00-146

May 15, 2017
15 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) ROMULO CISNEROS
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
✓**Residential property owner or renter** (Propietario o inquilino residencial)
__**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about tonight? (¿Como se enteró de esta noche?)
✓**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ✓ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): MUST BE DONE SENSITIVE TO NEIGHBORHOOD ADJACENT TO FREEWAY, ie: LANDSCAPING
ART
NOISE REMEDIATION

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

This comment form may be turned in tonight, mailed, or emailed by June 27, 2017 to the address below:
(Esta formulario de comentarios puede ser entregado esta noche, por correo, o por correo electrónico a más tardar el 27 de junio de 2017 a la siguiente dirección:)

Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

Version 2

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Texas Department of Transportation – Houston District
P.O. Box 1386
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Director of Project Development
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(KL: CSJ No. 0912-00-146)

77251-1386

COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición): N/A

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Joseph Gentile
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial)
__**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

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__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) internet

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ✓ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Thank you for this project. I am a homeowner in midtown and removing the 'Pierce Elevated' section of I-45 will greatly benefit my neighborhood. Houston faces two challenges: mobility and livability. In the short term keeping traffic moving (mobility) is important but in the longer term livability, making Houston a place people want to live, is an existential challenge for the city. Properly funded and executed I think this project addresses both. Please find the money to do this and do it right.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

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(Esta formulario de comentarios puede ser entregado esta noche, por correo, o por correo electrónico a más tardar el 27 de junio de 2017 a la siguiente dirección:)

Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

Version 2

COMMENT FORM
(FORMA DE COMENTARIOS)

North Houston Highway Improvement Project – Additional Opportunity for Review and Comment
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Proyecto de Mejoras de la sistema de carreteras de Norte Houston – Oportunidad Adicional para Revisión y Comentario
Desde la US 59/I-69 y Spur 527 hasta la I-45 y Beltway 8 Norte
KL: CSJ No. 0912-00-146

May 15, 2017
15 de mayo de 2017

X **I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición): PCT Chair 207

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre) Kevin J Hoffman
Address (Dirección) [redacted]
Telephone (Teléfono) [redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
X **Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

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__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about tonight? (¿Como se enteró de esta noche?)

__**Newspaper** (Periódico) X **Notice in the Mail** (Aviso por Correo)
X **Other** (Please explain) (Otro [Favor de explicar]) email

Do you support the proposed project? (¿Apoya el proyecto propuesto?) __ **Yes** (Sí) X **No** (No) __ **Undecided** (Indeciso)

COMMENTS (COMENTARIOS): I can not support the project as presented. The lack of a overpass over Fulton Street at the Metrolite rail @ the planned I610 service Roads, will not creat a safe transport route for those traving on this at grade service Road that would handle both I45 and I610 traffic into Lindale Park, North Lindale, Ryon and other North Side residents. In fact the traffic leves with the Meto Rail could cause this area to be rated "F" at the end of the project.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

This comment form may be turned in tonight, mailed, or emailed by June 27, 2017 to the address below:
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It would also under Ambulance services to our closest Hospital. Local safely needs must come first.

Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

PAT HENRY, P.E.
Director of Project Development
TxDOT Houston District Office P.O. 1386
Houston, TX 77251-1386

Houston, June 8, 2017

Object: Comments to TxDOT Environmental Study

Dear Mr. Henry,

We have been carefully reading your draft of the Environmental Study[1] regarding the North Houston Highway Improvement Project. In the Community Impact Assessment portion of that project, it is stated on pages 5-16 and 5-17:

The proposed right of way would displace two schools In the Northside/Northline neighborhood:

- *Alpha and Omega Christian Academy (5621 North Freeway)*
- *The Culinary Institute LeNotre (7070 Allensby Street)*

The Culinary Institute LeNotre is a specialty school that serves students throughout the city of Houston and beyond. Other culinary schools in the Houston area ***with similar curriculums*** *include:*

- *The Art Institute of Houston (4140 Southwest Freeway; located approximately 12 miles southwest of the Culinary Institute LeNotre)*
- *Houston Community College (3100 Main Street; located approximately seven miles south of the Culinary Institute LeNotre).*

The report implies that in case CIL does not survive the Eminent Domain current process, the Houston community could be served by these above two smaller institutions that are thought to offer similar curriculums as CIL.

WE ARE REFUTING TXDOT CLAIM THAT OUR CURRICULA ARE SIMILAR. WE ASK YOU TO REVISE THE TEXT OF YOUR ENVIRONMENTAL STUDY BY REMOVING THE PART WHERE YOU MENTION THAT: "*OTHER CULINARY SCHOOLS IN THE HOUSTON AREA* ***WITH SIMILAR CURRICULUMS ARE (...)***"

THE COMPARATIVE TABLE ENCLOSED (SEE PAGES 1-6) DEMONSTRATES OUR ARGUMENT.

[redacted]

In addition:

- The Art Institute and HCC do not offer similar advantages for the students as offered by CIL (See pages 7-8 of the enclosed table)

Consequently, we are asking you to modify the contemplated freeway design to avoid the Taking of CIL (or maybe to close it if the indemnifications and cost reimbursement are not adequate financially for our stockholders which include all of our employees).

We thank you for having given us the opportunity to present our comments.

Sincerely,

Alain Lenotre

Marie Lenotre

Copy to:
Quincy D. Allen
TxDOT P.O. Box

Enclosed:
Comparative Table (Culinary Institute Lenotre / Art Institute / Houston Community College)

[redacted]

[redacted]

COMPARATIVE TABLE

		CULINARY INSTITUTE LENOTRE	ART INSTITUTE	HOUSTON COMMUNITY COLLEGE
		CIL CURRICULUM COMPARATIVE ADVANTAGES		
1	UNIQUE	YES Specialized	NO belongs to a chain General Art	NO General Public Institution
2	STRICTLY FOCUSED ON CULINARY ARTS	YES (100%)	NO	NO
3	TOTAL CREDIT HOURS FOR AAS (Associate Degree)	100	90	60
4	TOTAL CREDIT HOURS FOR DIPLOMAS	57	55	42

5	CREDIT HOURS SPENT IN LABS (Associate Degree)	50	42	30
6	CLOCK HOURS SPENT IN LABS (Associate Degree)	840	?	?
7	CLOCK HOURS SPENT IN LABS (For Diplomas)	800	?	?
8	PRICE RATIO (Price/ credit hour) (Associate Degree)	$434	$525	?
9	STARTS	5 starts a year (terms of 10 weeks each)	4 starts a year +4 second starts	3 starts a year +Second starts
10	PRACTICUM / INTERNSHIP	10 weeks mandatory Possibility of internships in France, Spain…	no internship but possibility to do one at the end of the curriculum	no internship

11	SIZE OF CLASSES (LABS)	Medium classes:10	medium classes: 25	Medium classes: 25
12	ELECTIVE CLASSES	YES : 10	NO	NO
13	TASTEBUDS TRAINING	YES (daily)	NO	NO
14	ADVANCED PASTRY DÉCOR TRAINING COMPETITION LEVEL	YES	NO	NO
15	STUDY VOYAGE	YES One week Study Voyage to Louisiana	NO	NO
16	CHEF-INSTRUCTORS	• 14 full-time, full benefits Chef Instructors • Minimum 12 years of experience in the industry as executive chefs	• 5 Part –Time Chef instructor • Online teaching	• 9 Part-Time chefs-instructors • Teach both culinary & pastry arts

The Community could not be served equally by the 2 fore mentioned institutions because:

- CIL is the **only Specialized Vocational school** in the GHMA focused on Culinary Arts Baking and Pastry Arts and Hotel & Restaurant Management only
- CIL offers the **most credits for its programs**: (100 credits for an AAS; 57 credits for a diploma vs the Art Institute or HCC which offers only 90 and 60 credits for an AAS or 55 and 42 for a diploma)
- CIL offers the **most Hands-on program**: From all of the other colleges offering Culinary Classes in the HMA, CIL is the place students spend the most time in the lab, learning through experiment, a fundamental in Culinary Arts pedagogy
- CIL uniquely prepares its graduates with a mandatory **10-week internship** for all programs.
- CIL offers a **variety of programs and elective options** as well as **3-shift schedule** options (morning, afternoon, evening) to fit its student's lifestyle, and 5 starts and 5 graduations a year, 1 every 10 weeks
- CIL maintains extremely small class sizes for a better learning environment: From all of the other colleges offering Culinary Classes in the HMA, CIL is the place where the student/ teacher ratio is the lowest
- CIL is the only institution to **employ only <u>full-time</u> (with full benefits) Chefs-instructors.** They also have more than 12 years of international experience as executive chef. They are all stock holders.

OTHER ADVANTAGES OFFERED BY CIL TO HOUSTON STUDENTS				
17	APPLICATION RESTAURANT	YES • Fully operational on-site application restaurant • 80 seating • Open to the public 5 days a week • Award winner restaurant • Houston Chronicle Culinary Awards • Top-100 restaurant in Houston (2015)	NO "a la carte" class open to public not a real business	NO "a la carte" class open to public not a real business
18	POTS / PANS CLEANING (By the students)	NO	YES	YES
19	STUDENTS & ALUMNI CAREER SERVICES	• Lifelong career advice • 92% employment rate after graduation* [redacted]	• 6 months follow-up after graduation	• No real follow-up after graduation
21	ORGANIC GARDEN	YES	NO	NO

- CIL possesses a very unique feature that is its **on-site fine-dining application restaurant** fully integrated within the curriculums where students and alumni can get exclusive real-life experience
- CIL has created an **organic garden** providing unique community bounds and pedagogical opportunities
- CIL offers **lifetime Career Services** and job placement assistance to its students as well as **free scholarship workshops and tutorial classes.**
- CIL is highly recognized in the Industry and among peers. CIL graduates come out of school and are extremely employable. **CIL is credited with having the highest employment rate among culinary schools in Texas**[1]
- Despite being a one location school, CIL is also regularly recognized as **one of the best culinary institution in Texas**[2] **and even nationwide.** For example, in May 2017, CIL was named, among more than one thousand culinary institutions, one of the best culinary schools in America by the highly respected Food Newsfeed Magazine[3].

[redacted]

LENGTH OF SERVICE AND STRUCTURAL ADVANTAGES				
21	FACILITIES	14 labs 11 academic classes 2 buildings Total square footage : 51485 Library Learning center *See appendix B for full listing	4 labs 4 academic classes	2 labs 3 academic classes
22	EMPLOYEES STOCK HOLDERS	YES (23% of the Capital)	NO	NO
23	CURRENT CENSUS	323	200	?
24	PARKING SPACES	250	?	?
25	LAST 2 YEARS CYCLE ENROLMENT	600	?	?

26	**LAST 2 YEARS CYCLE GRADUATION**	**300**	**?**	**?**
27	**EMPLOYMENT RATE**	**92%** **The Highest in All Culinary Schools in Texas according to TWC***	**?**	**?**

- Culinary Institute Lenotre (CIL) shows sustained growth. CIL's enrollments have been constantly increasing since its creation in 1998
- CIL enrolled 600 students the last 2 years and graduated more than 300 in the Culinary Arts and Hotel & Restaurant Management
- March 2017 marked the milestone of the school's 100th graduation and 2018 will be the year to celebrate 20 years of training chefs and hospitality industry workers
- CIL offers comparatively the **largest facility with more equipment**. It is also the only Culinary College where students do not wash pots and pans themselves
- Its **14 kitchen labs and 6 academic classes could accommodate 570 students, 5 days a week at full capacity**
- CIL is a **family –owned business** and **all employees are stockholders**

Culinary Institute LeNôtre
A Legendary Name For Your Culinary Arts College

[redacted]

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Director of Project Development
P.O. Box 1386
Houston, TX 77251-1386

Accredited by the Accrediting Commission of
The American Culinary

6/7/17

TxDOT

This involves the planning to do away with I-45 thru Downtown Houston. I think this would be an insane idea for a couple of reasons.

#1. There is nothing wrong with the Pierce Elevated that warrants doing away with it. It's not perfect but it allows traffic flow that has no other place to go.

#2. For anyone to suggest that I-69 just east of George R Brown convention center is able to take on any extra traffic is beyond belief. During the week, on weekends, whenever this stretch of road is one of the most heavily congested in all of Houston. For anyone to think this stretch can handle the I-45 Pierce Elevated traffic is beyond insane. Makes me wonder does anyone @ TxDOT ever drive this stretch?

To me this smacks of nothing more than social engineering - (having

money to spend on road construction and searching for a place to spend it.) Of all of the crazy things I've seen on Houstons freeways/construction, this suggestion takes the cake. You're wanting to take a mass flow of cars from I-45 and divert them to a stretch that allready is bumper to bumper crawling traffic. Just insane. You cannot be serious. There is so much wrong with this idea I can't begin to describe them all. Pierce elevated has exits on/off to downtown - that work. Yes they are overtaxed but it is manageable. Where will that traffic go needing to exit downtown + Allen Pkwy? Will they have to drive all across downtown to get on I-69?

There are not enough words for me to describe my feelings about how poorly managed TxDot is when it comes to freeway repairs/changes

You (TxDot) seem to have the same approach to rework as my

mother world rearrange the furniture.

The freeway system is not your toy box to play musical exits & on ramps. Your job should be fix the roads and Keep traffic flowing - period.

I've seen roads tore up & repaired that had no damage to them at all. Some roads get fixed super fast (Katy freeway) while blue collar areas like Hwy 225 bridge repairs took months past the end date & no one working weekends or at nights

You don't consider for one minute the economic impact of closing down a road, the environmental impact of bumper to bumper cars crawling. You have tax dollars searching for a spending home & you don't care who it affects. You will do whatever you want in the end regardless of feedback because - you are smarter than everyone. But that's just my opinion

Larry Dell

9 June 2017

TxDOT District Office
Director of Project Development
P.O. Box 1386
Houston, TX 77251-1386
Email: HOU-piowebmail@txdot.gov

RE: North Houston Highway Improvement Project – I -45 Beltway 8 to US 59 - Public Comments

Dear Director of Project Development,

The White Oak Bayou Association (WOBA) appreciates this opportunity to provide comments on the North Houston Highway Improvement Project. WOBA is a non-profit advocacy organization whose mission is to promote greater public awareness, appreciation, and enjoyment of the White Oak Bayou, its tributaries and environs by advocating the preservation, restoration, and maintenance of the natural wildlife habitats thereof, while promoting compatible educational and recreational opportunities within the area.

WOBA would like to express its concerns with respect to the potential for significant environmental impacts of the proposed reconstruction of I-45 on Houston's bayous and adjacent wetlands along the full reach of the project, and in particular on White Oak Bayou, its tributary Little White Oak Bayou, and its receiving stream, Buffalo Bayou. Our major areas of concern are the potential for the project to exacerbate flooding, further disrupt surface water hydrology and shallow groundwater discharge, cause further deterioration of water quality and wildlife habitat, and create potential barriers to pedestrian and wildlife mobility. On the other hand, we see the potential for improvements in some of these area by proper deign and implementation of the project. Houston's ever-expanding freeways are an immense source of stormwater runoff into the bayous and significant contributor to flooding. Runoff from roads impacts water quality, and therefore aquatic habitat, in the immediately receiving streams and in downstream water bodies, including Galveston Bay. Water quality impacts include the presence of oil and other pollutants, trash and, during summer, excess heat which reduces the water's capacity for dissolved oxygen. The subgrade sections of the project could potentially result in such impacts even in dry weather if pumping is required to prevent road flooding by shallow groundwater seepage.

The project's design should mitigate for these impacts by incorporating vegetated detention basin, engineered wetlands and any other appropriate elements to reduce the flow rate into the bayous and remove pollutants. The project should include mitigation not only for the currently proposed construction, but also for past freeway construction projects that predated mitigation requirements.

9 June 2017

The project design, especially in the subgrade sections, should take into account the potential disruption of stream flow, and should not impose barriers to future improvements to the lower reaches of White Oak Bayou, which may include removal of concrete paving and restoration of a meandering channel. When concerns about runoff and flood potential were raised with one of TxDOT's representatives at a 2015 public meeting, the response was that some of the "kinks" (i.e., meanders) in the channel "might have to be straightened out" in order to move the water downstream faster and prevent flooding. This is absolutely the incorrect approach and it is hoped that this response does not in any way reflect TxDOT's actual intended mitigation strategy.

Finally, the project design should safely accommodate pedestrian and bicycle traffic adjacent to and crossing the freeway, and especially along the waterways. Houston's Bayou Greenways 2020 project has begun a program of major enhancements to and expansion of our parks along the bayous, including improvements to neighborhood access to the parks and connectivity between them. The proposed project should provide for improved access to the parks and should not result in barriers to pedestrians, bicyclists or wildlife. In particular, the project should be designed to accommodate shared-use trails along Little White Oak Bayou from its confluence with White Oak Bayou to the upstream limits of the project, with a connector to Moody Park, as outlined by the Houston Parks Board in its letter to TxDOT dated 3 December 2013.

In summary, while the preliminary design for the portion of the project near downtown has undeniable esthetic appeal, and may enhance automobile traffic through the city, it poses significant potential for adverse impacts to our local waterways and to the accessibility and connectivity of our parks. Therefore, WOBA very strongly urges TxDOT to take these concerns into account in its final plan and design.

Again, we appreciate this opportunity to provide our comments on the project. Should you have any questions regarding our concerns, please feel free to call me at [redacted]

Sincerely,

Robert S. Lee
Vice President
White Oak Bayou Association

COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre)__Christina Velgakis (President/Secretary of Stalida Corporation)
Address (Dirección)[redacted]
Telephone (Teléfono[redacted]

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial)
X **Business property owner or lessee** (Propietario o inquilino del negocio)

__**Other (Please explain)** (Otro [Favor de explicar]) _____

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico)
X **Notice in the Mail** (Aviso por Correo)
__**Other** (Please explain) (Otro [Favor de explicar]) _____

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Si) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): Please see attached 2-page letter.

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

This comment form may be turned in tonight, mailed, or emailed by June 27, 2017 to the address below:
(Esta formulario de comentarios puede ser entregado esta noche, por correo, o por correo electrónico a más tardar el 27 de junio de 2017 a la siguiente dirección:)

Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

Version 2

Mrs. Christina Velgakis
[redacted]

[redacted]

June 10, 2017

The purpose of these attachments are to provide my comments regarding the North Houston Highway Improvement Project Public Hearing, held at Houston Community College Central Campus, on May 11, 2017. The State's proposals were excellent and well presented. The comments listed below are not an objection to the State's plans, but concerns I have that may effect my property located at 500 Victoria Drive. Your staff recommended I mention my concerns in your comment form but obviously there was not enough space to do so.

(**Attachment A**) is IH 45 at Victoria Drive. Your staff at the meeting said there will be a retention pond where Star Furniture is currently located. I asked if Victoria Drive would be widened and was told there "may be" widening of Victoria Drive but only a few feet at the retention pond site. I know Victoria Drive does not belong to the State, but I mentioned there is currently a lot of traffic from Yale Street going East to Victoria to enter I-45. I was told to mention this to you.

(**Attachment B**) The City of Houston has a street improvement plan of their own for Independence Heights, which could potentially bring even more traffic along Victoria Drive once the COH moves forward with their plan which may include closing some streets.

I recommend the State suggest the City of Houston expand Victoria from a 2-lane street to a 4-lane street to carry the potential influx of more traffic from Yale St. to access I-45. The COH owns large ditches on both sides fronting Victoria, therefore no additional taking of right-of-way would be necessary.

(**Attachment C**) Here is a snap shot of the area the City of Houston intends to revitalize. My vacant 2.3662 acre property is also in Independence Heights, but unfortunately is not included in the City's plans.

(**Attachment D**) During 2013, the caretaker of my land learned at a neighborhood meeting that HISD planned to place a retention pond on *my* property once they tore down the school and built the new Kennedy Elementary school - which was news to me. At that time, I kept receiving numerous "violation notices" if weeds grew an inch higher than the law allows - although similar lots with high weeds were left undisturbed by the City. Eventually, HISD partnered with the COH and HCFCD and placed a retention pond across the street fronting Victoria. The violation notices on my property stopped.

In April of 2013, I called FEMA about the retention pond across from my property, since no notice was given to nearby owners. The new school fronting Victoria at Oxford made a small retention pond of their own too, but I found no new changes, designations/updates in Fema's LOMR map. The school also elevated their property but I was denied by the City when I called about elevating mine. I feared water run-off from the school's elevated property would flood my property. I left my concerns with FEMA.

Soon after, I received a telephone call from "Matt", who worked at FEMA's mapping department, in Alexandria Virginia. (I did not obtain his phone number). He sounded upset about not having been contacted about the retention pond project. He said FEMA was never notified or given approval of the retention pond as it related to their Mitigation pond abutting **White Oak Bayou** and the elevation of its school ground. He recommended I call the COH and/or HCFCD and inquire how permission was obtained. When I called, both denied needing to go thru FEMA. Unfortunately, when I called FEMA to obtain Matt's phone number regarding Project No. 0808, it was not provided and was told I was not allowed to contact the mapping department.

During your meeting of May 11th, I gave a reduced version of my concerns with retention ponds, and asked if the State will be contacting FEMA prior to the State's retention pond on Victoria at I-45. I was told to send my concerns to you. When I first purchased my land in 2001, it was not in the floodway according to the Harris County Appraisal District. It was in Zone X. In later years, in 2006 I noticed HCAD placed part of it in the 100 year flood plane and appears to have expanded. I thought having two Retention ponds on Victoria should lessen the chance of flooding of my property, but it never will - if FEMA doesn't know about them.

Today, I checked your website and was surprised to find FEMA's letter to Sylvester Turner, City of Houston Mayor (stamped January 6, 2017, Case No. 06-06-B182V) regarding one property belonging to Caitlin Mahoney, in Independence Heights, who purchased vacant land from Innerloop Homes, Inc. [Filed 7/24/2013, Harris County Real Property Records, File No. 20130370746]; who subsequently built a home there in 2014.

Although your letter to the Mayor encouraged disseminating information throughout the community, I never received a letter from the previous mayor about the elevation of the new school, their retention pond nor the one fronting Victoria along White Oak Bayou.

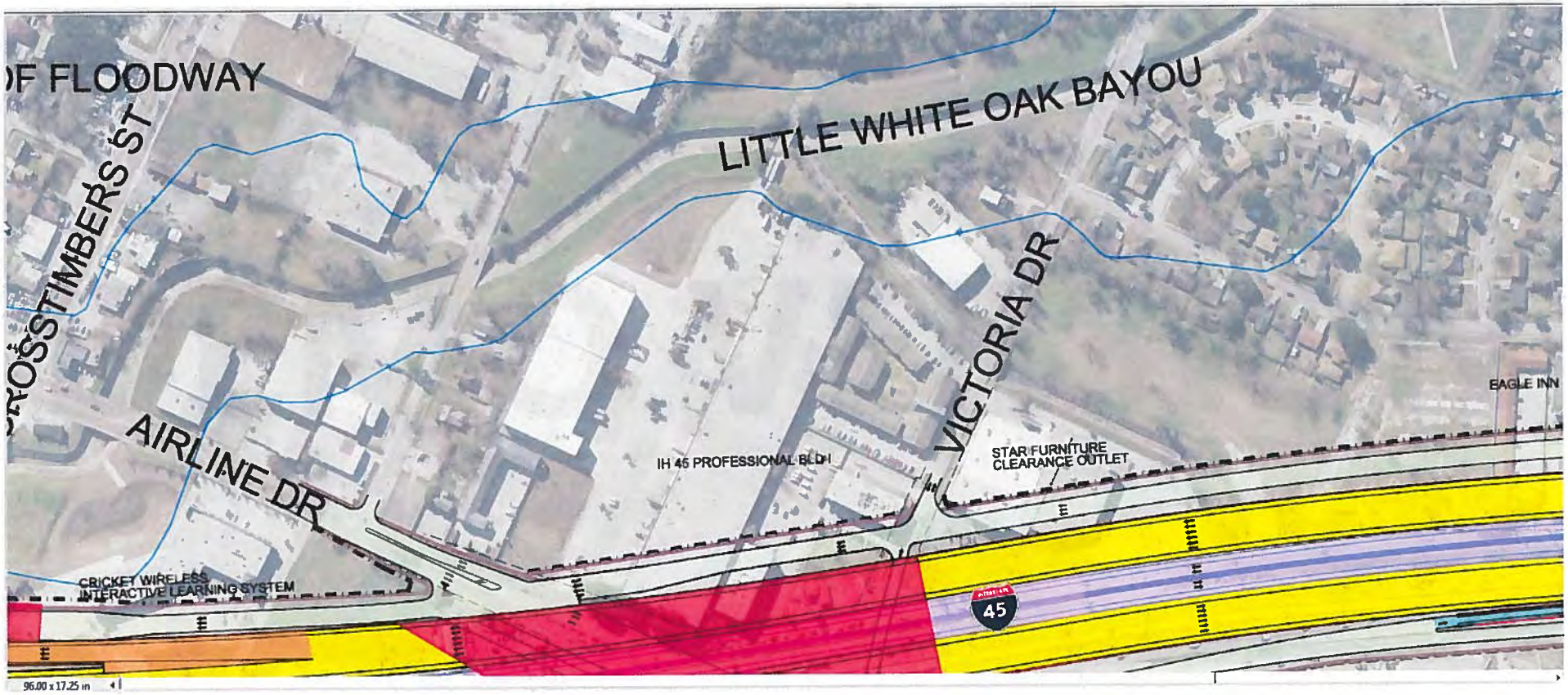
If you have any questions, feel free to contact me by phone or email. I will appreciate any consideration you can give to alleviate at least some of my concerns.

Sincerely,

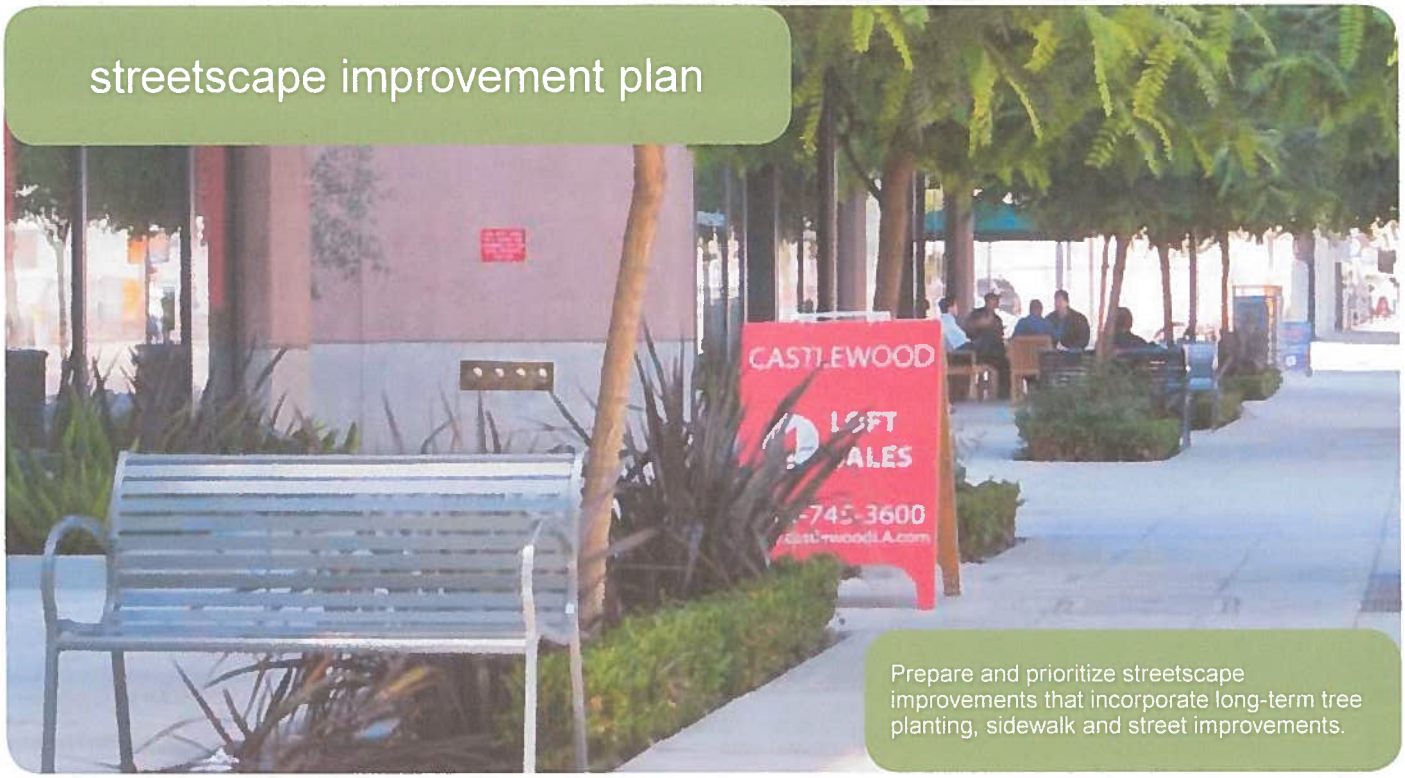
Christina Velgakis

Christina Velgakis

ATTACHMENT 1



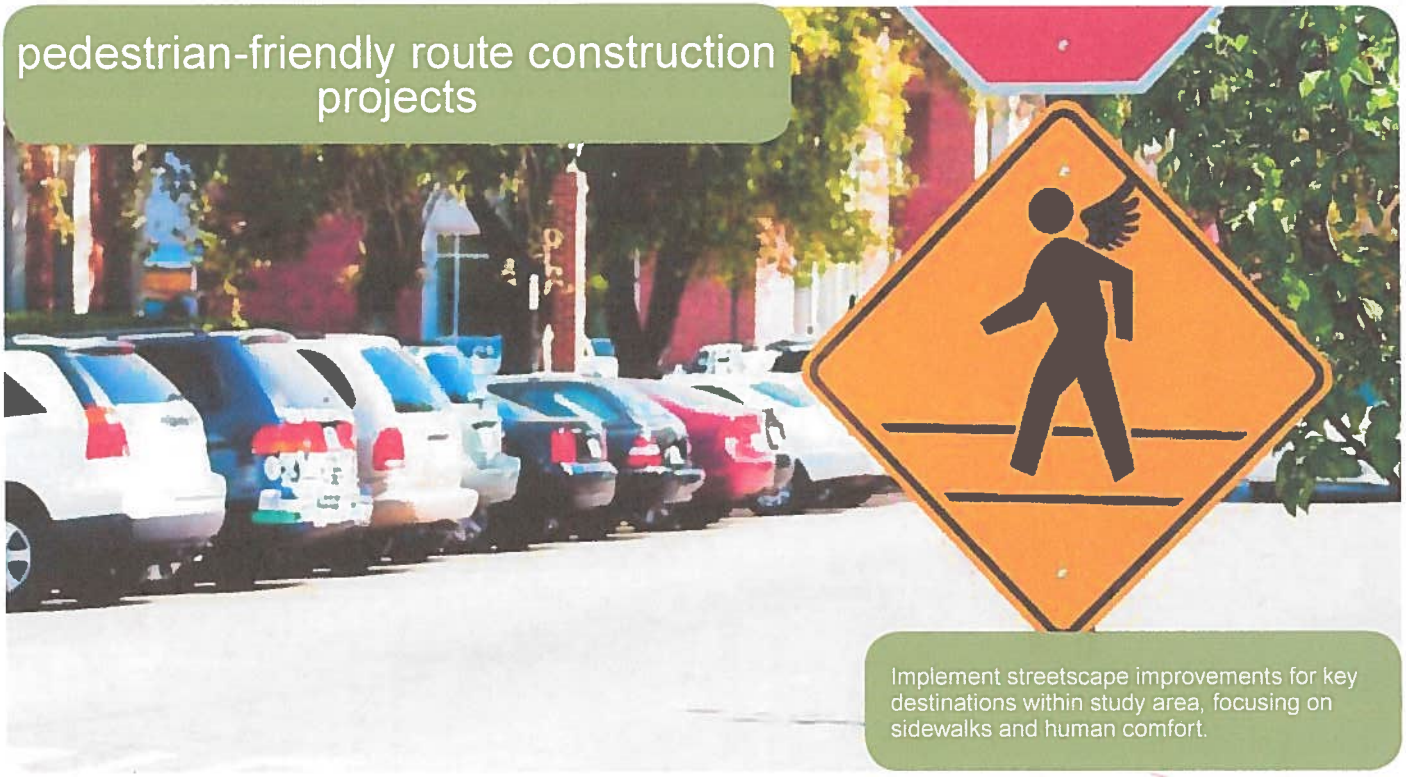
ATTACHMENT 2



streetscape improvement plan

Prepare and prioritize streetscape improvements that incorporate long-term tree planting, sidewalk and street improvements.

connectivity | public space | environment | community development | economic development | signage and branding



pedestrian-friendly route construction projects

Implement streetscape improvements for key destinations within study area, focusing on sidewalks and human comfort.

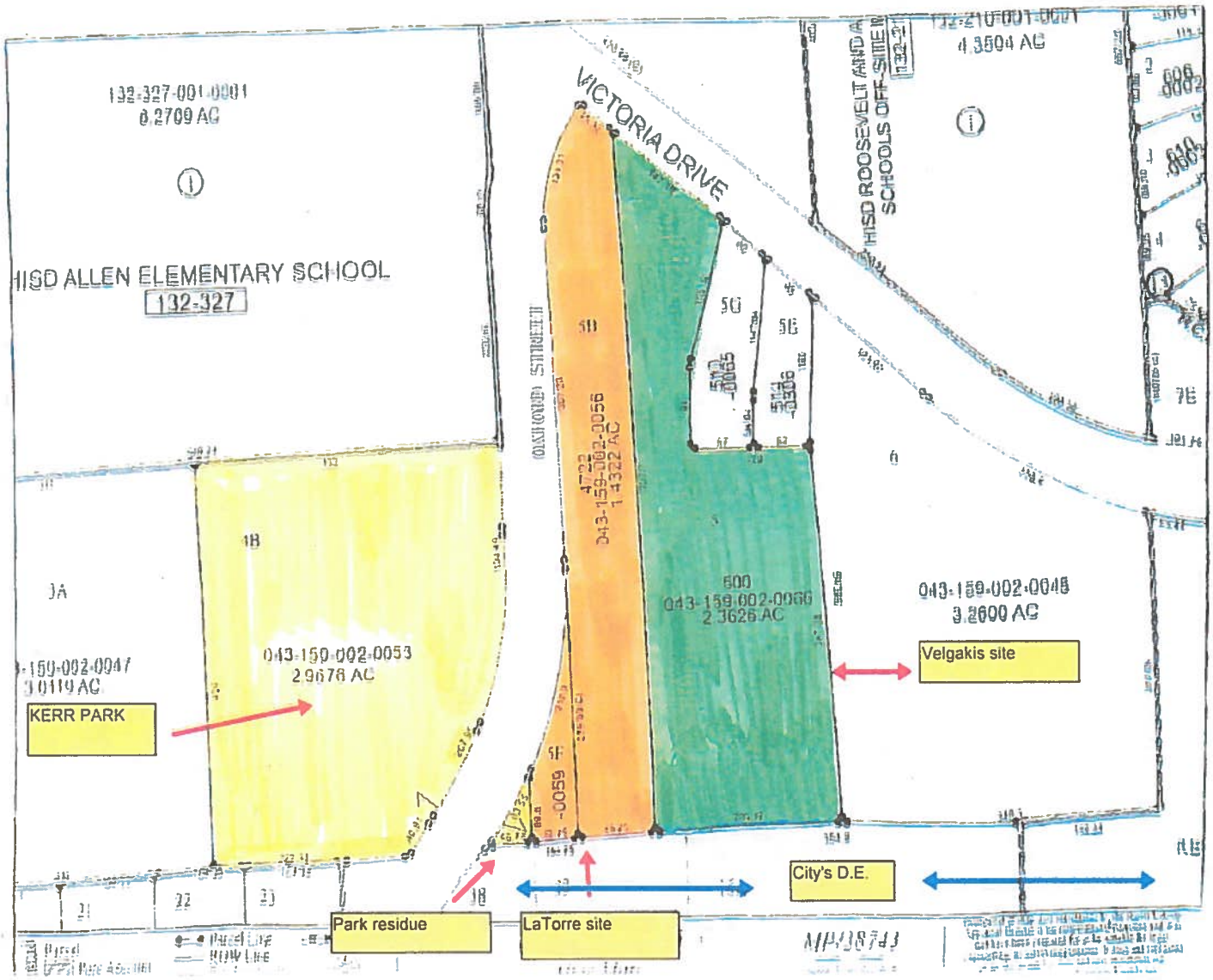
connectivity | public space | environment | community development | economic development | signage and branding

ATTACHMENT 3

Victoria Drive (Solid black line)

Victoria property (green line)

ATTACHMENT 4



COMMENT FORM
(FORMA DE COMENTARIOS)

Public Hearing – North Houston Highway Improvement Project
From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
Audiencia Pública – Proyecto de Mejoras de la North Houston Highway
KL: CSJ No. 0912-00-146

May 9 and 11, 2017
9 y 11 de mayo de 2017

__**I am an Elected Official** (Soy Funcionario/a electo) **Position** (Posición):_____

Name and Mailing Address (Optional) (Nombre y Dirección [Opcional]):
Name (Nombre)_____ Daniel Peña-Concino
Address (Dirección)_____ [redacted]
Telephone (Teléfono)_____

PLEASE CHECK THE APPROPRIATE ITEMS BELOW: (Favor de marcar la que le aplique)

I am primarily interested in the project from the standpoint of a: (Me interesa el proyecto desde el punto de vista de:)
__**Residential property owner or renter** (Propietario o inquilino residencial) __**Business property owner or lessee** (Propietario o inquilino del negocio)

✓**Other (Please explain)** (Otro [Favor de explicar]) I'm interested in highway construction

Per Texas Transportation Code, §201.811(a)(5): check each of the following boxes that apply to you: (Por Código de Transportación de Texas, §201.811(a)(5): marcar siguientes casillas que le correspondan:)

__I am employed by TxDOT (Soy empleado de TxDOT)
__I do business with TxDOT (Hago negocios con TxDOT)
__I could benefit monetarily from the project or other item about which I am commenting (Podria beneficiarme económicamante con este proyecto u otro asunto del cual estoy comentando)

How did you learn about this hearing? (¿Como se enteró de esta reunión?)

__**Newspaper** (Periódico) __**Notice in the Mail** (Aviso por Correo)
✓**Other** (Please explain) (Otro [Favor de explicar]) Researching about highway projects in the internet

Do you support the proposed project? (¿Apoya el proyecto propuesto?) ___ **Yes** (Sí) ___ **No** (No) ___**Undecided** (Indeciso)

COMMENTS (COMENTARIOS): My comments and suggestions are in the attached papers

Please make additional comments on the back. (Favor de hacer comentarios adicionales al dorso de esta forma.)

This comment form may be turned in tonight, mailed, or emailed by June 27, 2017 to the address below:
(Esta formulario de comentarios puede ser entregado esta noche, por correo, o por correo electrónico a más tardar el 27 de junio de 2017 a la siguiente dirección:)

Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386
Email: HOU-PIOWebMail@txdot.gov

Version 2

Hello, I looked at the project that you are proposing, and after looking at it for a while, it didn't look appealing on my opinion; I spent the past few months trying to come up with a plan that doesn't demolish as many businesses (Although in the end I had to demolish some that I didn't want to demolish, but at least I kept some)

I would change nearly everything of the segment 3, Only what's south of Almada Street would be the same as the original plan with some small changes maybe. I would make changes to I-45 north from Beltway 8 to main Street but I didn't think that it mattered much, so I did not include it.

One of the main things I would do is to keep the pierce elevated. I would not reconstruct it unless it's absolutely necessary. I would make the option to put an express lane on I-45 through downtown, but that would be optional.

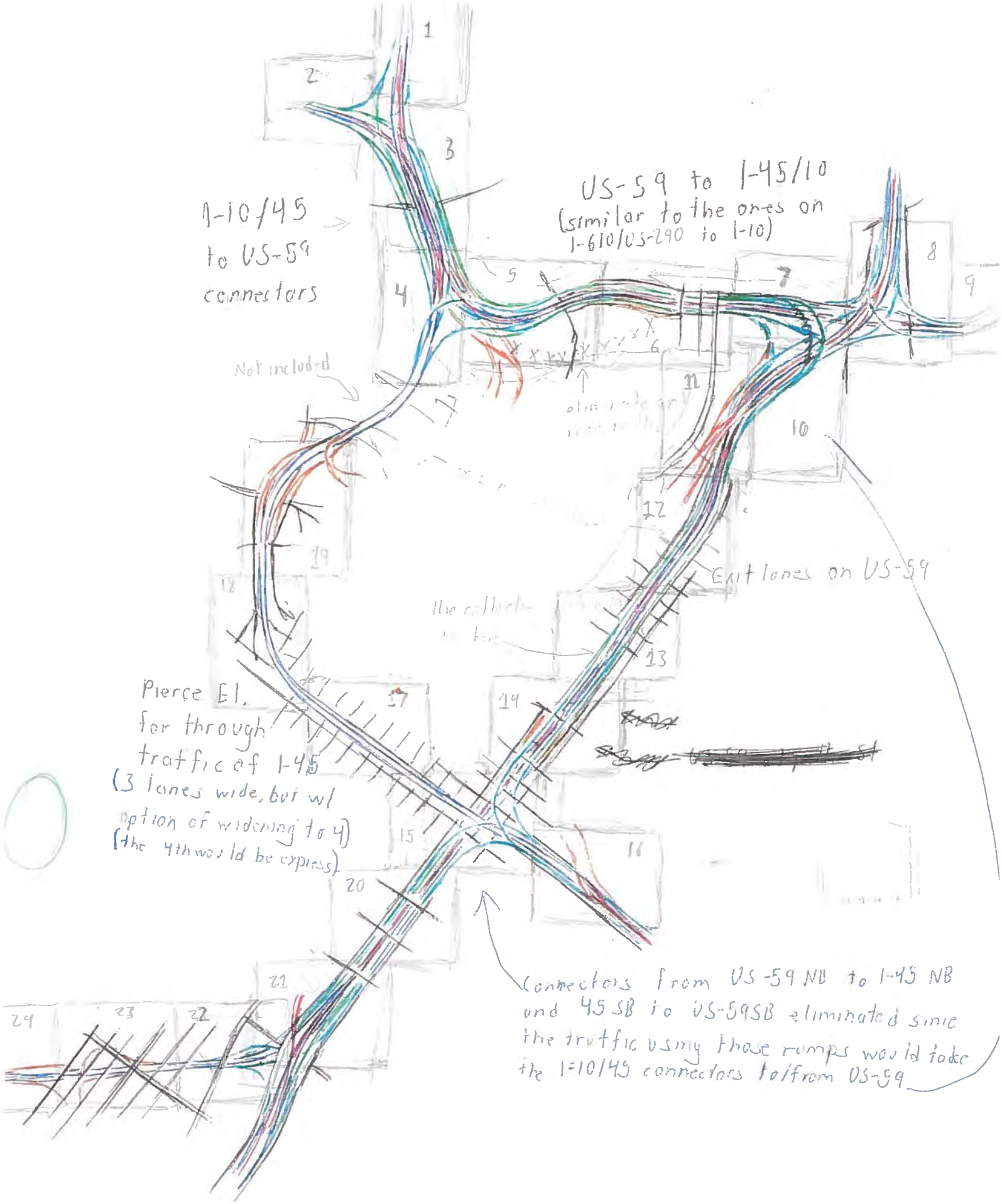
There would also be direct connectors from the I-45 and I-10 to US-59, which would go parallel to the I-10 ~~one~~ (they would be similar to the ones from US-290 and I-610 to I-10 which are currently under construction), there would also be a collector distributor lanes system at the US-59 from Tx-288 to I-10 which would carry traffic to downtown as well as traffic going to/from I-45 and I-10 (you can see the map to understand better)

Some benefits that I think my project has would be that I take less right of way than the original plan in some areas, even though I would take some in the areas East of downtown; specially at the convention center area

There are some areas in which I would ~~take less~~ add more lanes than in the original Plan. For example, at the I-45 and US-59 combined at the pierce elevated I did a total of 26 lanes at its widest point (13 in each direction, 3 for I-45 at the pierce elevated, 1 express lane and 3 through traffic lanes at US-59 and 6 lanes for the collector distributor system that would lead US-59 traffic to and from I-10 and 45) while the original Txdot plan has 20 lanes (6 for US-59 in each direction, 3 for I-45 south bound and 5 for I-45 northbound)
I-10 would have 4 lanes in each direction, the only difference is that the traffic going from US-59 to I-10 and I-45 would go in the 4 lane connectors that I explained earlier

There was something on which I struggled, it was the mckinney exix from I-45, I come up with something to fix that issue but I didn't include it because I did not have time to put it here on drawings.

That was all the important stuff that I proposed and thank you for reading through here if you did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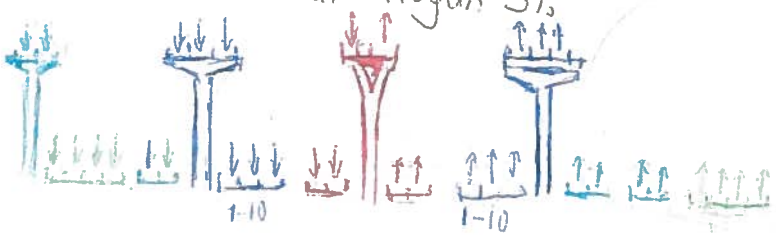
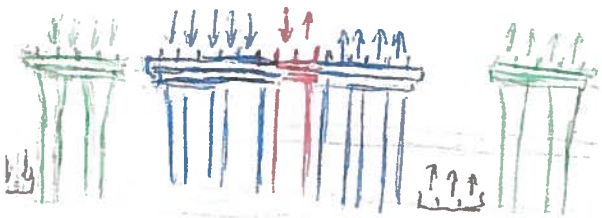
I-10/45 to US-59 connectors
US-59 to I-45/10 (similar to the ones on I-610/US-290 to I-10)
Not included
Exit lanes on US-59
Pierce El. for through traffic of I-45 (3 lanes wide, but w/ option of widening to 4) (the 4th would be express)
Connectors from US-59 NB to I-45 NB and 45 SB to US-59 SB eliminated since the traffic using those ramps would take the I-10/45 connectors to/from US-59

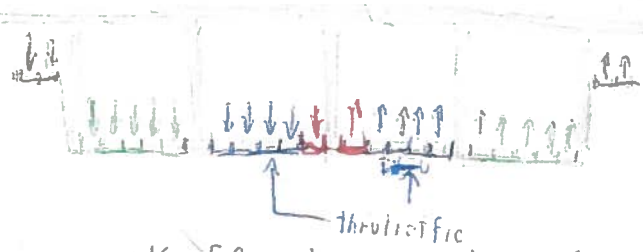
I-10/45 ~~a south of North, West~~
at Hogan St.



I-10 at main St.

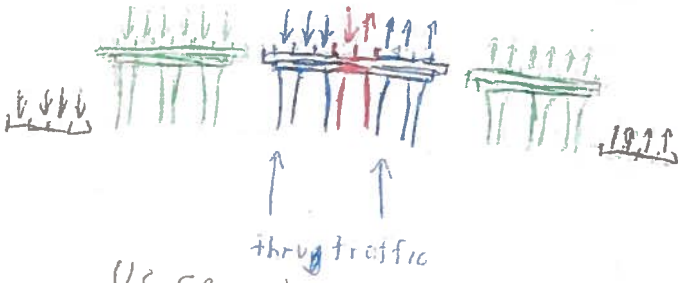


I-10 at Ellysson Viaduct

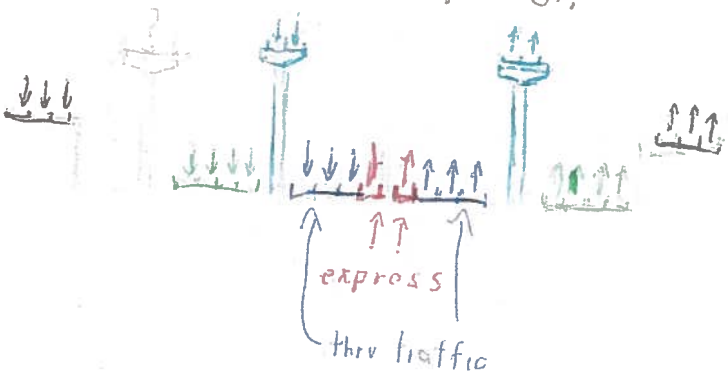


US-59 (between Buffalo bayou and Runnels street)

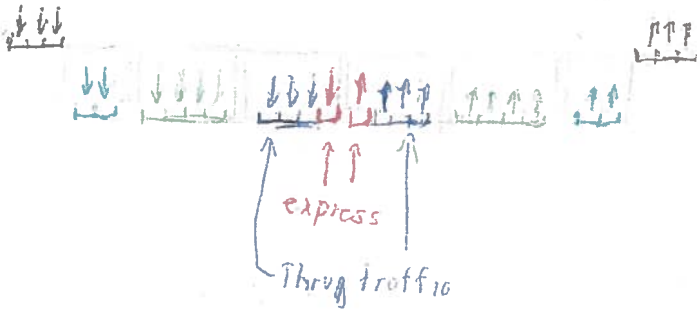
US-59 at... Preston St

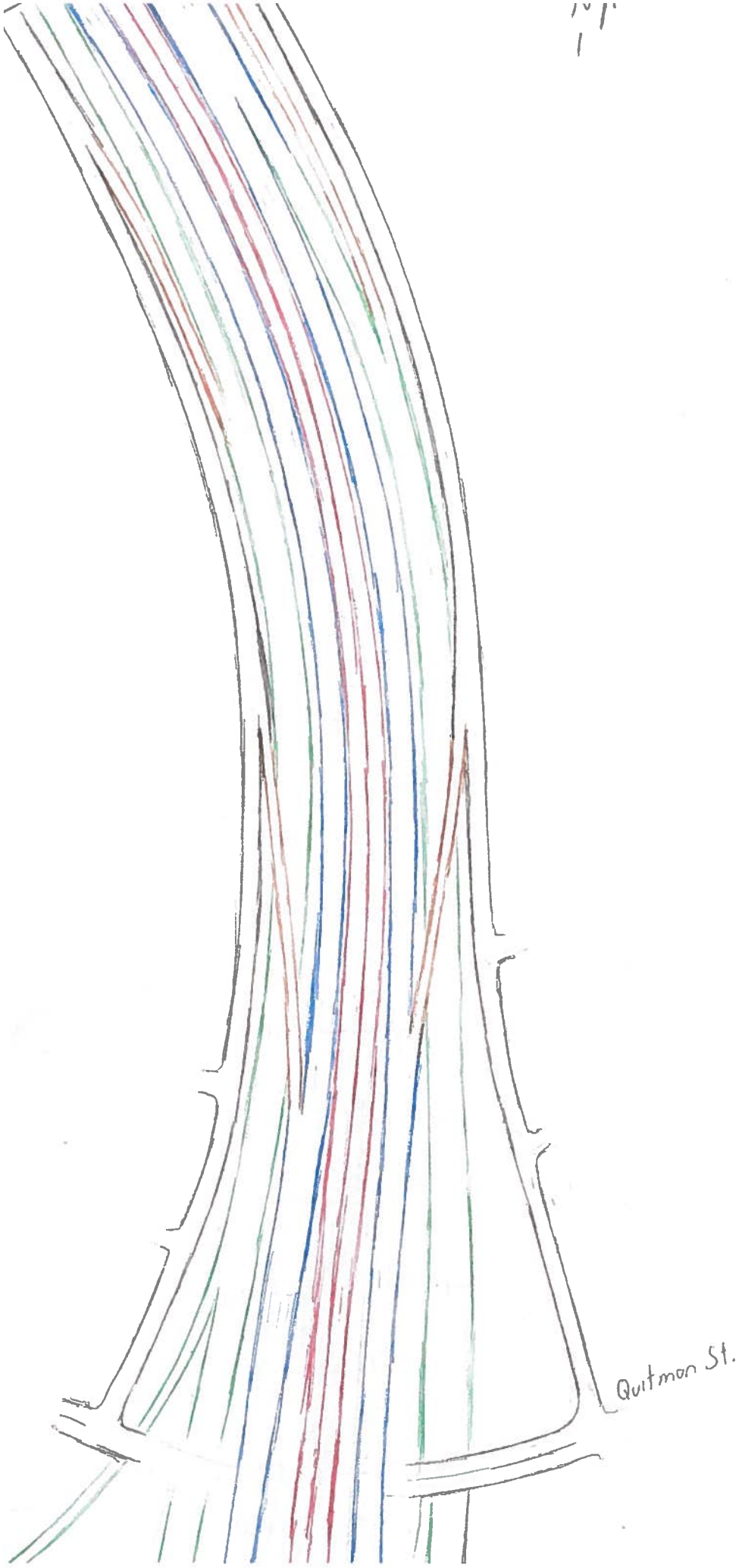


US-59 at polk St.



US-59 at Elgin St.

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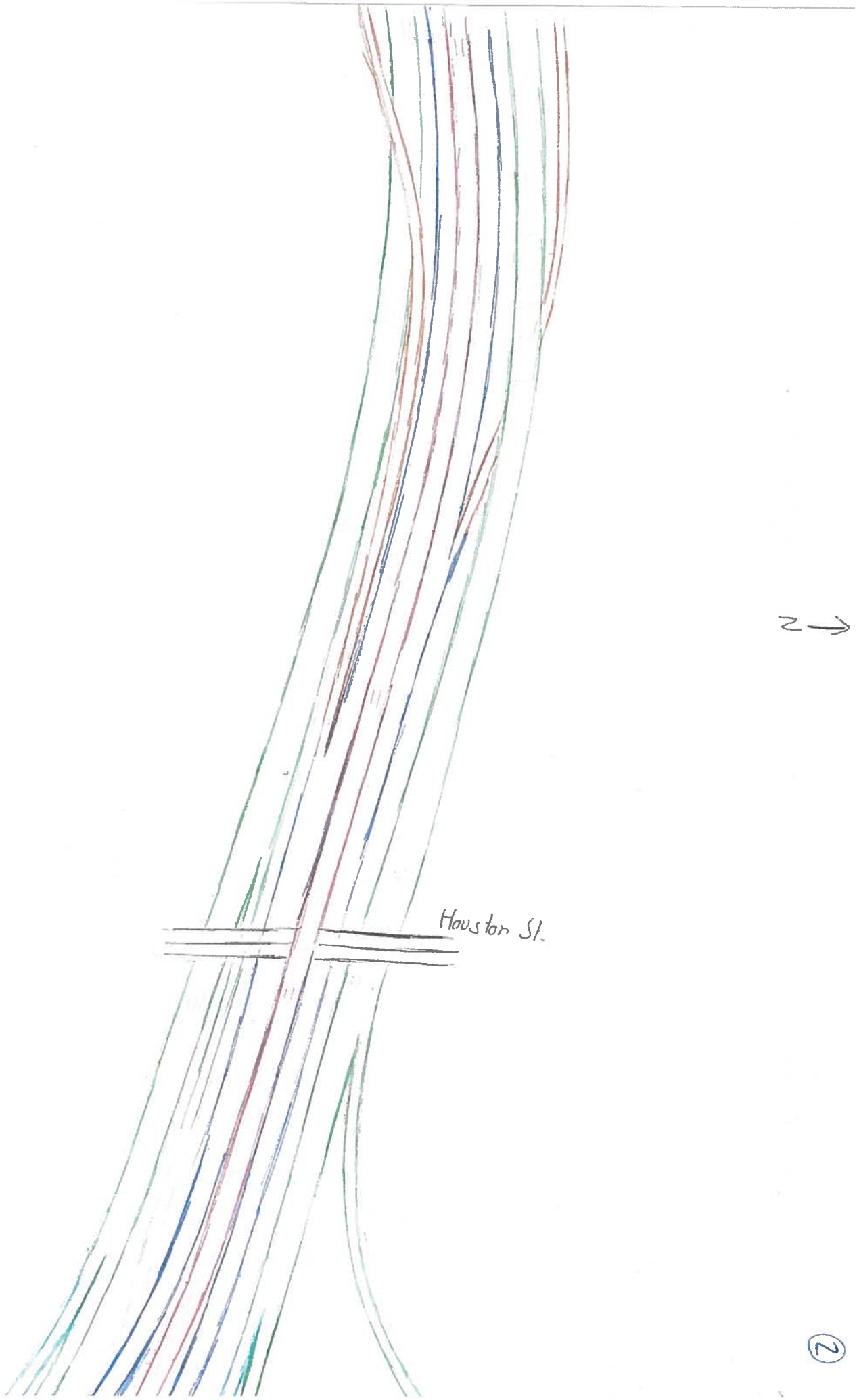
Houston St.
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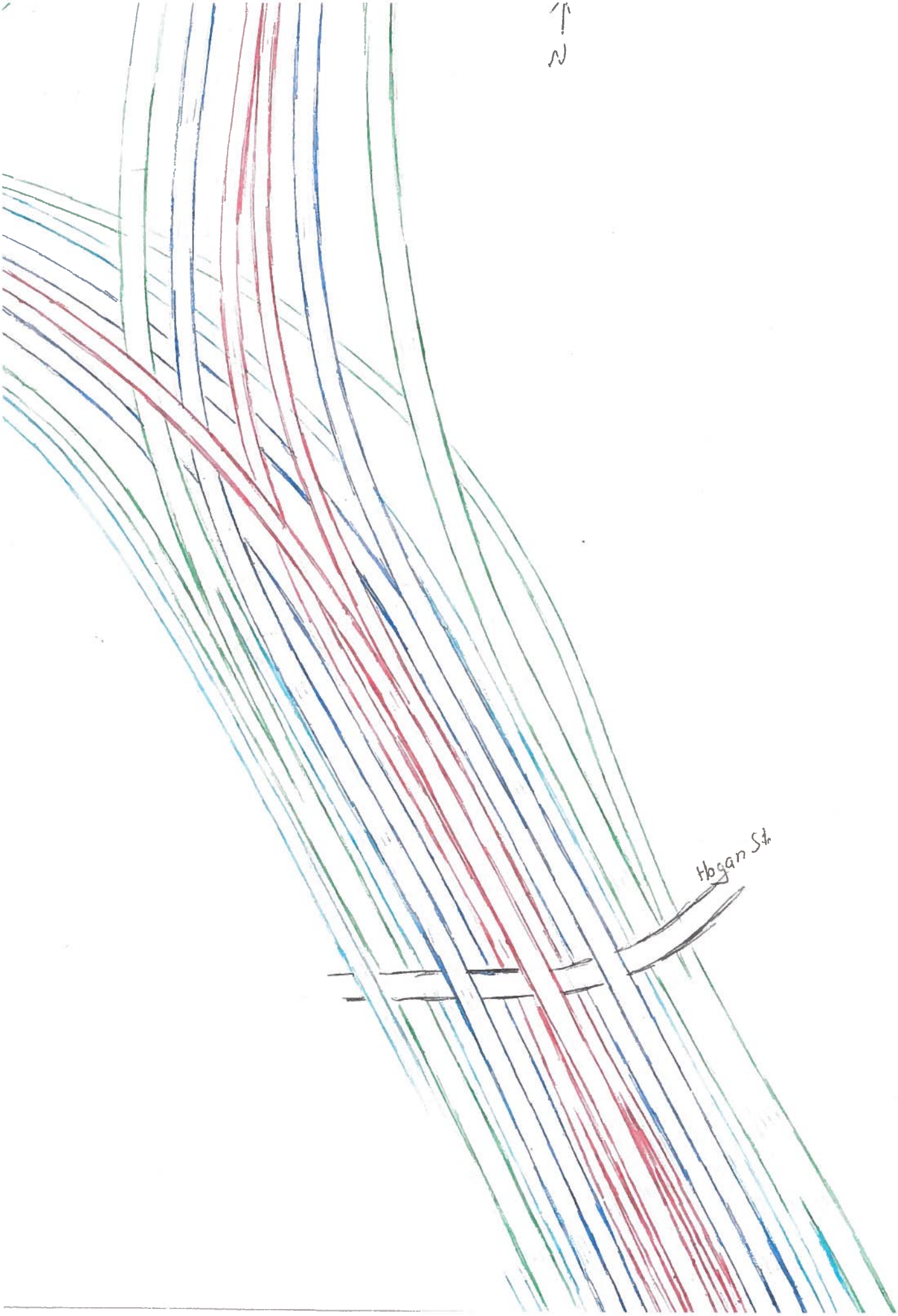
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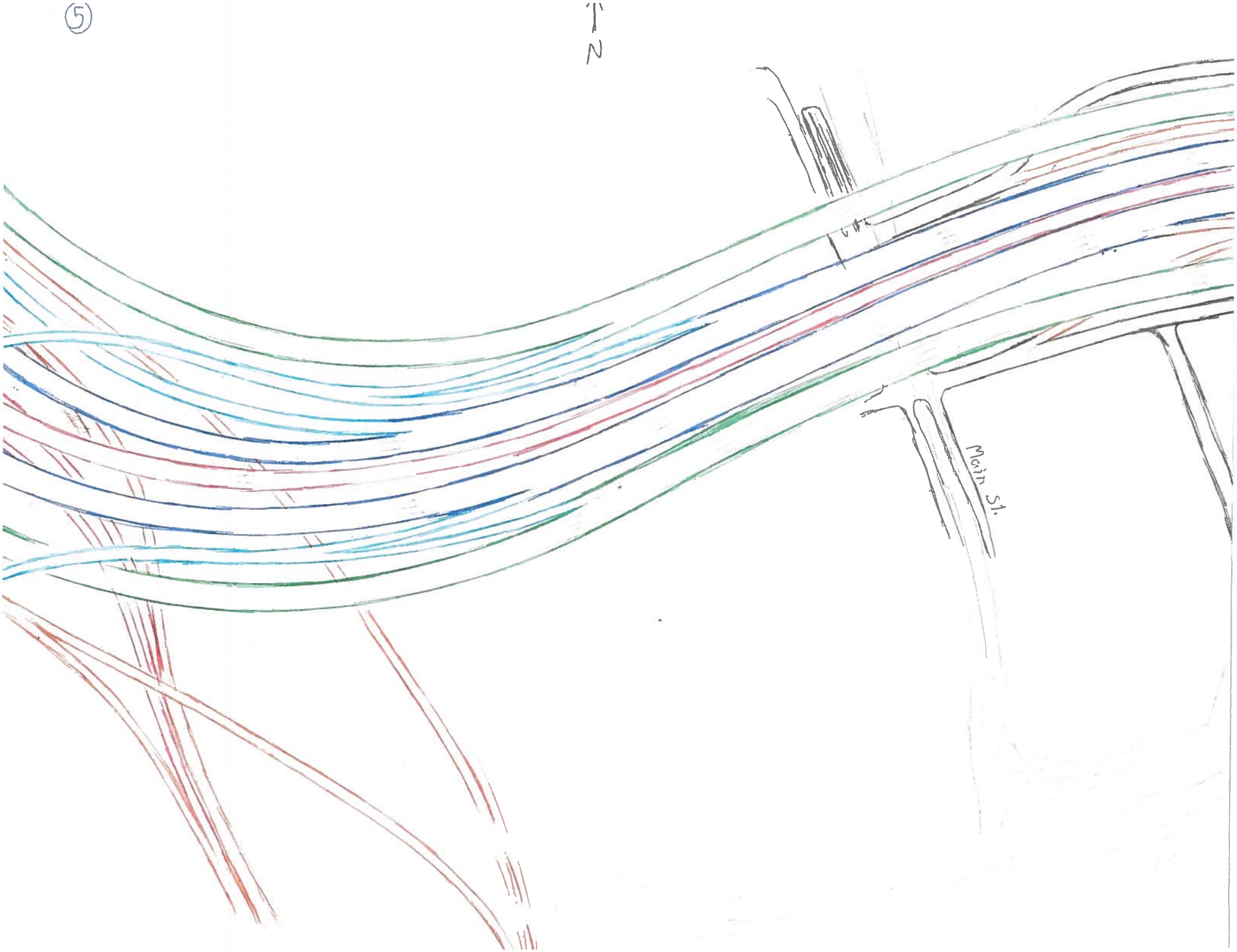

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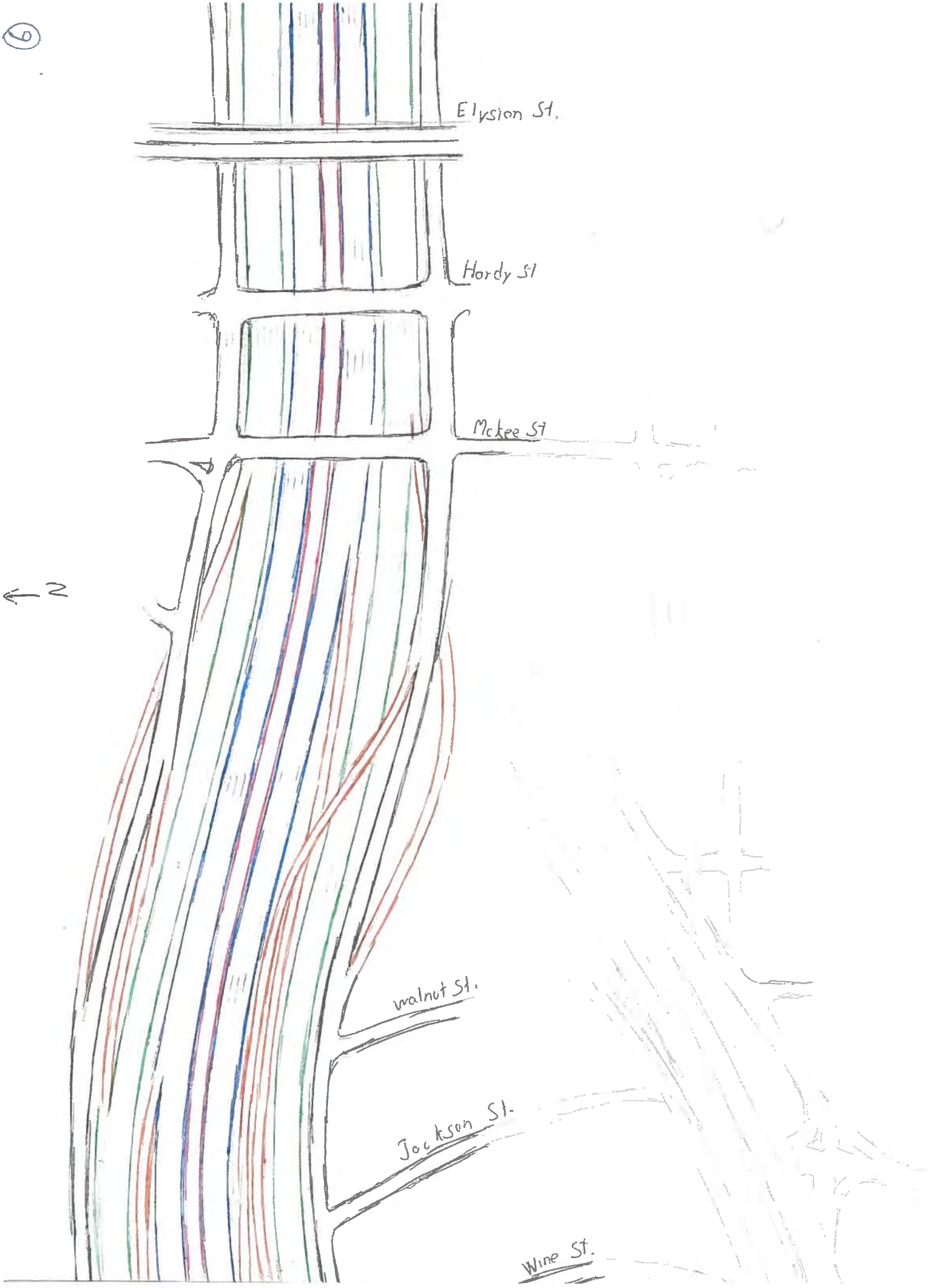

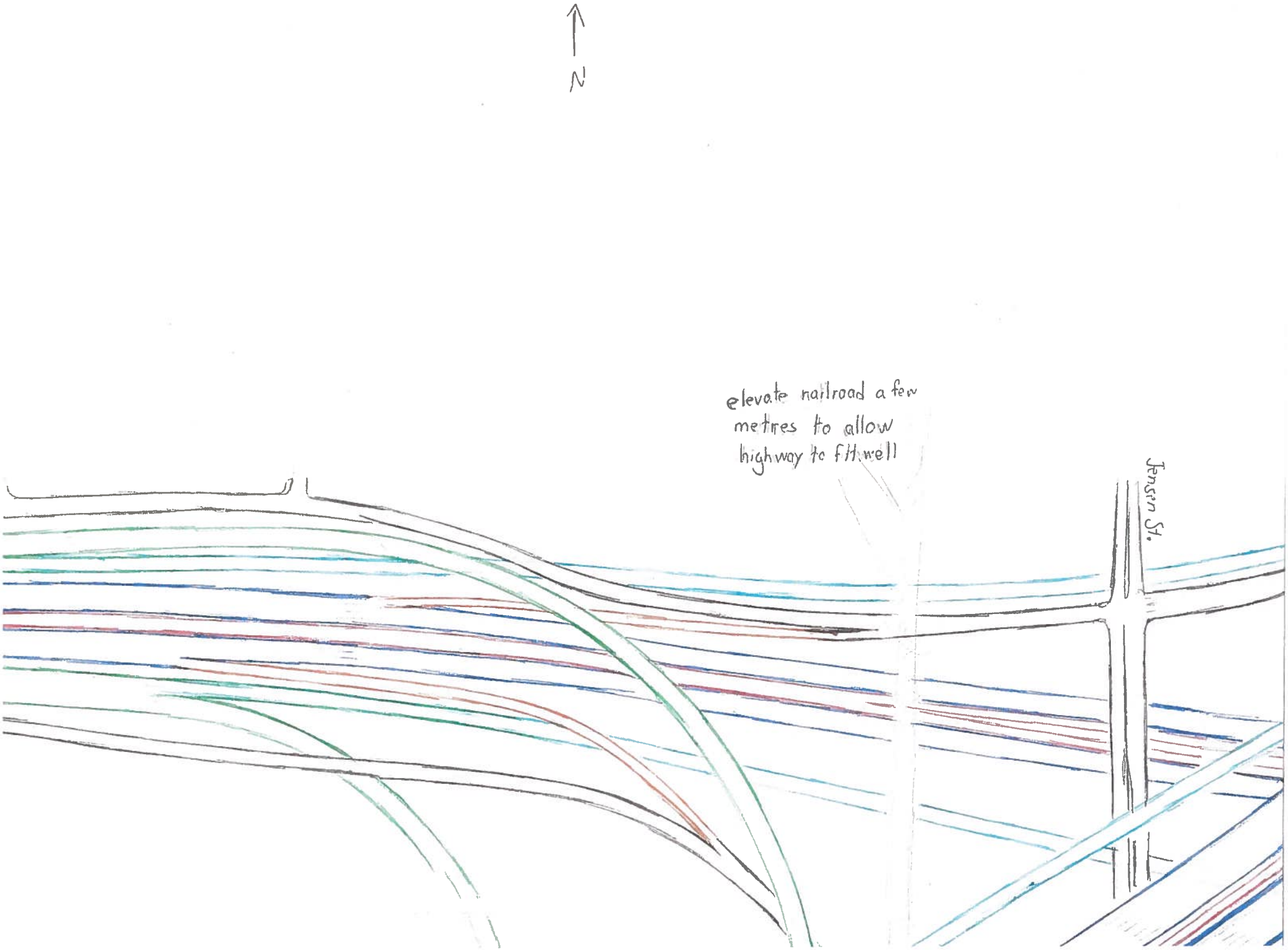
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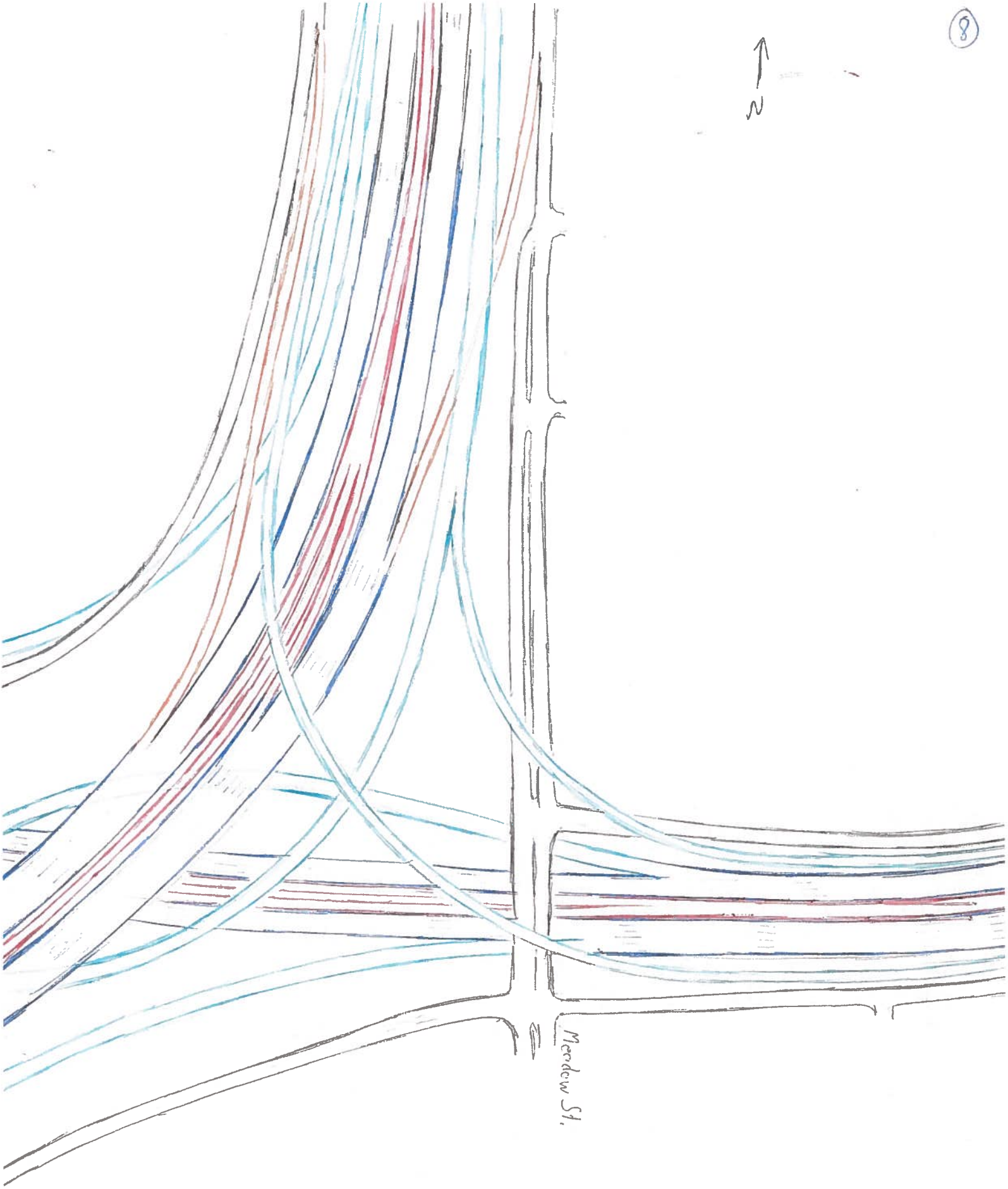
elevate railroad a few metres to allow highway to fit well
Jensen St.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Meadow St.

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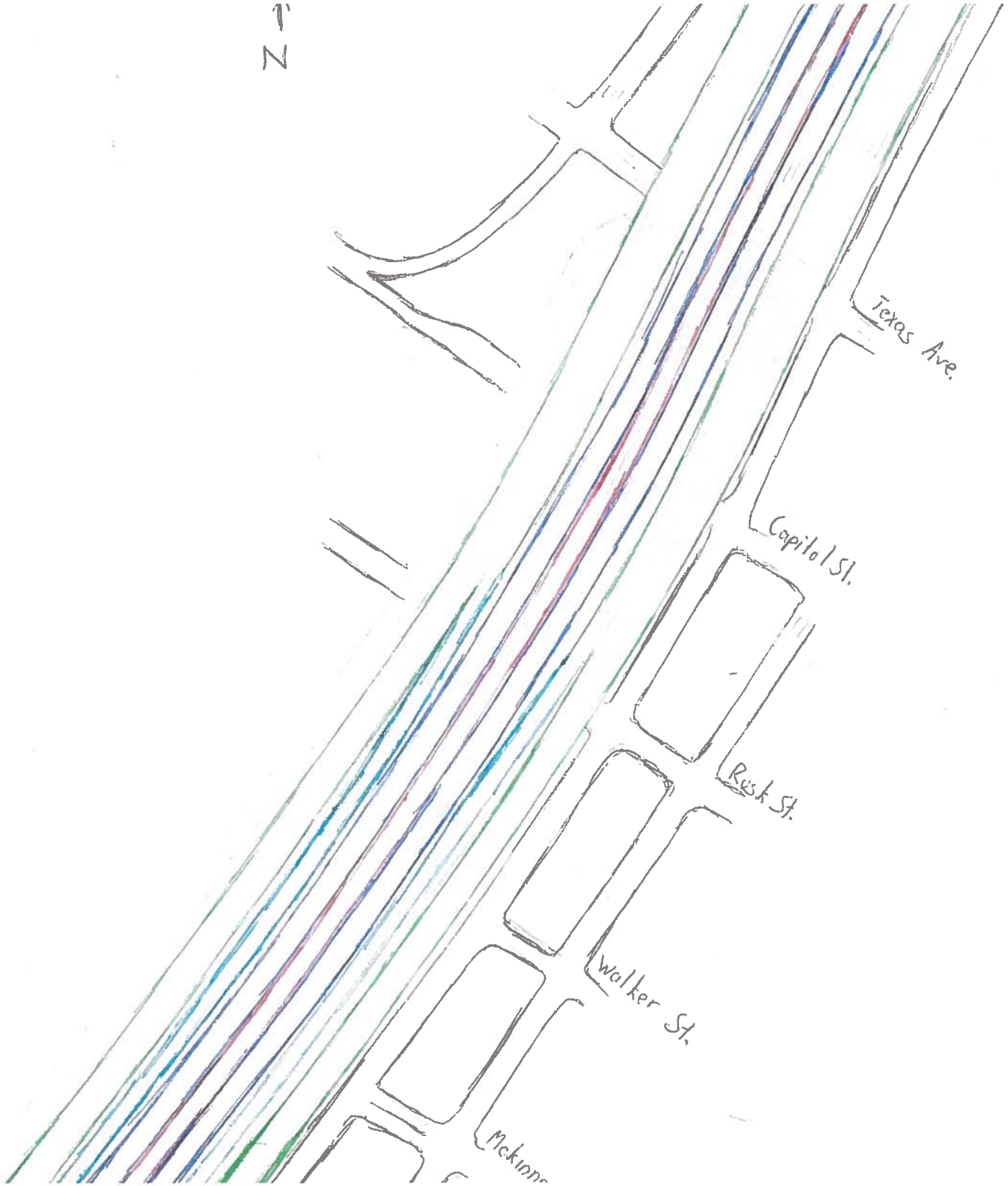
Preston St.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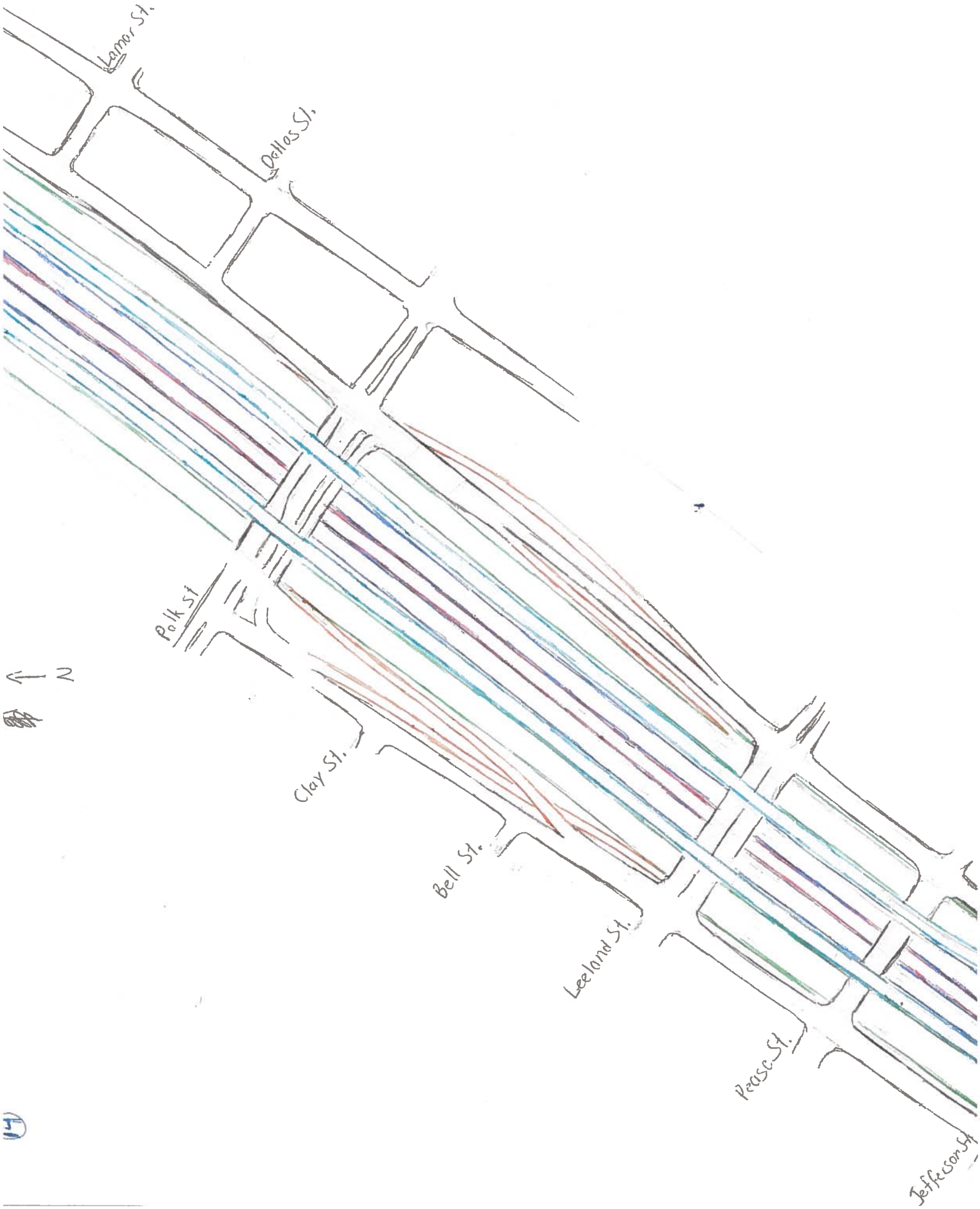
Lamar St.
Dallas St.
Polk St
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Clay St.
Bell St.
Leeland St.
Pease St.
Jefferson St

Mc Albany St.
Hadley St.
Wesley St.
Chevevert St.
Crawford St
Jackson St.
Grey St
Pierce St
Charlress St
St. Joseph St.
St. Emanuel St.
Hutchin St.
Jeff Davis St.
Bastrop St
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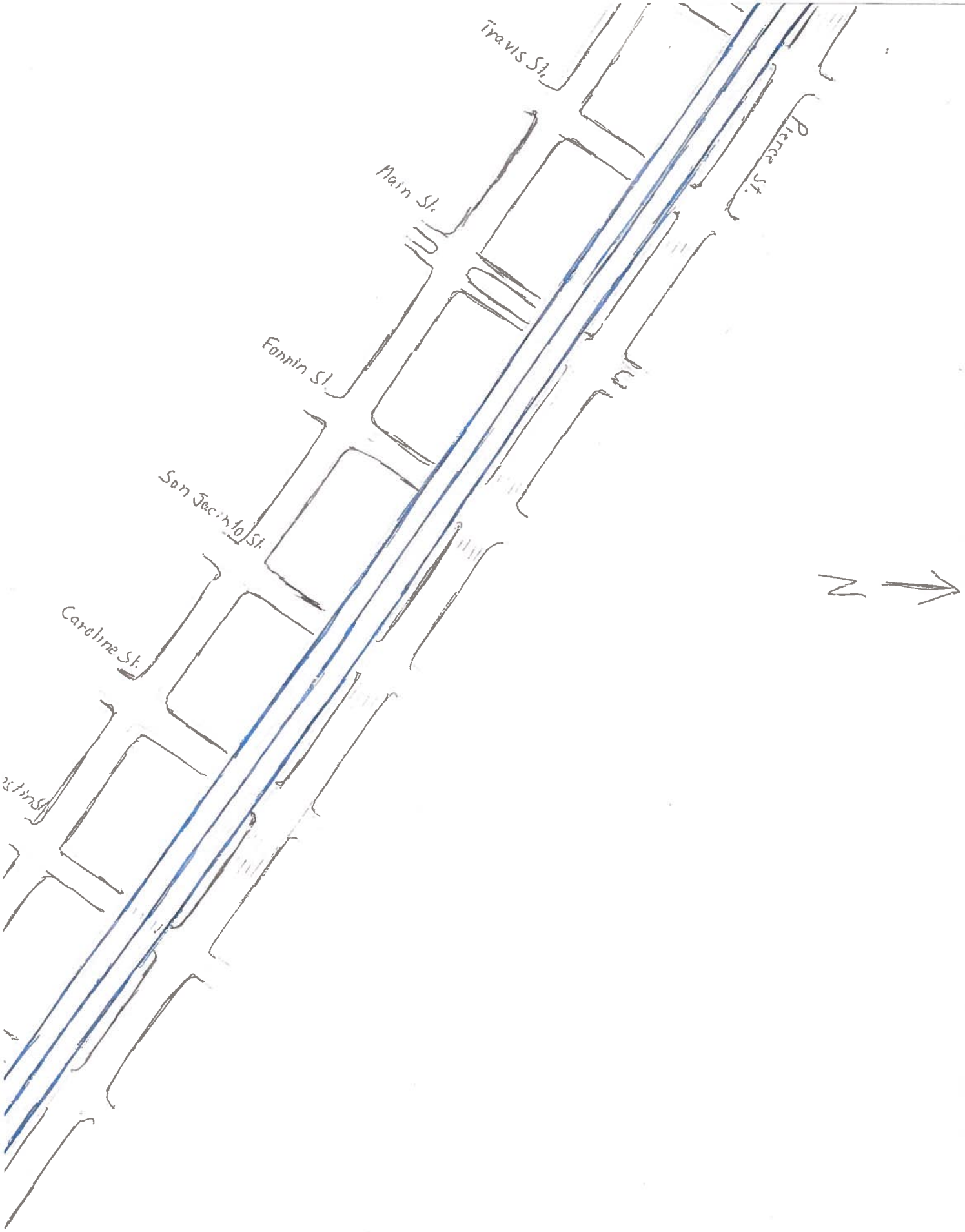
Bastrop St.
St Joseph Pkwy
Dowling St
Jefferson St.
Pierce St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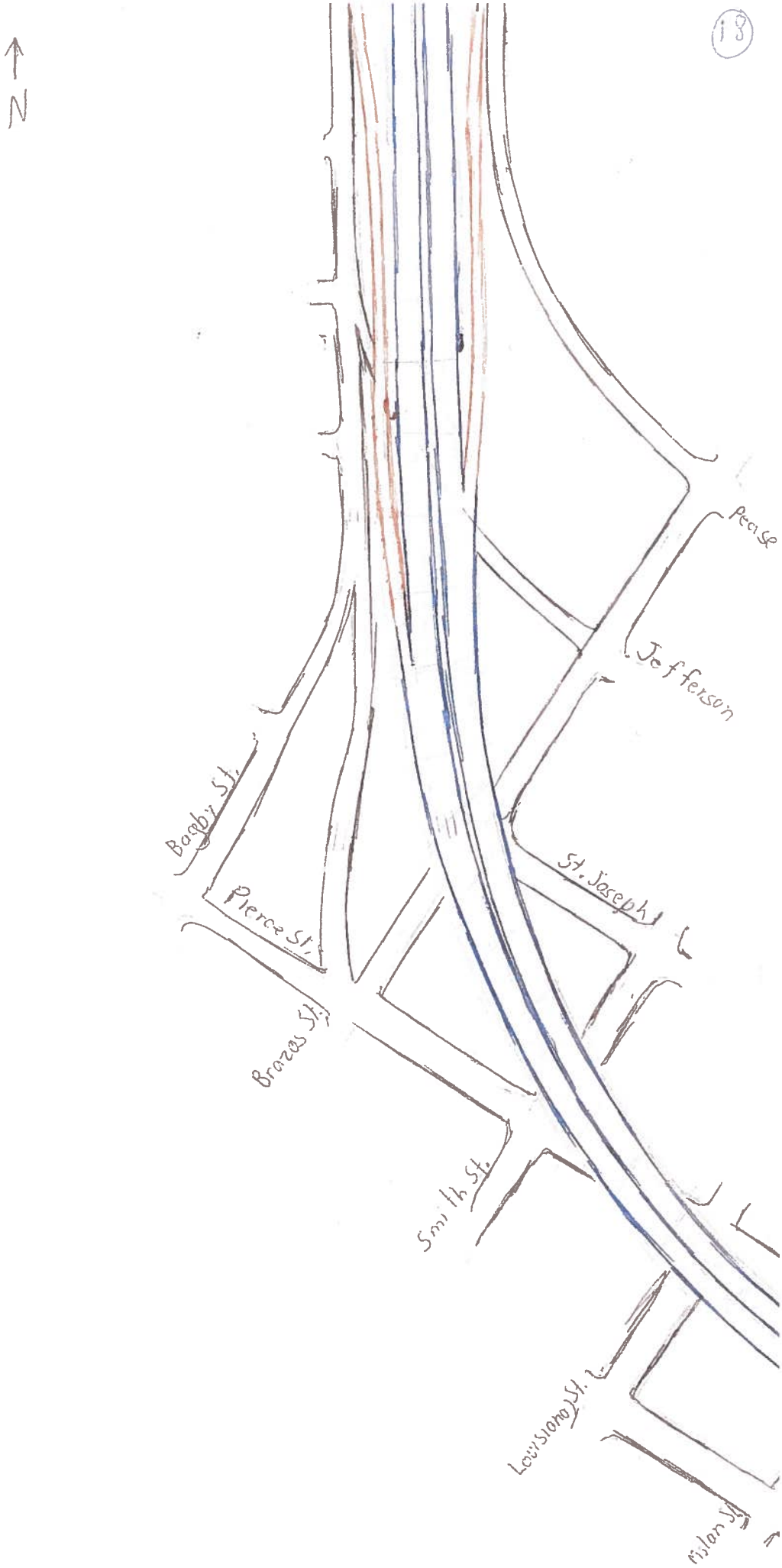
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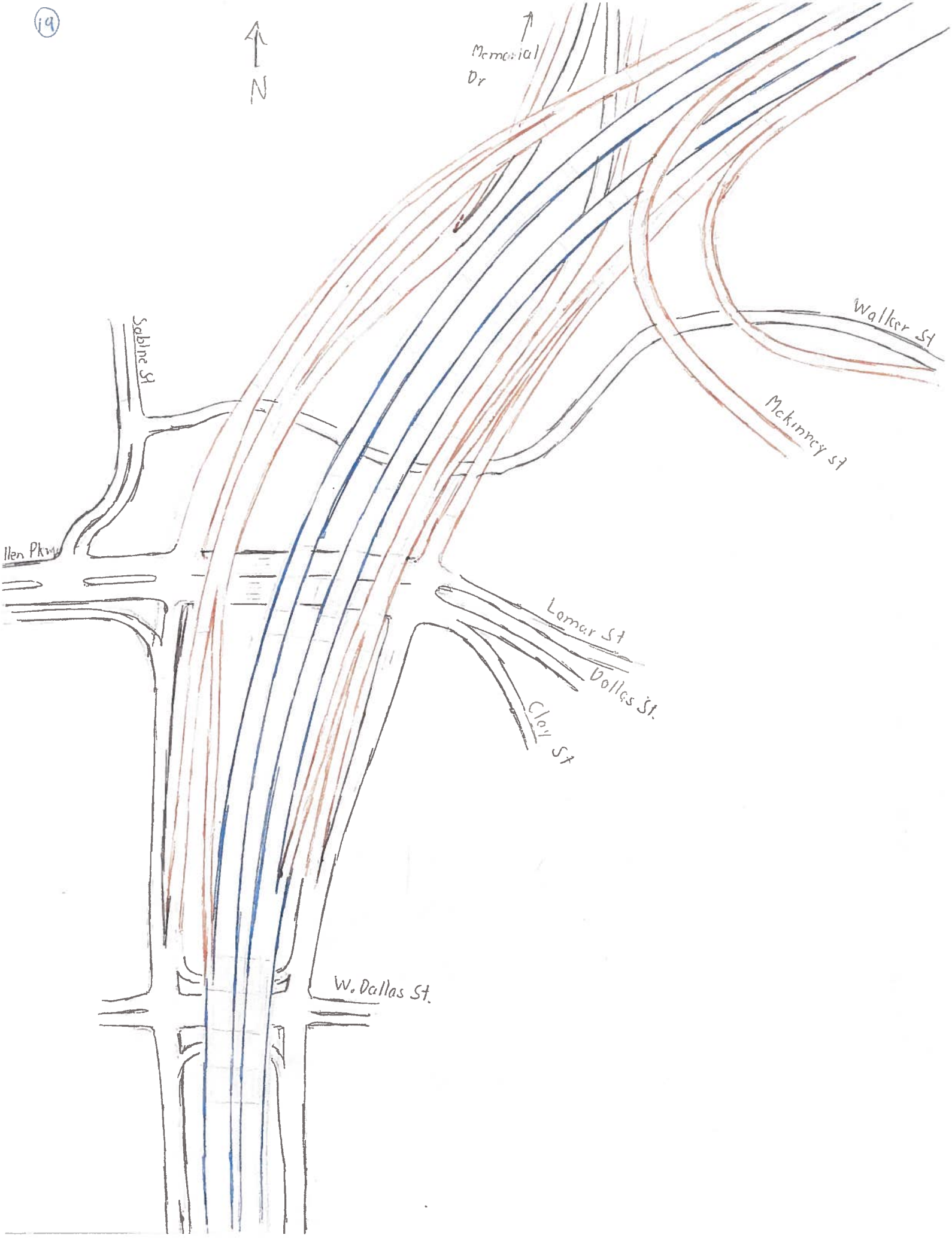
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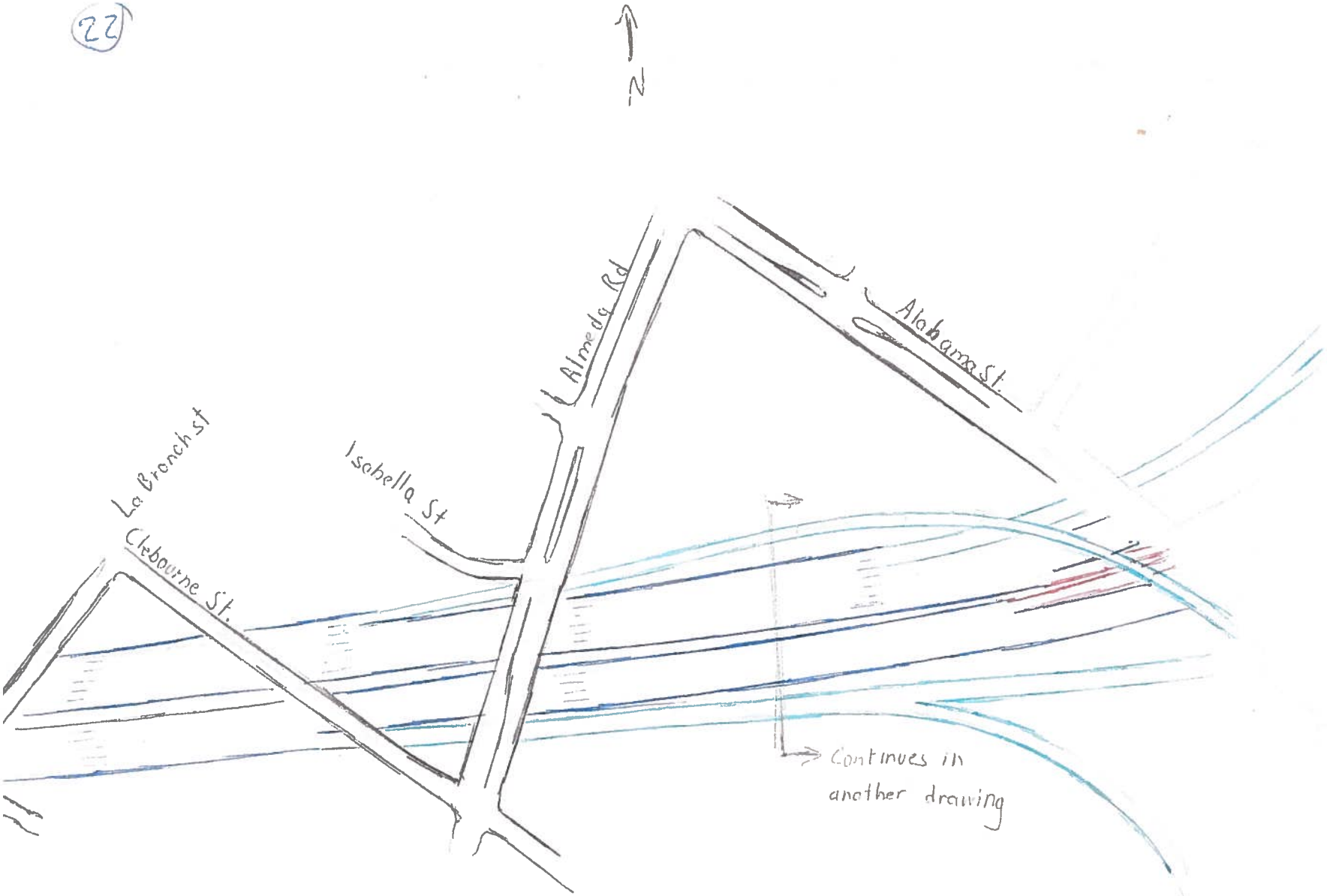
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Almeda Rd
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another drawing

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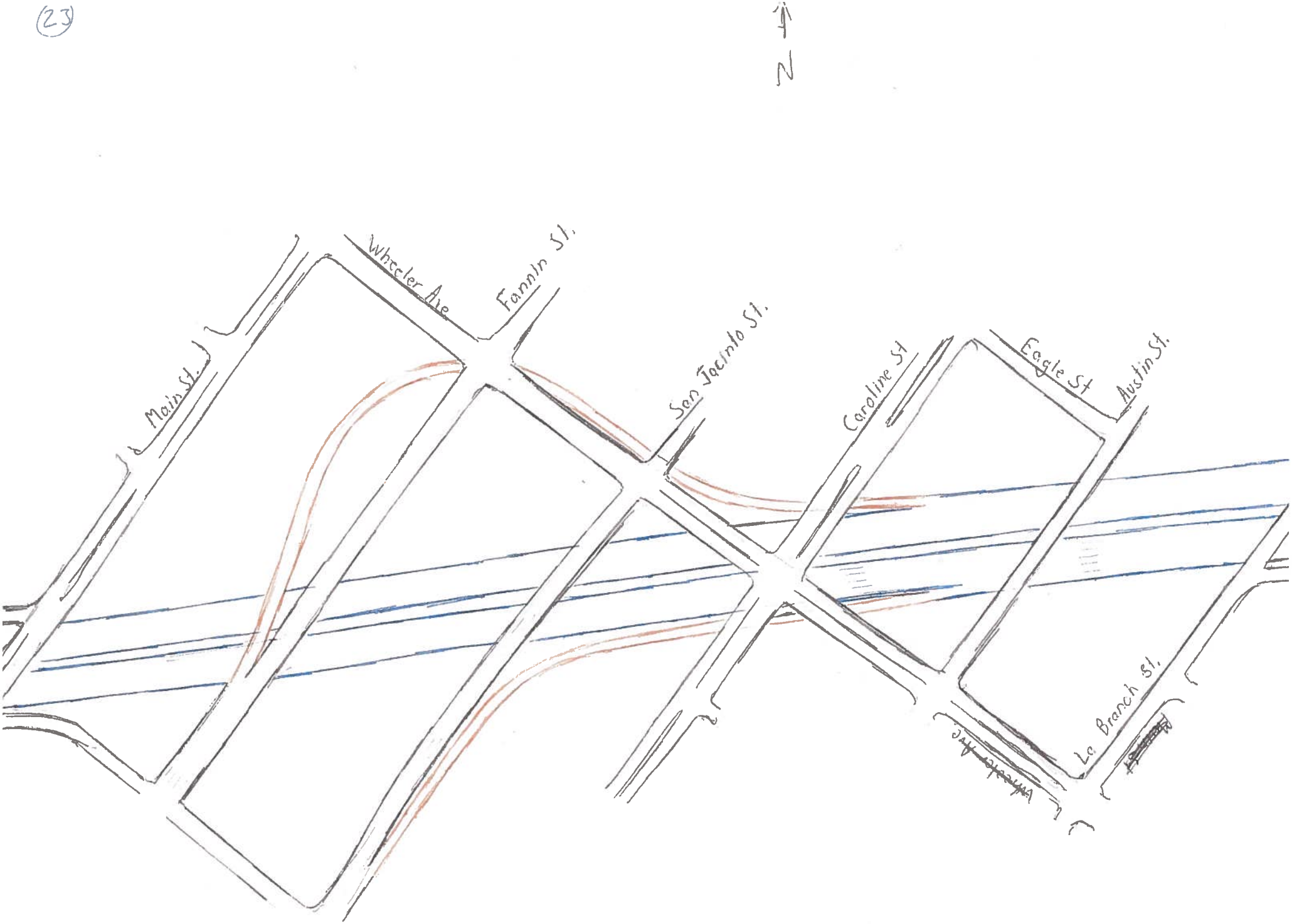
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Caroline St
Eagle St
Austin St.
La Branch St.

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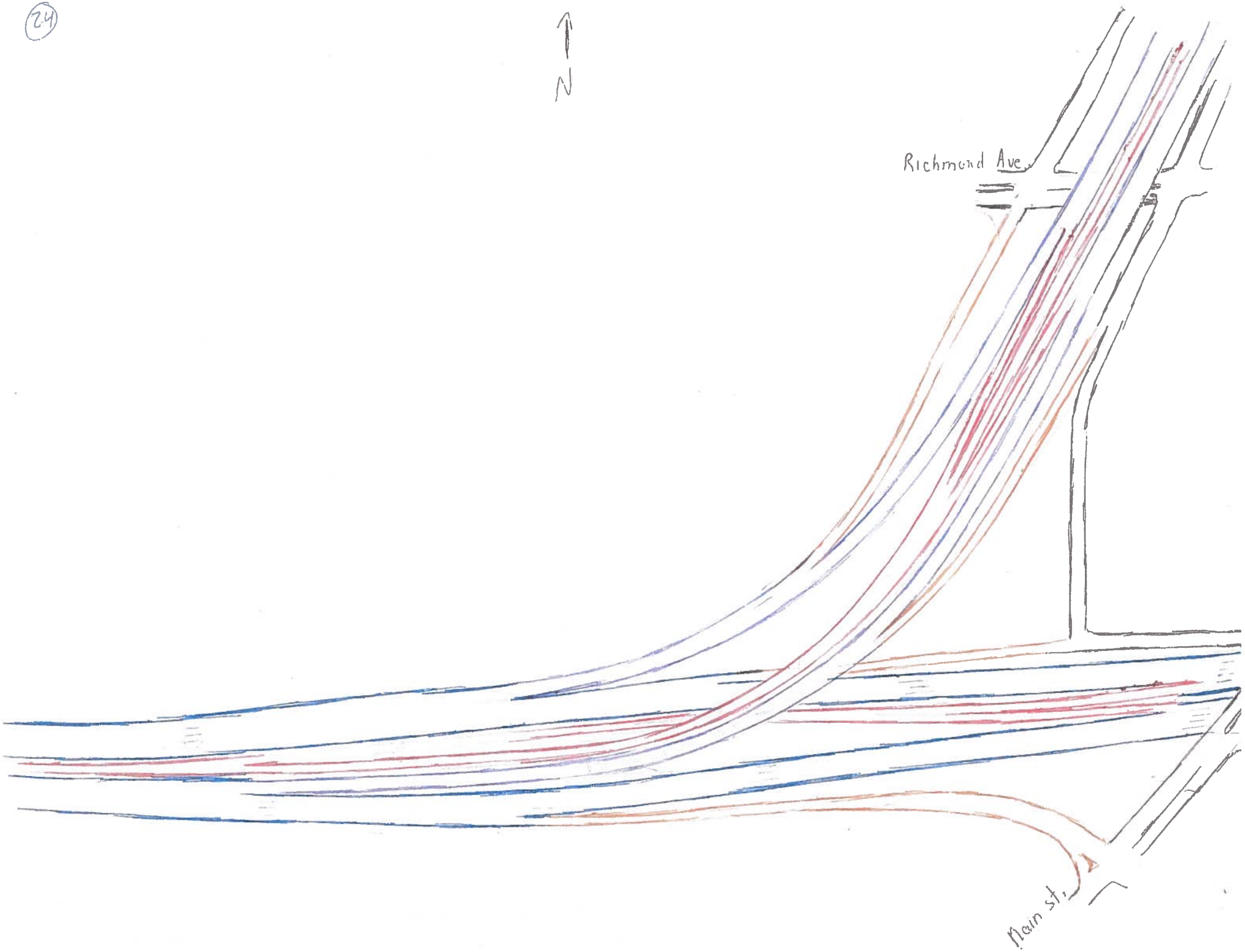

TEXAS HOUSE OF REPRESENTATIVES

CAROL ALVARADO

DISTRICT 145

SCANNED ON
0006664448
JUL 25 2017
MAIL OPERATIONS HOUSTON

July 17, 2017

TX DOT
RECEIVED
JUL 25 2017
HOUSTON MAIL OPERATION

Quincy Allen, P.E., District Engineer
Texas Department of Transportation
7600 Washington Avenue
Houston, Texas 77007

Dear Mr. Allen,

I have been receiving numerous complaints from constituents concerned about the current plans for the reconstruction of IH 45 in our area. The major concerns relate to connectivity with Downtown. It is critical to maintain the Polk Street connection across IH-69 / IH-45. This is currently the major interchange for all traffic between the East End and Downtown, in part because it includes an underpass for the West Belt Subdivision rail line. Additionally a Tiger grant currently proposes that the separated bike lane on Lamar continue along Polk to connect to light rail on Main Street, Buffalo Bayou, and the downtown business and recreational area. Polk Street also connects Harrisburg to the Columbia Tap trails.

There is connection needed likewise from Runnels to McKee or Canal to Ruiz. Otherwise the only access to Downtown for residents north of the West Belt subdivision rail line and Buffalo Bayou is the Franklin/Navigation underpass, which is unnavigable during a severe rain storm.

Both Polk and Runnels are used for three METRO routes (routes 40, 41, and 48) to transport people between the East End and Downtown. Without those connections eastbound and westbound trips will require separate routes, causing inconvenience and confusion among passengers and probable increased cost for METRO. If there is not good connectivity at Polk St., it is essential that there be a grade separation at the rail line on Leeland to eliminate that barrier for east/west travel between the East End and Downtown.

There are important historic and art districts located along the route between I-10 and 610. They merit careful planning regarding lighting, landscaping, and protection from the runoff of water and garbage from the freeways. I would like to see these added in your final environmental impact statement.

I urge TxDOT to comply with the Complete Street policy adopted by Houston to assure that streets are built to benefit all users. Bicycles are used extensively in the East End and the Heights, both for recreation and as a means of transportation. Bike lanes should be six feet wide, protected or set behind the curb and well-marked with green paint and signage. Bridges and feeder streets need to include unimpeded sidewalks for pedestrians. Special attention needs to be given at intersections to clarify safe routes for all participants.

This project will directly affect the prosperity and quality of life of Houstonians--particularly those living near it--for decades. I appreciate your attention to our concerns.

Sincerely,

Carol Alvarado
State Representative, District 145

CAPITOL OFFICE:
[redacted]

DISTRICT OFFICE:
[redacted]

DISTRICT145.ALVARADO@HOUSE.STATE.TX.US

DPD

July 23, 2017

Quincy Allen, P.E.
Texas Department of Transportation, Houston District
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

We write to you as the Northline Leadership Team on behalf of the Northline neighborhood in Houston, TX. We have worked for the past two years to create a comprehensive plan for our neighborhood and we share strong concerns that the North Houston Highway Improvement Project is being designed in ways that run counter to our work and are detrimental to the future of our community. We have partnered with Avenue CDC, Wells Fargo and the Community Design Resource Center at the University of Houston to coordinate meetings with over 1500 stakeholders in our area. We have the support and participation of the Mayor and our council members, as well as our our elected representatives from state and national offices.

Interstate 45 already serves as an obstruction and obstacle to many in our community. It is both a visual and physical barrier. It is an unfortunate truth that highway projects of this scale often harm the communities they pass through, especially low income neighborhoods such as ours. We believe that TxDot has the opportunity to be a partner in revitalizing our neighborhood. This project can not only improve the North Houston Highway, but it can benefit the neighborhoods it passes through.

Attached to this letter you will find our comments regarding the project as proposed. We have consulted with other neighborhoods and interest groups to try to better understand the impact of this project on Houston as a whole. Safety and connectivity are our greatest concerns as we are working to improve the quality of life and economic prospects of our community. We strongly urge TxDot to further review their plans in the context of our comments and engage Houston's communities in building a project that will benefit all of us.

Best regards,

The Northline Leadership Team

NORTHLINE LEADERSHIP TEAM
DEIS COMMENTS FOR
NORTH HOUSTON HIGHWAY IMPROVEMENT PROJECT

As noted in out letter we have consulted with other neighborhoods and advocacy groups about the impact of this project on Northline and our adjacent communities, as well as all of Houston. You will find below a collection of comments that we find to be of great importance. This will include comments collected from our residents as well as those our residents have endorsed from other individuals, communities, advocates and organizations.

These comments pertain directly to Segments 1 & 2 of the project as these are immediately adjacent to our neighborhood and impact our residents and planning efforts, but should be considered in Segment 3 where applicable and beneficial.

The City of Houston adopted a Complete Streets policy in 2013 to ensure streets are constructed for all users of the system. The City also requires that streets should be built using a Context Sensitive Design guidelines as those recommended in the ITE - Design Walkable Urban Thoroughfares: A Context Sensitive Approach and NACTO – Urban Street Design Guide and others. Since the project location is within the urban core of the City, the design on the proposed project should meet these guidelines.

This project will be transformative, for the region and City. TxDOT should closely coordinate with the City of Houston, METRO and other entities such as Management Districts, TIRZs to make the project as strong as possible. This means thinking beyond the direct right-of-way of the project to understand opportunities and impacts on street, bikeway, greenway, and transit networks. It also means working to tie communities together, not separating them further with ever wider freeways serving as barriers.

Several stakeholders have submitted recommendations that have potential to significantly improve connectivity but have not been reflected in current plans. Plans say they are "subject to change". Clarify to the public the process to consider these changes.

The existing freeway infrastructure built in the 1960's had a significant impact on the City of Houston and separated communities. Connectivity in and out of Northside neighborhoods needs to be addressed in a way that it becomes improved not worse by new design. Reducing street connectivity in areas in the urban core of Houston should be avoided or mitigated wherever possible. Connectivity should be considered not only for vehicular traffic, but for all modes of transportation; inclusive of people on foot, people on bicycles, transit users, and for freight.

A large segment of our neighborhood population walks, bikes and takes public transportation to get to work, school and connect with Houston as a whole. The proposed project creates an increased barrier between lower social-economic neighborhoods on the Northside and the Central Business District. In areas where vehicular connectivity might be removed, options should be evaluated to preserve pedestrian and bicycle connectivity.

The proposed schematic drawing does not identify sidewalks along sections of the proposed project. In general, sidewalks should be identified along all frontage roads and public streets on the schematics in

all typical sections. All bridges and underpasses should have wide sidewalks and well designed lighting for safe crossing. Ensuring access to pedestrian and ADA accessibility along all public streets is critical.

Connections on Crosstimbers, Victoria/Lyerly, Tidwell Rd., Cortlandt/E Witcher, Rosamond, W Parker Road, Rittenhouse, etc need to be designed with high comfort intersections for bicyclists and pedestrians. This is a vital connection between Independence Heights, Garden Oaks, Oak Forest, Acres Homes areas and the Northline community as well as safe access to the METRO Red Line into downtown.

The intersection at I-610 and Fulton is currently a traffic problem with East and West bound traffic lights on the 610 frontage road having wait times of over 10 minutes due to the METRO rail crossing. The connection of the frontage roads at the 610 & 45 interchange will only exasperate traffic issues at this intersection. Coordinate with METRO to reconcile this issue. One suggestion from a resident is a flyover lane for the frontage roads parallel to the raised freeway deck.

Northline residents are opposed to any kind of street connection of Helmers North and South of 610. Helmers is a residential street with a elementary school just North of the freeway. Connecting this street under the freeway would create unsafe traffic volumes for the neighborhood.

The HOV ramp from Airline Drive providing access to Independence Heights and Northside Community is being removed. Provide alternative access for the communities to managed lanes.

The removal of North Street Bridge creates greater access issues between Heights and Northside, especially for pedestrians and bicyclists. Provide pedestrian and bicycle connection along I-45 and Little White Oak Bayou to mitigate the removal of the North Street bridge.

Little White Oak Bayou: This bayou section has the opportunity to become an important piece of the expanding high comfort bicycle network that provides connectivity from outside the N Loop 610, under I-45 away from traffic, and into downtown making further east and west connections through Buffalo Bayou. Coordinate with Houston Parks, City of Houston and Greater Northside Management District to develop Little White Oak Bayou as bike and pedestrian connector throughout the project.

Deck Park over I-45 near North Main - The original I-45 construction bisected one community into two. This has become a permanent separation resulting in different community cultures on either side of the freeway. There are constant efforts to reunite the communities but the swath of freeway that separates them remains a physical barrier. Create a deck park over the freeway near North Main. This will be a physical reattachment point, reuniting the divided communities. Address the accessibility issue to the proposed Deck Park location near Main Street with the proposed multilane frontage roads and U turn ramps.

Connection of existing bike lanes along Little White Oak Bayou between Enid and Cavalcade, on the west side of I-45, to a new park at the retention pond areas on the east side of I-45 (where Love's Truck stop is currently), and on to Moody Park/Woodland Park/White Oak Bayou trail. Mitigate for loss of green space along the bayou in this area and replace the trail with an equivalent trail.

The realigned segment of I 10 and I 45 has significant impact on existing businesses and could benefit by improving the connectivity in this area, which is already hampered by freight rail lines and the Bayou. Coordinate with the City and UPRR on the potential to realign the freight main along the passenger main to remove existing street grade freight crossings through Downtown.

Integrate connection to link area north of UPRR on the north side of the post office site to Downtown. This could potentially be incorporated into Downtown Connector, Bagby, Washington Avenue extension design.

Plan for the extension of San Jacinto Street to Fulton including potential grade separation at the UP Passenger Main crossing which is hugely impactful to drivers and transit in this area.

Provide improved version of existing pedestrian and bicycle bridge crossings of freeway east of Elysian and link to a new north-south trail connecting to Near Northside. Also evaluate the option to clean up transition from Lyons to McKee to make smoother and more legible. McKey and Hardy streets provide pedestrian bicycle connectivity between Buffalo Bayou and the Northside neighborhood. Ensure bridges across I 10 are designed to incorporate safe and high comfort bike facilities.

Focus on well thought out design of safe intersections, sidewalks and bikeways, transit stops, frontage roads, and connections have the potential to greatly enhance mobility options. Failure to do so would be a huge detriment to the project. Elements like wide outside lanes for bicyclists, which are likely to be eliminated as guidance from the next AASHTO bikeway design guide, should not be included in this project. The design needs to be forward looking and incorporate best practices for safe multimodal streets. Transit, including how the NHHIP can be designed to support faster transit trips between major activity centers and destinations, should be much more prominently considered in the plan. This should include rail expansion opportunities as well as the potential for an optimized express bus network.

Ensure bridge and underpass widths throughout the project include sufficient space for quality sidewalks and high comfort bikeways as called for in City of Houston standards and guidelines, and not be designed to match existing cross-section or old standards. Ensure all freeway and street crossings provide for a minimum 6' unobstructed sidewalks. Where appropriate wider sidewalks should be provided since there is limited buffer between the vehicular lanes and the pedestrian.

All lanes on city streets and frontage roads should comply with City of Houston's 11' lane standards and encourage appropriate travel speeds and safe travel. Having different lane width for different roads create inconsistent driver experience. 12' lanes are freeway lane standards and not local streets. They encourage excessive speeds through urban area where higher speeds are out of context and unsafe.

Define which intersections are proposed with traffic signals and all-way stop control. It is impossible to truly assess whether the design supports safe walkability, bikeability, and transit use without this information. Traffic control recommendations should be developed with multi-modal safety and connections in mind.

Multiple streets have been shown with sweeping, large radius turns. Several of these match the existing roadway curb lines which may have been designed at a different time for different uses. This project should take the opportunity to minimize these issues, especially in areas where large numbers of people walking can be expected around Downtown, Buffalo Bayou and Northline Commons.

Entire design should be reviewed to ensure optimized bus stop locations have been considered. Stops (and access to stops) must be designed to ADA and METRO standards with room for shelters to support high quality transit experience.

Of the bicycle features proposed, a clear design criterion with the safety of bicyclists in mind is not apparent. The City of Houston has committed to building only high comfort bicycle lanes and facilities through the recently adopted Bike Plan. A high comfort bicycle lane minimizes people's interaction with high volume, high speed traffic, and requires more separation and protection as these traffic characteristics increase. Design standards for bicyclists and pedestrians need to be set to reflect the Houston Bike Plan's high comfort commitment.

Design bikeways for people of All Ages and Abilities in line with the high-comfort bikeway guidelines set out in Houston Bike Plan.

Along frontage roads, the bikeways constructed in this project need to sustain a high level of comfort for both motorists and cyclists to create a clear and safe space for both parties to travel with no room for misinterpretation. 14' wide outside lanes designed as shared bicycle facilities are unsafe and unacceptable and should not be included in this project. It is recommended any bikeway associated with these roadways be completely separated from vehicular traffic, be positioned behind the outermost curb, be at least 6 feet wide and separated from pedestrian traffic. Intersections should be designed for safe crossing to accommodate bikeways and sidewalks.

An intersection is the most likely place for a vehicle-bicycle collision. A protected intersection (or Dutch Junction) for bicyclists and pedestrians is recommended and makes travel considerably safer for all parties. This design includes small islands as buffers from right-turning motorists. Green paint is then used to direct the cyclist from one protected lane to the next in a circular fashion moving counter-clockwise. College Station, TX has already completed a similar design and the protected intersection in the Energy Corridor in Houston is planned to be implemented in the fall. Please use these as acceptable examples.

In general, creating excess unproductive space should be avoided in street design (e.g., small triangles of isolated land) unless there is clear plan to address the use of the space (e.g. public art projects).

Consider all detention areas and how to make these attractive and usable green spaces.

The City of Houston has adopted a Complete Streets policy to ensure streets are constructed for all users of the system. The City also required the streets should be built using a Context Sensitive Design guidelines as those recommended in the ITE - Design Walkable Urban Thoroughfares: A Context Sensitive Approach and NACTO – Urban Street Design Guide, and others. Since the project location is

within the dense urban core of the Houston, especially Segments 1 and 2 any future engineering design should meet these guidelines.

While the freeways are designed to FHWA and AASHTO design guidelines; all frontage roads, adjoining local streets and intersection should be designed consistent with the City's Context Sensitive design guidelines.

Evaluate how the Airline, Victoria Drive and Northbound IH-45 Intersection would operate safely and legibly to people traveling through any mode of travel. Existing configuration is considered dangerous by our residents and should be improved to ensure safety for all users of the roadway.

All intersections should be designed with special care for safe, comfortable crossings for pedestrians. Most arterials crossing IH-45 are on METRO's bus network, have significant nearby boardings and will require safe crossings to serve stops for people traveling in both directions. This includes lighting and walkways through underpasses.

Most intersections in Segment 1 are proposed with suburban intersection design considerations. This segment falls within an urban area and all intersections should be designed to improve pedestrian and bicycle accessibility. To this end, an intersection design that incorporates a free flow right turn lane with a pedestrian island creates an unsafe environment for pedestrians since many drivers do not yield to pedestrians at such intersections. Additionally, several intersections have dedicated right turn lanes. Ensure the traffic counts warrant dedicated right turns. **5-6 lane/multi-lane frontage roads are daunting for pedestrians to cross.** Coordinate with City of Houston on all intersection designs.

Ensure adequate clearance across Halls Bayou to allow for adequate natural drainage conveyance, and a pedestrian and bicycle trail along the bayou. These recommendations are consistent with the HCFCD's Halls Bayou study.

We greatly appreciate extension of frontage roads under IH-610 at IH-45 interchange. These roadways and intersections should be designed to also allow safe pedestrian and bicycle crossings. The large radius turn lanes are not typically supportive of safe, comfortable crossings at these locations.

Entire design should be reviewed to ensure optimized bus stop locations have been considered and stops (and access to stops) would be designed to ADA and METRO standards to support high quality transit experience.

Add safe pedestrian crossings, and bike lanes, to cross, and continue east, on Crosstimbers, Cavalcade (has existing bike lanes), Patton, and Cottage St-Searle Dr. These are to have access to the red line train stops at Northline, Cavalcade and Moody Park, as well as the Irvington Blvd Commercial Corridor, the MD Anderson YMCA, the new park (see below), and neighborhoods. Add shade trees along sidewalks and bike lanes.

Reconfigure the design of the local network to the new frontage road along I 610 and I 45 on the northeast side of the interchange. Create two-way T-intersection instead of the proposed one way

connection to Reid Road. Evaluate the option to extend Melbourne Street to I 45 northbound frontage road.

Light new bridges along I 69 in a manner similar to those in Montrose along I 69.

All underpasses in Segment 1 and 2 that are adjacent to dense urban neighborhoods such as Northline and Lindale Park should be designed with lighting similar to the bridges. Colorful lighting and other design elements will enhance safety and development in the neighborhoods. Underpasses should be given special consideration as they do more damage to neighborhoods than bridges, adding to issues such as drug dealing and prostitution. I45 and Crosstimbers is a current example of how the freeway underpass has fostered these problems in our neighborhood.

Include landscaping and noise mitigation along widened freeway adjacent to Northline, North Lindale and adjacent neighborhoods.

The proposed project has a significant impact on parks, open space and recreation areas in the Houston Region. The project should identify opportunities to limit this impact and mitigate any impact proposed.

All detention areas should be designed as accessible green space and assets to the surrounding the neighborhoods.

Coordinate with Greater Northside Management District, City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Little White Oak Bayou between I 610 and East Parker Road and Shepherd.

Develop the detention basin between I-610 and Crosstimbers as a wet bottom basin and publicly-accessible green space tied the bikeway along the bayou. Install a trash mitigation system that will collect both heavy debris and floating debris.

Coordinate with Greater Northside Management District, City of Houston, and Houston Parks Board for opportunities to develop opportunities for parks and open space along Halls Bayou along I 45.

Little White Oak Bayou represents a prime opportunity to extend open space connectivity north from White Oak Bayou Greenway to Woodlands Park, Moody Parks and beyond up to Halls Bayou. It also connects neighborhoods like Near Northside, Independence Heights and Acres Homes. This connection between Acres Homes and downtown would benefit many of the underserved communities, including Northline, directly impacted by the North Houston Highway Improvement Project. Through most of Segment 2 the project follows the course of the Little White Oak Bayou. It is imperative that the project fully embrace the ecological values and open space potential offered by Little White Oak Bayou.

The current DEIS does not adequately address mitigation of traffic noise impacts and pollution. Ensure all neighborhoods with noise impacts, irrespective of existing conditions, are mitigated appropriately with options such as noise/sound walls. The plan should designate where noise walls are proposed to mitigate neighborhood impacts.

Add landscaping along freeway lanes and frontage roads plus noise walls to mitigate for increased traffic from the wider freeway.

Current blight along the North Freeway corridor is the result of poor planning and lack of landscaping and noise barriers through neighborhoods such as Northline. This project will have a significant impact on our neighborhoods and businesses. Develop a landscape plan for the project where landscape screening will be provided along the project to help mitigate the air quality and noise impact from the freeway while improving visual aesthetics.

Coordinate with the City and stakeholders to reduce visual impacts along the corridor. This should include underpasses as well.

Waterways affected by the project are already listed as impaired waters. TXDOT should model the runoff and stormwater discharges into Buffalo Bayou, White Oak and, Halls and Little White Oak in order to meet state requirements that prohibit the addition of any pollutant load into impaired waters and focus instead on improving those waters through the additional application of more rigorous best management practices for stormwater and runoff. Similarly, TxDOT should adopt and disclose the best management practices and plans that will be adopted, including source controls, to avoid further discharge of trash into these waterways.

Little White Oak Bayou continues to be one of the top 10 polluted waterways in the greater Houston area. The bayou suffers from freeway pollution from both run-off and litter. It makes a small meander on the east side of I-45. Current TXDOT plans include detention basins on the east side of the freeway along the Little White Oak Bayou channel. Currently most of the channel is not accessible and is tremendously polluted with dissolved pollutants, heavy trash within the channel, and floating debris of cups and plastic bags, much of this coming from the freeway.

Create detention ponds that are open and unfenced, planted with native plants which filter dissolved pollutants from freeway run-off.

Install a trash mitigation system that will collect both heavy debris and floating debris. There are several locations along Little White Oak Bayou where this could be installed and maintained. Ideally it would be located upstream of both Moody Park and Woodland Park.

ROBERT GALLEGOS
HOUSTON COUNCIL MEMBER
DISTRICT I

July 25, 2017

TxDOT Houston District Office
Director of Project Development
P.O. BOX 1386
Houston, TX 77251-1386

Dear Director,

I write to express my concern with the proposed realignment of Interstate 45 in downtown Houston. I represent the two communities that will be most affected – East End and downtown – by the relocation of I-45 to the east side, and it is of utmost importance to us that TxDOT develop workable solutions to preserve connectivity between these two communities.

The current plans to close Polk Street and reroute Leeland Street will make it more difficult for my constituents to travel east-west. While I welcome the proposal to lower I-45 and I-69 below ground and eliminate that visual barrier, a physical barrier will remain if residents are unable to safely and efficiently connect from one side of the freeway to the other.

Inner city communities have historically suffered as a result of poor planning by transportation agencies. Minority neighborhoods have been isolated or cut off entirely by freeway projects that, far too often, divide communities. That is why I have asked the City's Planning and Public Works departments to review all east-west connections and develop solutions to ensure east side neighborhoods are not cut off by the proposed realignment. We cannot repeat the same mistakes of the past.

As we prepare for this important project, I urge TxDOT to work with the City's Planning and Public Works departments and review all options to preserve and enhance east-west street connections.

Respectfully,

Robert Gallegos
Houston Council Member
District I

Xc: Mayor Sylvester Turner, City of Houston
Mr. Quincy Allen, TxDOT
Director Patrick Walsh, Houston Planning & Development Department
Director Karun Sreerama, Houston Public Works & Engineering Department
Deputy Director Jeffrey Weatherford, Houston Public Works & Engineering Department

[redacted]

Bayou City Waterkeeper®

[redacted]

July 26, 2017

Mr. Quincy Allen, P.E.
Houston District Engineer
Texas Department of Transportation
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

I am submitting comments on behalf of Bayou City Waterkeeper (formerly Galveston Baykeeper). Bayou City Waterkeeper is a 501 (c) (3) organization, whose mission is the protection of the lower Galveston Bay Watershed, including the rivers, bayous and tributaries, through advocacy and education. We are concerned that the design of the North Houston Highway Improvement Project, will prove detrimental to the water quality in the bayous we protect, and ultimately in Galveston Bay.

Among the streams we specifically seek to protect are Buffalo Bayou, White Oak bayou and Little White Oak Bayou, all of which would be directly impacted by this project as proposed. We are also concerned that the project as proposed incorporates some of the specific flaws identified in the recently renewed TXDOT, MS4 permit.

Issue of Impaired Waters

While the DEIS recognizes that "potential impacts on surface water quality from the proposed project would be primarily related to storm water discharges into streams and drainage ways that traverse" the project, the DEIS analysis of water quality impacts incorrectly concludes that the fact that Buffalo Bayou White Oak Bayou, and Little White Oak Bayou are on the TCEQ § 303 (d) list of impaired waters, that this somehow means that there is a lessened obligation to protect them.

Because these streams are impaired, the anti-backsliding provisions of the Clean Water Act (Clean Water Act, sections 402(o)(2) and 303 (d)(4)(B)), would convey a greater obligation on TxDOT to avoid further degradation of surface water quality. As such, the DEIS should include specifics as to how TXDOT intends to implement practices that will result in improved water quality, to help assure that these streams are removed from the impaired list and meet the standards for their designated uses, which include primary contact recreation, and exceptional aquatic life uses. It is not acceptable to merely assume that since the waters in question are already impaired, that a bit more impairment is allowable.

Modeling of Discharge or Adoption of Numeric Limits for Discharge to Cure Defects in the MS4

TXDOT's MS4 does not contain numeric discharge limits for pollutants entering waters from roadways. It is however, possible to calculate discharge rates from roadways and determine their impacts on the receiving waters. TXDOT's own hydraulic design manual has computed the discharge rates for various pollutants in storm water runoff from highways. A computation based on roadway miles is possible to benchmark the amount of pollution directly flowing into Buffalo, White Oak and Little White Oak Bayous with the storm water runoff from the proposed highway improvements. This computation should be conducted in order to ascertain whether the proposed project would actually result in improvement to the water quality in the receiving waters, or additional impairment. If the proposed improvements would, based on modeling result in additional impairment, as the language in the DEIS appears to suggest, then modifications to the project and the associated drainage features must be adopted to avoid further degradation of receiving water quality. Under the current TXDOT MS4, the Storm Water Management Plan (SWMP) has no numeric limits for pollutants being discharged to receiving waters. It also has no benchmarks for reduction in pollution, or description of how impaired waters would be further protected by TXDOT. It is not enough to maintain the status quo or plan to allow additional degradation. This project should demonstrate specifically the projected impacts of the improvements on receiving water quality and how its implementation will result in improvement of those degraded waters. At a minimum, TXDOT should model the runoff and storm water discharges

[redacted]

into Buffalo, White Oak, and Little White Oak Bayous in order to meet state requirements that prohibit the addition of any pollutant load into impaired waters. TXDOT should adopt additional best management practices for storm water and runoff, including source controls, to avoid further discharge of pollutants to the receiving waters.

Floatables

TXDOT should adopt and implement specific measures to reduce the discharge of floatable debris from the project to Buffalo, White Oak, and Little White Oak Bayous. While the current TXDOT MS4 does not call for specific measures to reduce floatables in receiving waters, this issue is a particular problem in urban waters like those impacted by this project. Currently all of the waters in question receive heavy discharges of floatables in storm water, much of which originates on TXDOT rights-of-way and other transportation infrastructure. TXDOT has conducted litter surveys demonstrating that they are fully aware of the problem Texas has with floatables and litter from roadways. TXDOT should address this issue, for this project, through the implementation of source controls and structural controls sufficient to control floatables entering the receiving waters from the proposed roadways. This is particularly important on Little White Oak, and Buffalo Bayous which are both heavily impacted now by floatables and heavy trash originating on roadways.

Summary

It is the intention of Bayou City Waterkeeper to limit our comments specifically to issues affecting water quality in the watershed we are charged with protecting. We believe that as proposed, the North Houston Highway Improvement Project does not adequately address impacts to water quality. It is our position that under the requirements of the Clean Water Act, TXDOT has an obligation to undertake to improve the quality of impaired waters, impacted by its actions and discharged to under the TXDOT MS4 permit. This project appears to assume that, because the impacted receiving waters are already listed as impaired, that additional impairment is permissible. We request that TXDOT model the impacts from this project on the receiving waters, spe

[redacted]

cifically Buffalo, White Oak, and Little White Oak Bayous, and adopt those measures necessary to protect them from further degradation. We also request that those source controls and structural controls necessary to prevent discharge of floatable and heavy debris to the bayous, from the roadways be adopted.

Bayou City Waterkeeper appreciates the opportunity to submit these comments on this project. If you have any questions concerning our comments, please feel free to contact me at either [redacted]-[redacted]

Very truly yours,
Bayou City Waterkeeper

Bruce R. Bodson

Bruce R. Bodson, J.D.

My name is Mark Harris and I live in [redacted]

I am writing to submit my comments on the construction project planned for I-45 through downtown Houston. I disagree with the plans to destroy the Pierce Elevated and re-route the road (Segment III). This will only provide a very short term benefit for a long term headache at a cost that is almost certainly going to be far higher than the initial projections indicate. Boston's “Big Dig” project is a great example on how these projects can help in a city without a prior “ring” set up for downtown but it also highlights just how these projects always cost more than originally projected and take far longer than originally projected.

The city's money should be spent wiser than this. The current improvements to the Pierce Elevated have already shown an improvement to travel times and traffic flow. Houston needs to invest in mass transit instead of simply adding concrete onto concrete for roads. We will end up just like Los Angeles if we keep just building roads without alternate means of transport.

Mark T. Harris

July 26, 2017

Via U.S. Mail and Electronic Mail

TxDOT Houston District Office
Director of Project Development
P. O. Box 1386
Houston, TX 77251-1386
HOU-piowebmail@txdot.gov (Attn: Ms. Kelly Lark)

Re: Houston Belt & Terminal Ry. CO.'s Comments to the North Houston Highway Improvement Project (NHHIP) Project Draft Environmental Impact Statement (EIS) (CSJ: 091200-146)

Dear TxDOT Director of Project Development:

Houston Belt & Terminal Ry. Co. ("HBT") submits this comment on the April 2017 Draft Environmental Impact Statement ("Draft EIS") for the North Houston Highway Improvement Project (NHHI"), prepared by the Texas Department of Transportation ("TxDOT").

HBT understands TxDOT's goal of improving roadways in this project, but HBT objects to the failure of the Draft EIS to consider environmental impacts of the proposed project on rail infrastructure and operation. This omission prevents third parties from reviewing NHHIP's potential relevant environmental consequences.

HBT has a specific interest in the proposed project since construction and implementation of the NHHIP will likely impact HBT's rail facility and operations by its tenant railroads over its facilities. Such impacts may include encroachments upon HBT's right-of-way, re-routing or re-directing of existing rail lines and infrastructure, and disruptions to rail operations.

For reasons discussed more fully below, while HBT is supportive of the proposed project as a whole, it opposes the Recommended Alternative identified in the Draft EIS to the extent that it impacts or potentially impacts HBT rail infrastructure and operations without any environmental analysis or feasible mitigations. Daily train operations are conducted over HBT's tracks by Union Pacific Railroad ("UP") and BNSF Railway ("BNSF"). HBT's West Belt line, although not clearly or correctly described in the Draft EIS, crosses I-10 and US-59 at the center of the downtown portion of the project. Although no details have been provided by TxDOT, it has generally told HBT that it will be impacted significantly and that, at a minimum, train operations will be ceased or delayed during some of the construction activity.

[redacted]

HBT objects to the current status of the project and insists that the process mandated by NEPA requires much more detail than TxDOT has provided to HBT to date. The specific rail operations by BNSF and UP over HBT's affected tracks must be evaluated and a mitigation plan must be set forth by TxDOT after review and consultation with the affected railroads, BNSF, UP and HBT.

HBT hereby incorporates by reference and adopts as its own the detailed written comments submitted to TxDOT this week on this project by Union Pacific Railroad, including the legal authorities discussed therein.

HBT has always had a good working relationship with TxDOT's Houston District. We trust that will not change, as it is HBT's intent only to preserve its rights under NEPA by filing these comments. HBT supports the goal of the project and it looks forward to cooperation with TxDOT generally on the project, in proper and full compliance with NEPA.

Very truly yours,

Hugh L. McCulley

Hugh L. McCulley
General Counsel
Houston Belt & Terminal Ry. Co.

cc: Karol A. Chapman

HOUSTON
PARKS BOARD
PARKS BY YOU

July 26, 2017

Quincy Allen, P.E.
Texas Department of Transportation, Houston District
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

The following are the Houston Parks Board's [HPB] comments regarding the DEIS for TxDOT's North Houston Highway Improvement Project. Having participated in the scoping process and subsequent discussions on this project, HPB contends that the DEIS does not fully respond to the significant impacts on parks and open space created by the proposed project. In particular, the project significantly decreases greenspace along White Oak Bayou Greenway north of downtown and Little White Oak Bayou south of I-610. As a result, HPB requests that TxDOT prepare a Supplemental Environmental Impact Statement to more fully address those impacts and develop creative strategies to minimize and mitigate them with additional green space improvements along the corridor.

White Oak Bayou Greenway

The White Oak Bayou Greenway is part of Bayou Greenways 2020, a $220 million public/private investment by the City of Houston to provide continuous linear parks, with hike/bike trails, along 150 miles of Houston's major waterways. The White Oak Bayou Greenway extends over 15 miles from the city limits to UH-Downtown where a federally funded TIGER project, currently under construction, is connecting White Oak Bayou Greenway to Buffalo Bayou Park. That TIGER project also includes neighborhood connections to Main Street and Leonel Castillo Community Center at Hogg Park, plus bike wayfinding to the transit centers on Fulton. It represents the kind of complete community effort that Houston is working toward and federal funding champions.

The 1,100 feet of White Oak Bayou Greenway from the current I-45 overpass at UH-Downtown west to Hogg Park is completely open to the sky and the bayou except for small under-crossings at the rail bridge and Hogan Street. The linear park features wildflowers and a hike-and-bike trail maintained by HPB. It offers amazing views of downtown. We are very concerned that the sense of open space will be negatively impacted by the North Houston Highway Improvement Project. The project will extend seven new highway overpasses over the greenway's widest stretch. Currently, only the existing I-45 overpass impacts the greenway, and because it sits right against the massive UH-Downtown building, it is more part of the urban infrastructure. The new overpasses will create an intrusion into the landscape. Moreover, additional lanes parallel to the bayou encroach further into the south side of the greenway to the point where they impose on the bayou itself.

The DEIS appears to suggest that if the project maintains just the hike-and-bike trail, no impact results. That ignores the impact to the greenway and open space itself of which the hike-and-bike trail is just a component. The project eliminates that open space. While the project will remove some freeway, HPB estimates a net increase of 18 acres of open space effectively covered by the project in just the stretch between UH Downtown and Hogg Park. The DEIS does not identify this as an impact, but it certainly is one, and the DEIS should offer alternatives or mitigation to minimize that impact.

Freed, Woodland and Other Parks

The DEIS identifies less than one acre of impact to City of Houston Parks. It dismisses that impact as related to marginal greenspace rather than the "use of facilities." HPB calculates the total loss of open space in City parks at 3.27 acres (table attached). Thus, as it does with the greenways, the DEIS dismisses the impact to green space and open space as non-existent if the project does not impact active features of the park. The greenspace impacted is the park and therefore should be recognized as such regarding mitigation.

Little White Oak Bayou Greenway

Through a study called Beyond the Bayous funded by the Houston Endowment, HPB has been actively identifying opportunities for expanded open space and hike-and-bike connectivity. In a sense, Beyond the Bayous is even more difficult than Bayou Greenways in that it seeks to retrofit the city around the existing connectivity barriers created by freeways, major arterials and railroads.

Little White Oak Bayou represents a prime opportunity to extend open space connectivity north from White Oak Bayou Greenway to Woodland and Moody Parks and beyond up to Halls Bayou. The 20 lanes at I-45 will eliminate 10 acres of open space along Little White Oak Bayou. We are currently in the process of expanding the Bayou Greenways network to include Little White Oak Bayou from I-10 to at least Crosstimbers with an extension to Acres Homes, an area of the city not currently served by trails. This connection would benefit many of the underserved communities directly impacted by the North Houston Highway Improvement Project. Through most of Segment 2, the project follows the course of the Little White Oak Bayou. An old TxDOT trail runs north from Moody Park along the bayou. We recommend the DEIS be supplemented with specific design features to preserve the ecological values and open space potential of Little White Oak Bayou including:

a. Providing bridge spans and trail underpasses where I-45 crosses Little White Oak Bayou;
b. Building a continuous shared-use trail from Woodland Park to Crosstimbers;
c. Designing detention basins to be fully-functioning recreational green spaces along the greenway;
d. Providing for a safe trail corridor through the I-610 interchange;
e. Coordinating land acquisition to maximize green space, especially north of I-610;
f. Spanning Halls Bayou to preserve the opportunity for extending the Halls Bayou Greenway;
g. Provide meaningful connections to dedicated, on-street bike connections feeding into the Little White Bayou as identified in the Houston Bike Plan; and
h. Maximizing public access and park opportunities for any highway decking through the Woodland Heights neighborhood.

Many of these comments were included in previous letters we sent to you on December 3, 2013 and May 29, 2015, during the scoping process (enclosed). We have also enclosed a few diagrams to demonstrate our above points. Thank you for the opportunity to provide this input for the comment period.

Conclusion

The Houston Parks Board continues to stand ready to work with TxDOT on the North Houston Highway Improvement Project to produce the best possible result for the greater Houston area.

Sincerely,

Beth White

Beth White
President & CEO
Houston Parks Board

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Roksan Okan-Vick, FAIA
Executive Director

December 3, 2013

Texas Department of Transportation
Houston District
P.O. Box 1386
Houston, Texas 77251-1386

Re: North Houston Highway Improvement Project

Dear Madam/Sir:

I write to ask for certain modifications to your proposed North Houston Highway Improvement Project to ensure connectivity for bicyclists and pedestrians in light of our on-going work along the City of Houston's bayous. The Houston Parks Board's and the City of Houston's Bayou Greenways 2020 project creates a network of shared use trails along 9 of the major bayous within the City in order to create a 150-mile integrated transportation network for pedestrian and bicycle-based transportation. This system will also create a network of parks along these shared use trails that have significant environmental, economic, and public health benefits for our City. These trails will be built to federal standards and will tie into similar trails built in recent years by the Texas Department of Transportation (TXDOT) and the City of Houston. The total public and private investment for this new network will be $215,000,000. The citizens of Houston have overwhelmingly supported using $100,000,000 of park bonds for the project, and separately, the Houston Parks Board has raised over $70,000,000 of matching funds thus far. We plan to complete the network in 2020.

The Bayou Greenways 2020 project however does not include Little White Oak Bayou, which parallels and crosses Interstate 45 North and its interchange with Loop 610 North numerous times. The design of these crossings has made it impossible for us to include this important waterway in our program. As a result, a significant area of north Houston may not have access to shared use trails or the connected parkland along White Oak Bayou unless you incorporate some elements to ensure pedestrian and bicycle connections in your proposed North Houston Highway Improvement Project.

We have reviewed your alternatives for Segment 1 and Segment 2 for the North Houston Highway Improvement Project, and believe there is a unique and important opportunity to ensure that residents have manageable connections to the Bayou Greenways 2020 project. Thus, we specifically request that you incorporate the following into your plans:

1. A continuous shared use trail along Little White Oak Bayou from its confluence with White Oak Bayou immediately south of Quitman Street to the north-most point where the modified I-45 right-of-way is adjacent to Little White Oak Bayou, which we understand could be considerably north of I-610.
2. A shared use trail connector across I-45 North between Woodland Park and Moody Park to ensure access to these important parks.
3. A shared use trail connector across I-45 between Patton and Jewett Streets to ensure connectivity.
4. A shared use trail connector through the I-45/I-610 interchange, since we have found that these interchanges often present the biggest problems for pedestrian and bicycle traffic.

We would appreciate a meeting to discuss this important link to our Bayou Greenways 2020 project. Please contact me at [redacted]

Thank you for your consideration of this important proposed transportation facility within Houston's growing pedestrian and bicycle transportation network.

Sincerely,

Roksan Okan-Vick, FAIA
Executive Director

[redacted]

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PARKS BY YOU!

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Andrew P. Price
Michael Skelly
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Barron Wallace
Don Woo

Joe Turner
Ex-Officio

Roksan Okan-Vick, FAIA
Executive Director

May 29, 2015

Texas Department of Transportation, Houston District
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project

Attn: Quincy Allen, P.E.

We write to ask that Texas Department of Transportation (TxDOT) take into account a number of important considerations as TxDOT continues with its proposed North Houston Highway Improvement Project. Taking into account these and other factors will help ensure protection of parkland and greenspaces and will enhance and preserve connectivity for bicyclists and pedestrians. The Houston Parks Board does not have an opinion with respect to the merits of the project regarding automobile transportation. But if the project does go forward, we respectfully request that the changes highlighted below be made to avoid adverse impact on nearby park and public greenspace and on other important community projects. We also respectfully request that we maintain the right to make comments in the future as the process continues.

The Houston Parks Board and City of Houston's Bayou Greenways 2020 project is creating a continuous system of parks along Houston's major waterways. A major feature of the system is a network of shared use trails along nine of the major bayous within the City. This ambitious effort will result in a 150-mile alternative transportation network for pedestrians and bicyclists in the midst of public access parkland and, at the same time, will greatly increase acreage of parks in the City. Bayou Greenways 2020 will have significant environmental, economic and public health benefits for our City. These trails will be built to federal standards and will tie into similar trails built in recent years by TxDOT, the City of Houston, and other public entities.

The total public and private investment for this new network will be at least $220 million, funded by a $100 million bond overwhelmingly supported by the citizens in 2012, with the balance to be secured by the Houston Parks Board in private and other matching funds. The Houston Parks Board has raised more than $90 million of private, matching funds thus far.

We have met with Pat Henry and Bill Brudnick of your team and reviewed what we understand to be the publicly available information on proposals for the North Houston Highway Improvement Project. The size and scope of the project and its siting near important bayous and greenspace means that the project poses significant risk to Bayou Greenways 2020 and to Houston's greenspaces. On the other hand, we believe that if designed and executed properly, there are important opportunities for the project to provide connections to Bayou Greenways 2020, to create new park options for Houston, and to enhance Houston's overall transportation options. We also trust that the forthcoming Draft EIS will include robust analysis of the potential impacts and benefits to pedestrian and bicycle facilities.

We specifically request you incorporate the following into your plans:

1. Minimize encroachment of the widened freeway on Little White Oak Bayou south of I-610 by removing the south bound frontage road or acquiring land on the opposite side of the freeway.

2. Minimize encroachment of widened freeway on White Oak Bayou at I-10 by use of more elevated lanes to narrow the required right-of-way width.

3. Within the same watershed and preferably along the impacted bayou corridor, mitigate heavily for any and all loss of greenspace along the bayou corridor as a result of this project. Specifically, consider acquiring land along Little White Oak Bayou just north of I-610 to incorporate park-like detention parcels between the freeway and the Bayou.

4. Build all detention areas to be dual use with stable and accessible trail benches along high banks so that Houston can later add trails and amenities to the areas and allow for both recreational and detention use.

5. Build all detention areas to clean road-polluted water with wet bottom cleansing ponds and other filtration techniques in order to mitigate the adverse water quality impact of new roadways. Plans should be developed to remove debris and keep these catchment systems clean. TxDOT should assume responsibility for this trash collection, as the trash will be carried by storm water from TxDOT facilities. These facilities should be explicitly designed to be dual park and stormwater use, with trash maintenance provided by TxDOT.

6. Build road drainage systems to remove (filter) all debris and trash generated by the road before drainage reaches the creek and bayou systems in order to mitigate adverse water quality impact of roadway.

7. Provide stable benches where minimum 10' shared-use trails can be built in the future on both sides of every waterway crossed. Design freeway crossings taking future trails into account and leave these areas trail-ready to maximize efficiency of the public dollar.

8. Provide simple signage equivalent to river crossings at major bayou crossings (Buffalo, Little White Oak, White Oak, etc.).

9. Maintain Bayou Greenway and trail accessibility during construction. We understand that at some point existing trails may need to be closed for safety. When such closures are inevitable, safe access should be provided via a trail on the opposite side of the waterway. Situations like the recent two-year closure of the White Oak Bayou trail, without a safe alternative crossing on the opposite bank, should be avoided.

10. Acquire and design adequate freeway verges to allow significant tree plantings along all roadways to mitigate the adverse visual, sound and air quality impacts. Use only native tree and large native shrubs to mitigate adverse impacts on habitat and to ensure cost effectiveness though long life of hardy plantings and reduced mowing.

11. Build minimum 10' wide shared-use paths parallel to and separated from frontage roads. The currently proposed 15' wide lanes with a shared use are not appropriate, as mixing bicycles with 50+ MPH vehicle traffic leads to fatalities, and pedestrians also need to be accommodated.

12. For all proposed depressed segments where park development can occur, provide a structural framework and dirt fill above in order to readily accommodate a vegetated and scenic greenway park.

13. If eliminated due to construction, replace existing shared used facilities along Little White Oak Bayou.

14. Develop a greenway and 10' wide shared use trail along Little White Oak Bayou wherever possible, including
    - The segment form its confluence with White Oak Bayou to the north-most point where the modified I-45 right-of-way is adjacent to Little White Oak Bayou.
    - The segment between Woodland Park and Moody Park.
    - The segment across I-45 between Patton and Jewett Streets.
    - The segment through the I-45/610 interchange.

    Because this bayou corridor is impacted by the freeway project for several miles, this amenity and facility that accommodates other modes of transportation (biking and walking) should be part of TxDOT's scope in that area.

15. Consult with the Houston Parks Board for new bike and pedestrian access facilities built by TxDOT. Along some sections of the current I-45 segments, TxDOT has previously built trails that do not connect to other trails. The Houston Parks Board believes it can help TxDOT avoid this situation in the future.

16. To the extent the current MKT trail (Heights Hike & Bike Trail) is impacted by construction, preserve connectivity by replacing the impacted segment with a bridge that would parallel the current railroad bridge over White Oak Bayou.

17. All new surface street bridges that are required should be of sufficient width so as to accommodate separated shared use pedestrian/bike paths. As many of these bridges will accommodate high speed traffic, mixing bicycles and vehicles creates unsafe conditions.

18. Carefully design all intersections where freeway traffic enters urban areas in order to maximize vulnerable user safety. For example, the termination of the proposed spur at Allen Parkway should be designed in order to accommodate safe pedestrian crossings at that intersection and in a way that drivers are reminded that they are entering a park.

19. The intersections of frontage roads and surface streets should be designed in order to maximize pedestrian and bicycle safety, not vehicle speed. High speed right turns with yield signs and other unsafe features should be assiduously avoided.

Thank you for your consideration of our comments. Please do not hesitate to contact me with any questions.

Sincerely,

Roksan Okan-Vick, FAIA
Executive Director

White Oak Bayou Greenway

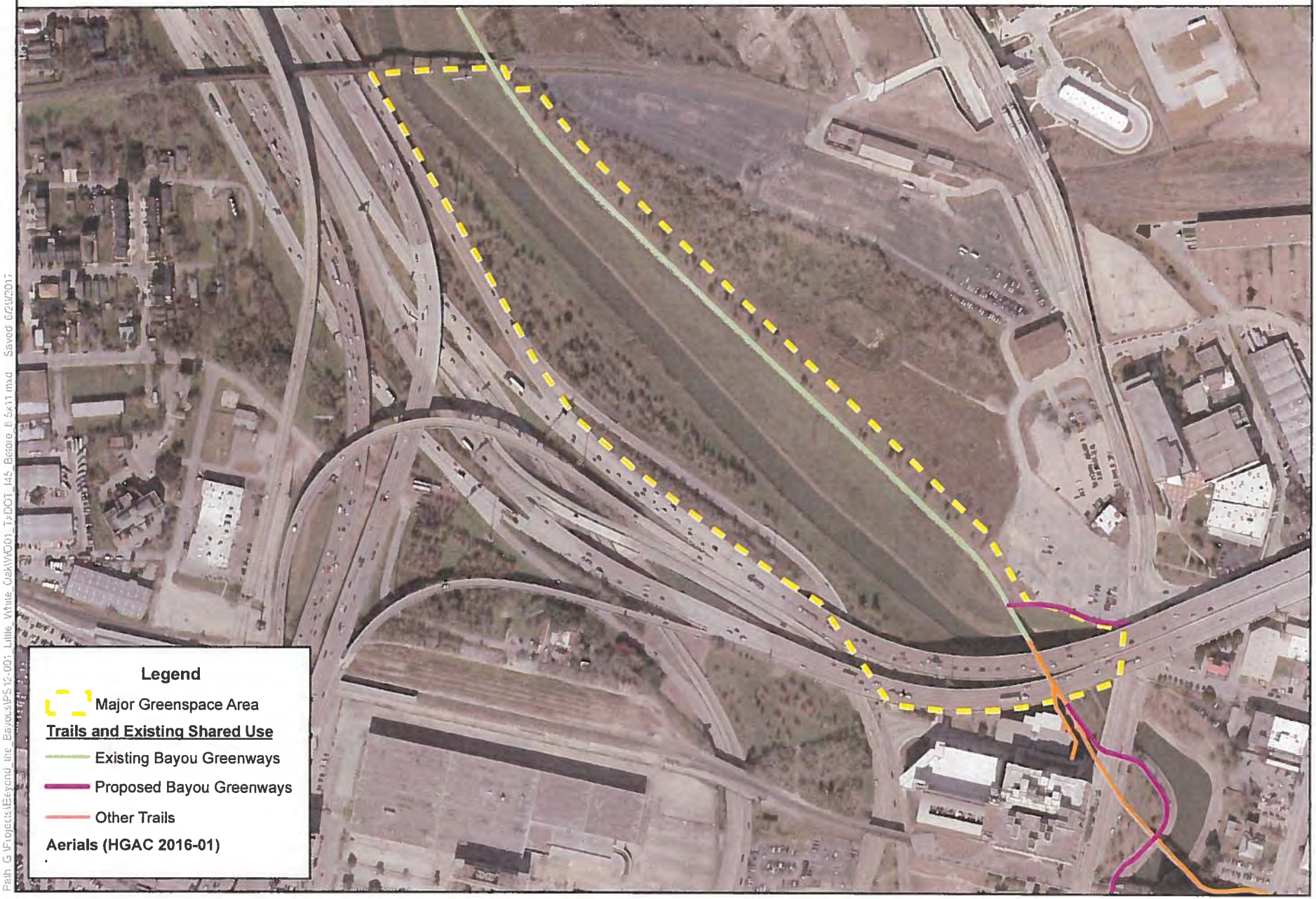
Segment WO01: Before I-45 Expansion

HOUSTON PARKS BOARD

N

400 Feet

1 inch = 400 feet



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White Oak Bayou Greenway

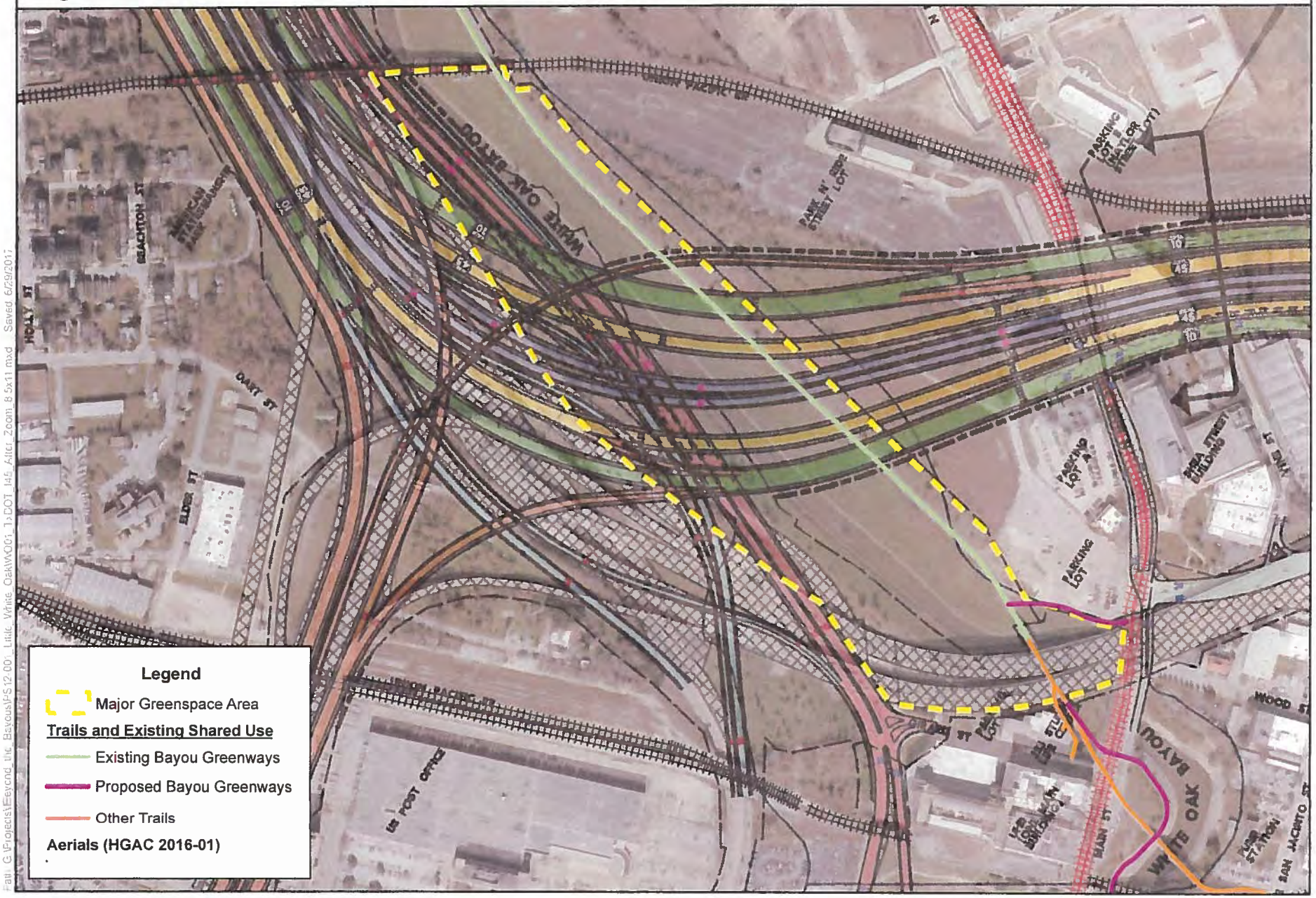
Segment WO01: After I-45 Expansion

HOUSTON PARKS BOARD

N

400 Feet

1 inch = 400 feet



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White Oak Bayou Greenway

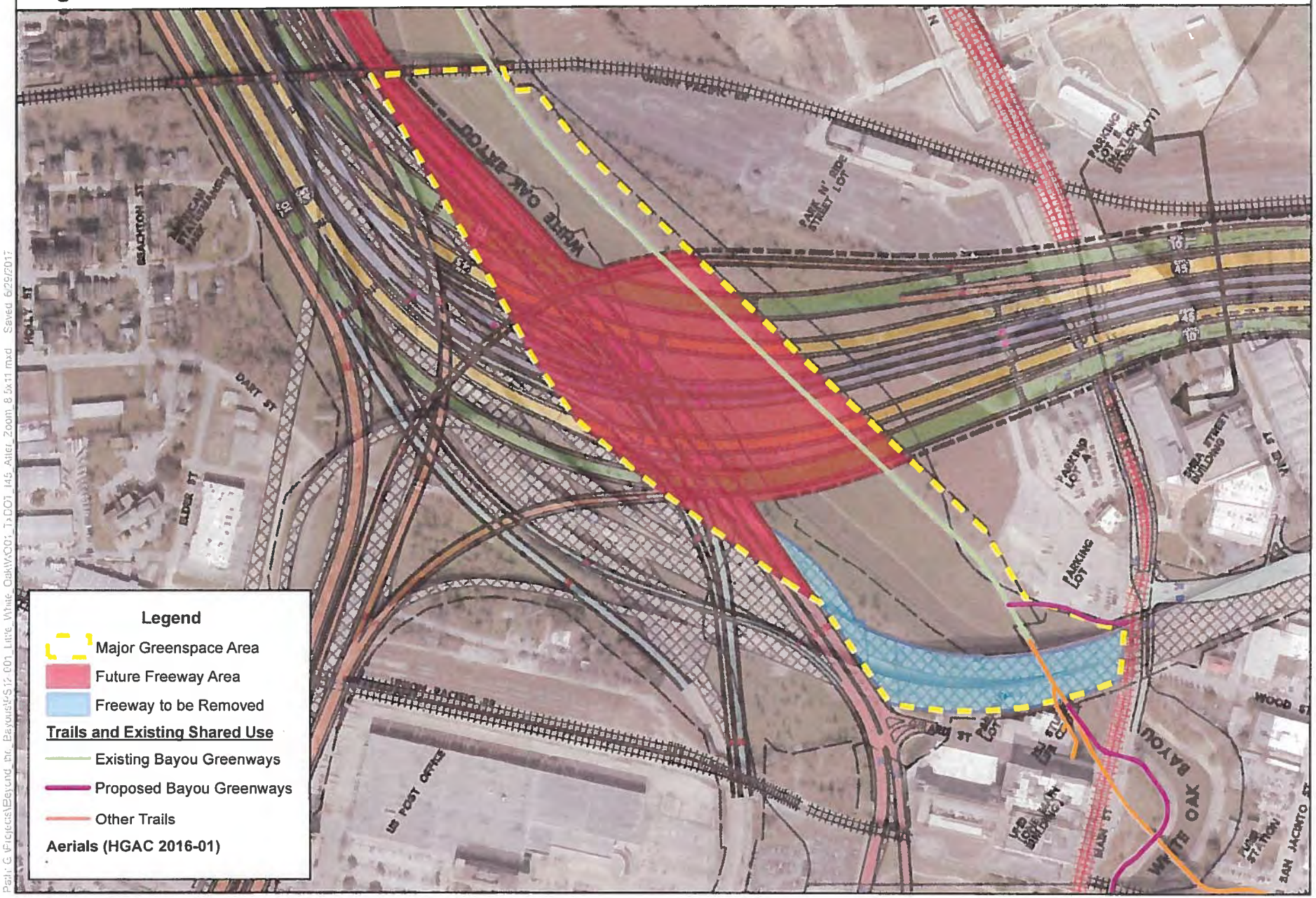
Segment WO01: After I-45 Expansion

HOUSTON PARKS BOARD

N

400 Feet

1 inch = 400 feet



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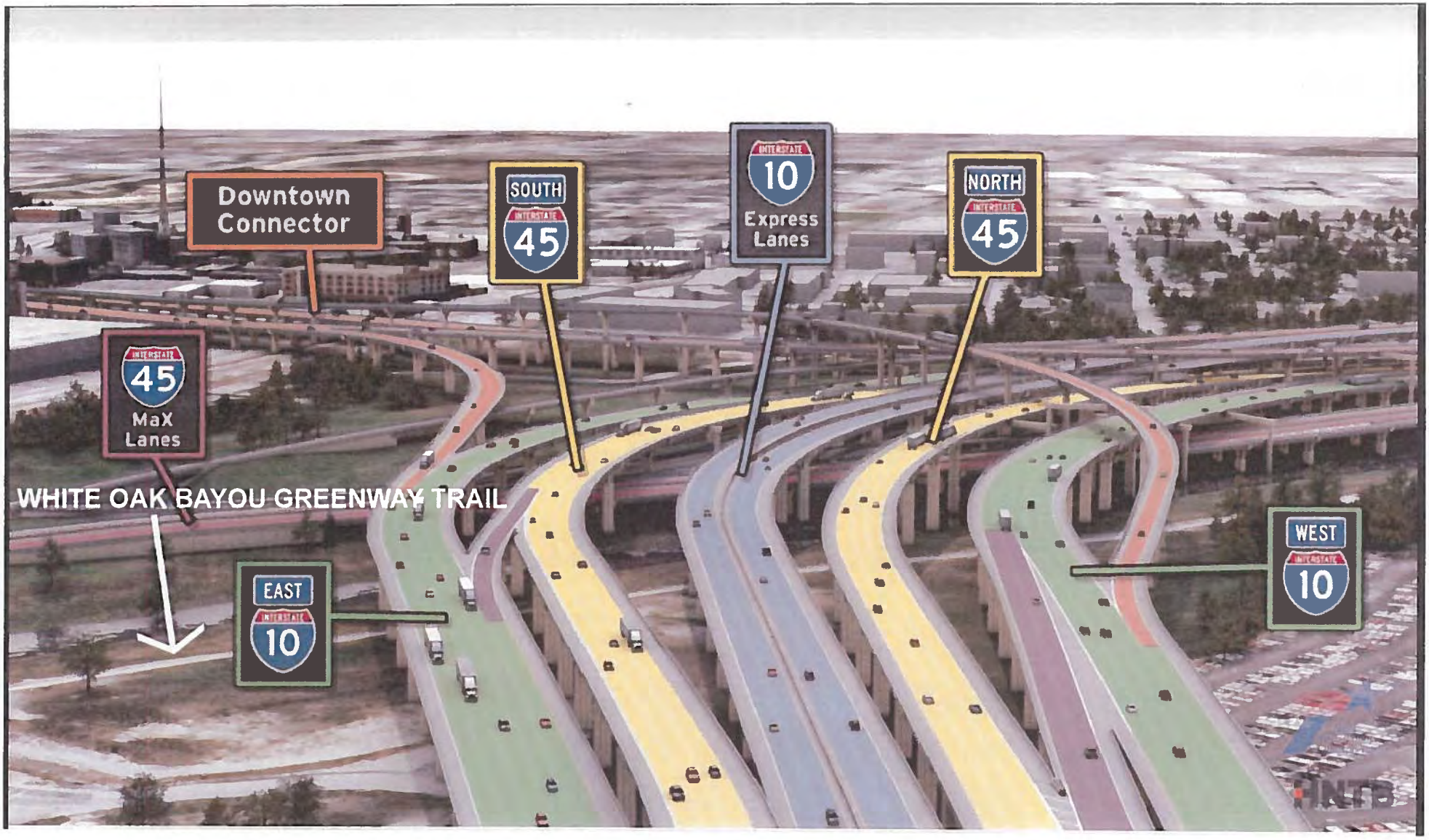


NEW MULTI-LANE FREEWAY ALIGNMENT OVER WHITE OAK BAYOU OPEN SPACE AND TRAIL

WHITE OAK BAYOU GREENWAY FROM THE TRAIL NEAR HOGAN STREET
LOOKING SOUTHEAST TOWARDS DOWNTOWN

WHITE OAK BAYOU GREENWAY LOOKING NORTHWEST TOWARDS HOGAN STREET FROM THE UNIVERSITY OF HOUSTON DOWNTOWN

	Freeway to be Added	Freeway to be Removed	Net Total
White Oak Bayou Greenway / Freed Park	22 ac	4 ac	18 ac
Little White Oak Bayou Greenway	13 ac	3 ac	10 ac
Buffalo Bayou Greenway / Downtown Parks	4 ac	5 ac	-1 ac
		Net Loss of Greenway	**27 ac**

Detailed Breakdown of Park Impact (acreages <u>are</u> included in the above Greenway calculations)

	Freeway to be Added	Freeway to be Removed	Net Total
Freed Park	0.17 ac	-	0.17 ac
Linear Park	2.35 ac	0.01 ac	2.34 ac
Sam Houston Park	0.63 ac	-	0.63 ac
Sesquicentennial Park	0.13 ac	-	0.13 ac
		'Current' Parkland Impacted	**3.27 ac**

Existing Trails (By Others) Lost by Freeway Expansion

	Trail Removed
Little White Oak Bayou Greenway	0.2 mi

White Oak Bayou Greenway

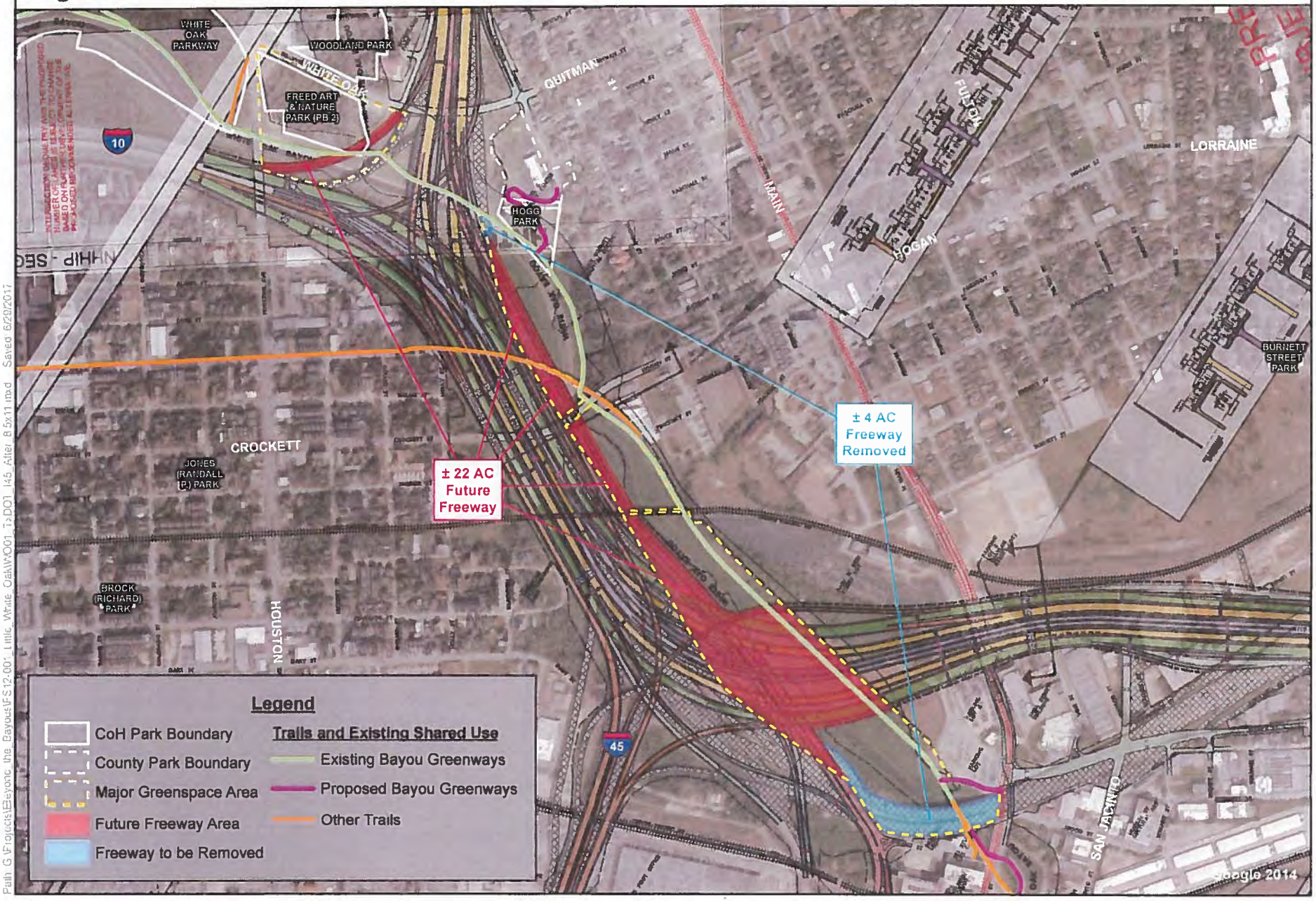
Segment WO01: After I-45 Expansion

HOUSTON PARKS BOARD

N

800 Feet

1 inch = 800 feet



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White Oak Bayou Greenway

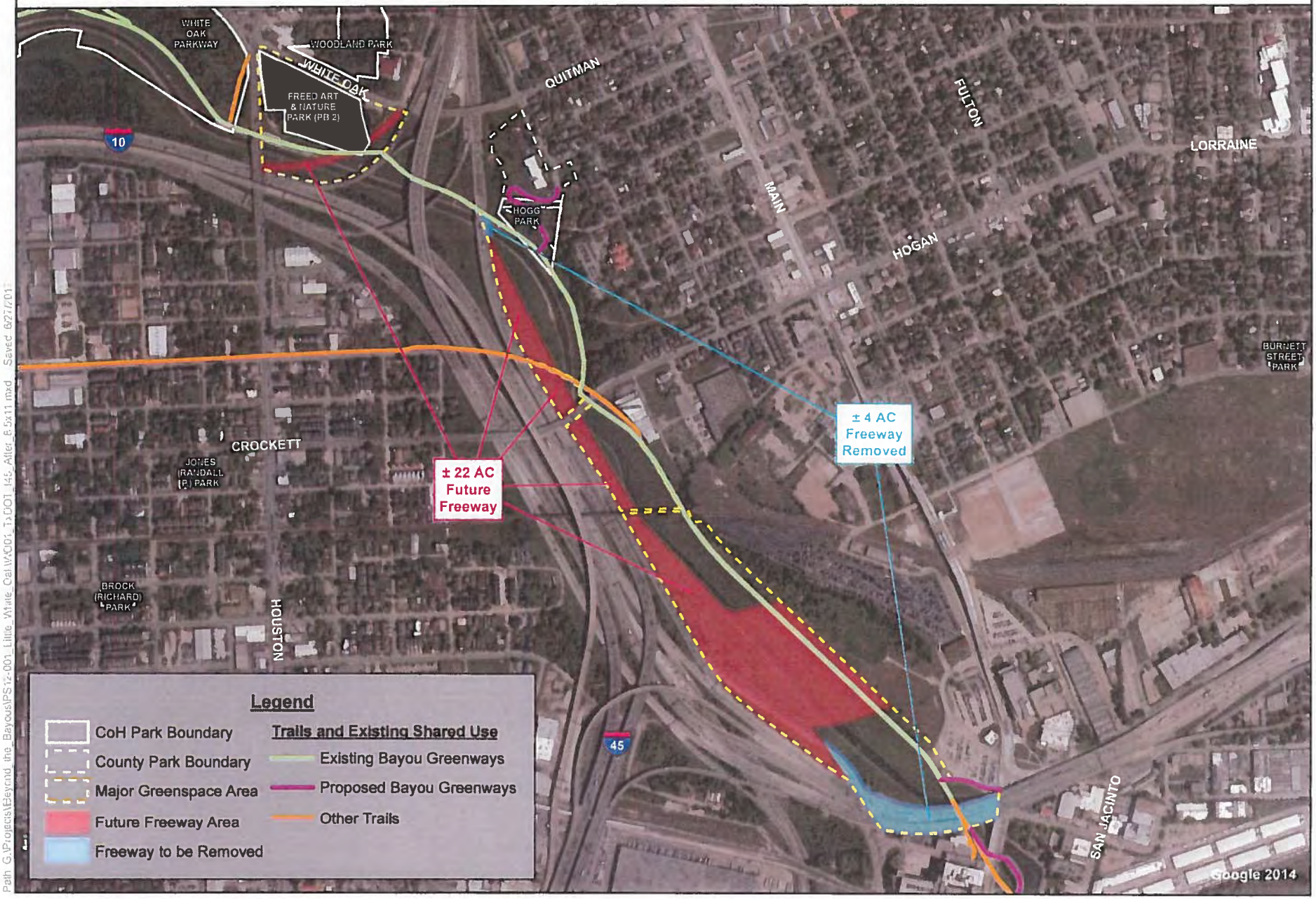
Segment WO01: After I-45 Expansion

HOUSTON PARKS BOARD

N

800 Feet

1 inch = 800 feet



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Buffalo Bayou Greenway

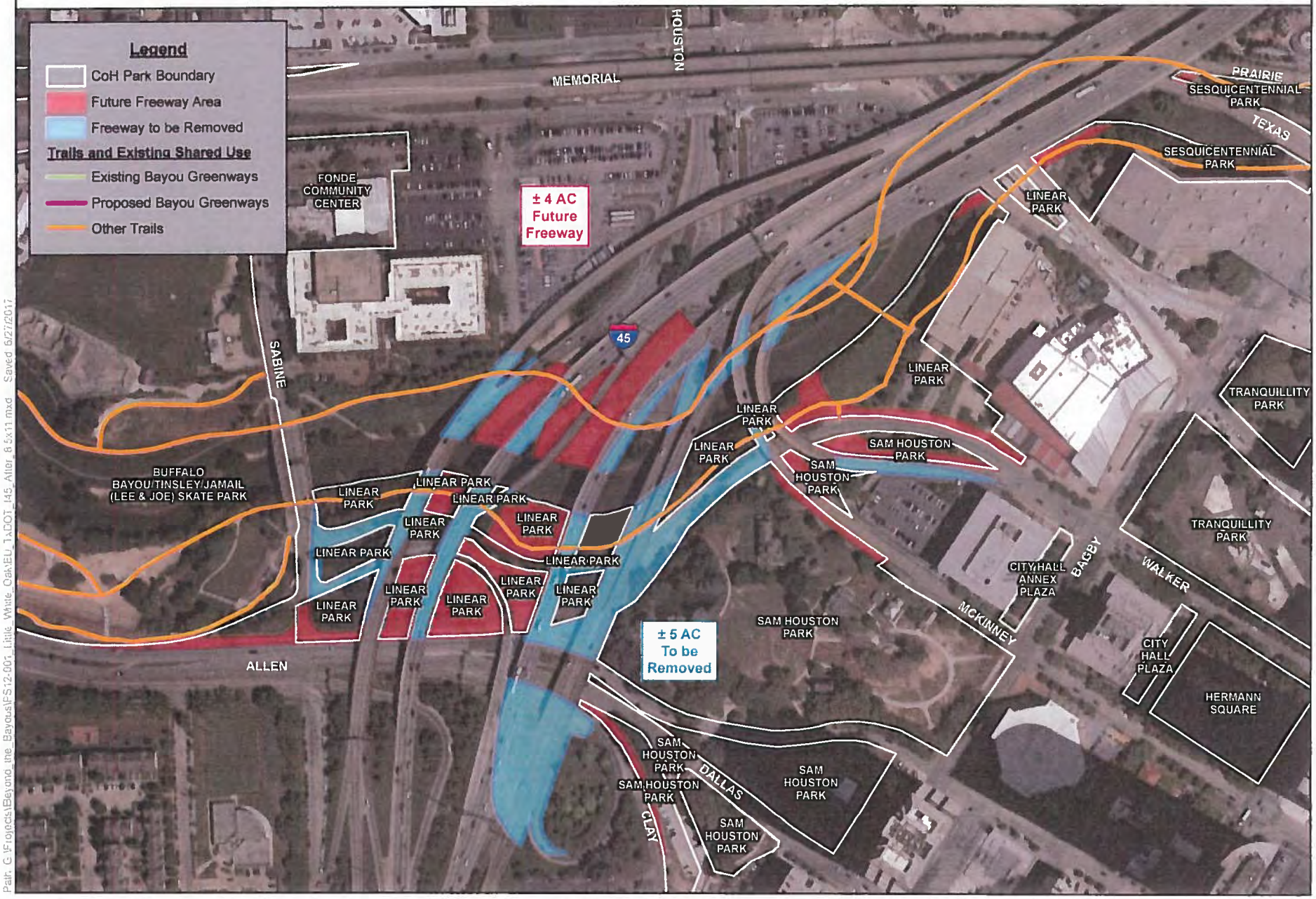
Prairie to Allen Pkwy : After I-45 Expansion

HOUSTON PARKS BOARD

N

400 Feet

1 inch = 300 feet



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White Oak Bayou Greenway

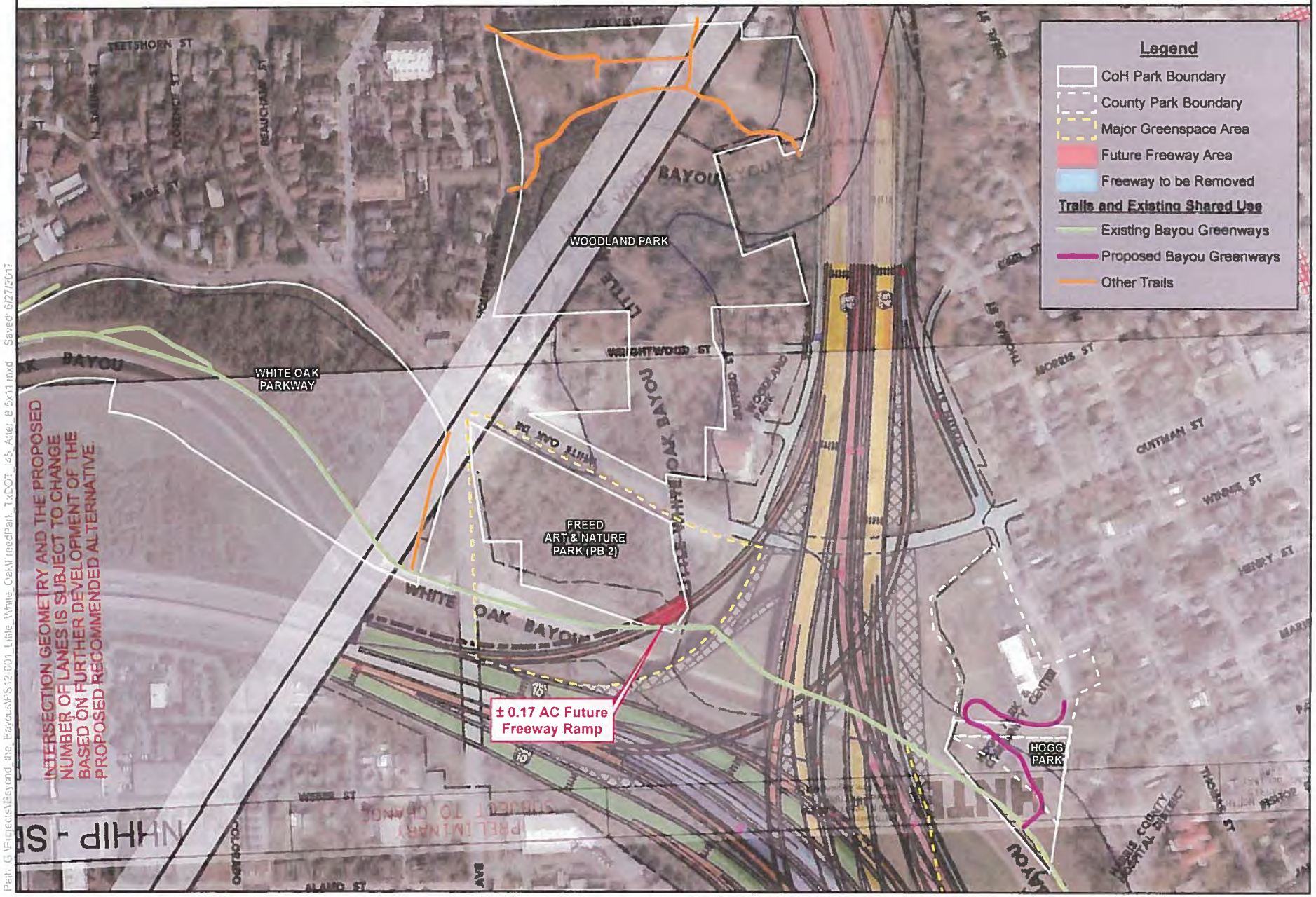
Freed Park: After I-45 Expansion

HOUSTON PARKS BOARD

N

400 Feet

1 inch = 400 feet



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Little White Oak Bayou Greenway

Segment PS12-001: After I-45 Expansion

HOUSTON PARKS BOARD

N

0.5 Miles

1 inch = 0.5 miles

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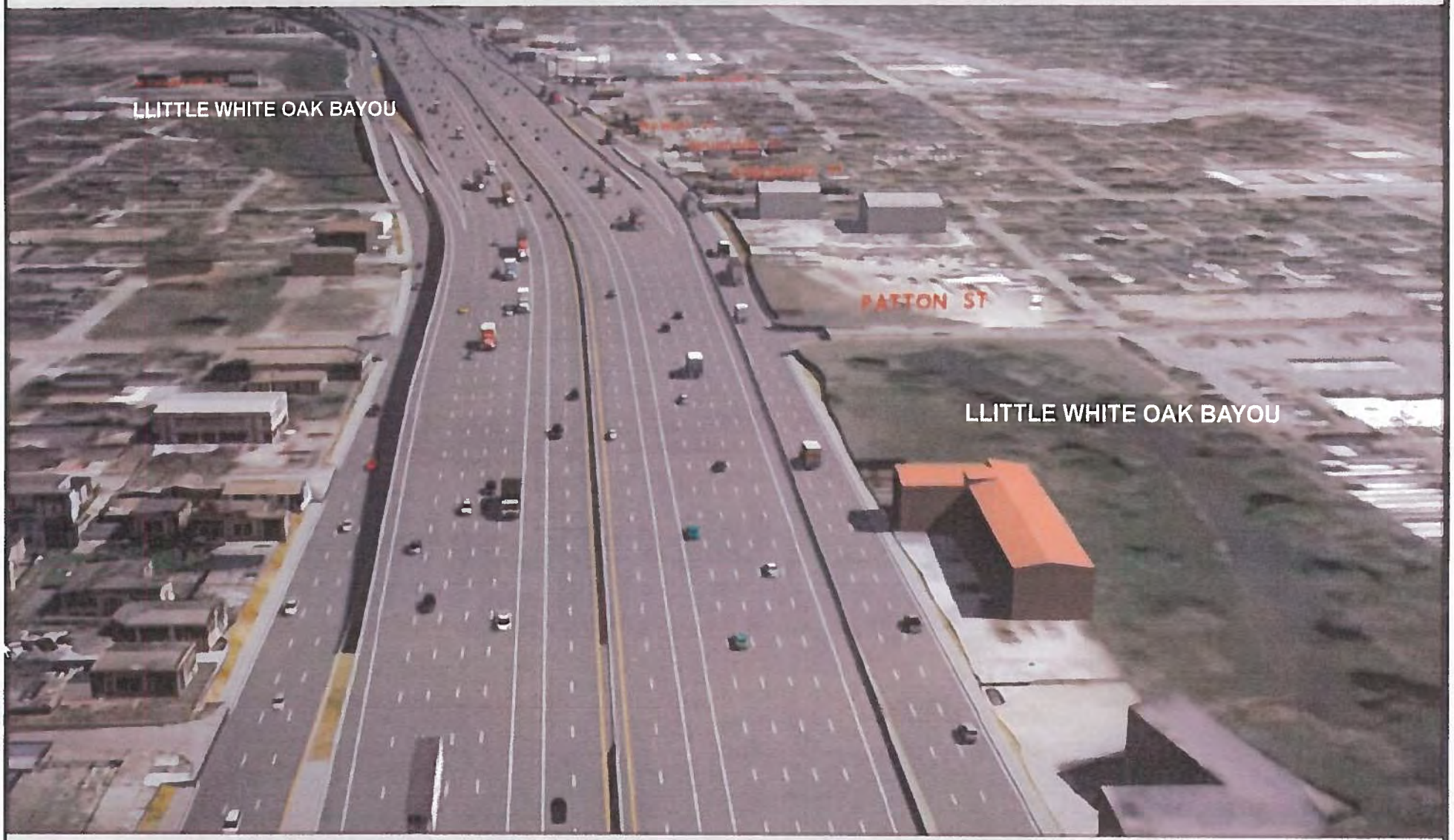


TWENTY LANES OF TRAFFIC OVER LITTLE WHITE OAK BAYOU ON I-45

LITTLE WHITE OAK BAYOU AT I-610 AND I-45

27 JULY 2017

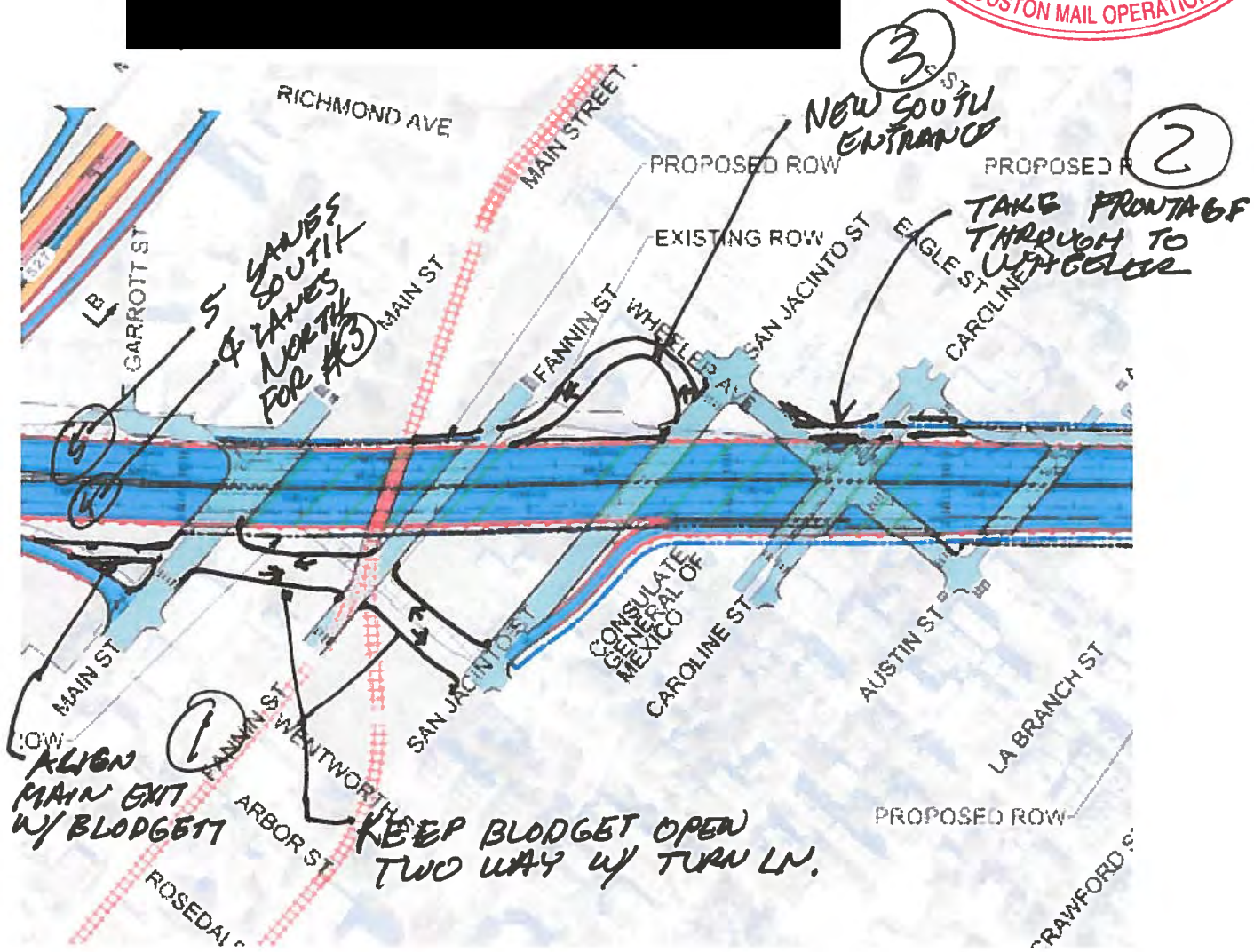
TO: TXDOT DIRECTOR OF PROJECT DEVELOPMENT

RE: NORTH HOUSTON HIGHWAY IMPROVEMENT PROJECT COMMENTS (@ SPUR 527, SEGMENT 3)

FROM: JERRY BURKHARDT

[redacted]

TX DOT RECEIVED
AUG 01 2017
HOUSTON MAIL OPERATION



1. KEEP BLODGETT OPEN – TWO WAY
NEED MORE LOCAL ROUTE OPTIONS, NOT FEWER

2. TAKE FRONTAGE TO WHEELER
TO GET TRAFFIC TO FANNIN/SAN JAC COUPLET

3. NEW SOUTH BOUND RAMP TO RELIEVE
BACK UP @ RICHMOND/SPUR

July 27th, 2017

TX DOT
RECEIVED
AUG 0 1 2017
HOUSTON MAIL OPERATION

Mr. Quincy Allen, P.E.
Mr. Pat Henry, P.E.
Texas Department of Transportation - Houston District
7600 Washington Avenue
Houston, TX 77007

Re: North Houston Highway Improvement Project
Public Comments

Dear Mr. Allen and Mr. Henry,

I'm a resident of the near Northside and I attended the May 15th public hearing. I appreciate your work on this project, especially the public outreach. This is a once in a lifetime opportunity and I appreciate you putting the time to gather public input. I have the following comments:

Segment 1

- Consider the effects of induced demand from a wider freeway. The experience with the I-10 widening shows that congestion is not mitigated and travel times are not reduced. Please consider redesigning this segment to stay within the existing Right of Way.

Segment 2

- The proposed redesign impacts Little White Oak Bayou extensively. Please Include bike trails along the bayou north of Quitman St. and from Cottage St. to Crosstimbers St. Coordinate with The City of Houston and the Houston Parks Board for a complete trail. Reference the City of Houston Bike Plan.

- Please consider keeping the North Street crossing. The proposed northbound braided ramp could be moved south to resolve the conflict.

- Consider removing U-turns at Cottage Street and Main Street and extend the park area. The feeder road should be one or two lanes at most in each direction and there should be slow design speeds and HAWK beacons for ease of access to the park.

- Consider moving the Cavalcade northbound off-ramp south to allow for vehicles turning right to merging easier.

- Consider adding northbound on-ramps to I-610 North of Cavalcade.

- Consider keeping the both the on-ramp and off-ramp west of Irvington Blvd. They could be redesigned as overpasses to feed directly into I-610 without interfering with vehicles turning to I-45

Segment 3 - Near Northside

- There is a glaring lack of connectivity from downtown to the Near Northside. Access to downtown via all other directions is improved, except to the North. The Near Northside is a mostly low income and minority neighborhood and continuing the isolation from jobs and city resources exacerbates environmental injustice.

- *To address this consider extending the depressed section of I-10 and I-45 west to Main* Street. Along with a depressed UPRR it would allow for at-grade street crossings of at least San Jacinto/Fulton and possibly Main Street. A park area cap could be designed as well.

- Alternatively design for a San Jacinto/Fulton bike trail at-grade crossing. While vehicle at-grade crossings are not prefered by the Gulf Coast Rail District, the bike crossing at Sherman St. has been successful. This connection is outlined in the City of Houston Bike Plan.

- Coordinate with Metro to allow for pedestrian connectivity from UHD to the Burnett Transit Center.

- Coordinate with the City of Houston to restore the original street grid in warehouse district. (See attached exhibit)

Segment 3 - Other

- Realign ROW at the intersection of chevernet and Francis St. Remove the cut-through section to make the block whole.

- Consider removing Spur 529 and restitching the grid. The on-ramp would start at Blodgett St. and the off ramp at Main St. The HOV on-ramp would start at Fannin St. and HOV off-ramp at San Jacinto.

- For the East End Depressed Section. Consider depressing the roadway farther south, removing the Leeland St. crossing, but allowing Polk St. crossing to remain. The cap would at Polk and end in Commerce St. Every cross street should be for ped/bike only. (similar to Harwood St. in Klyde Warren park). The only exceptions being Texas and Franklin since they provide connectivity to Harrisburg and Navigation. The feeder road should be one or two lanes at most in each direction and there should be slow design speeds and HAWK beacons for ease of access to the park.

General Comments

- For all feeder/frontage roads in urban areas:
    - The design philosophy should focus on all road users with slow car speeds.
    - Use NACTO's Urban Street Design Guide as a reference.
    - The design should conform to the City of Houston's Infrastructure Design Manual and match the existing layout on both ends. (ie. 11 ft lanes, no right turn slip lanes, small curb radii, and protected bike lanes as called on COH bike plan)

- If appropriate, allow detention areas to also serve as park facilities.

- Transportation-as-a-Service Autonomous Vehicles will become a reality in the near future. Consider flexible design elements wherever possible to accommodate for them.

I hope these comments are constructive and help make this project better. Feel free to contact me for any clarification, and again I appreciate your work on this project.

Jorge Bustamante, EIT
[redacted]

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Fort Worth Regional Office, Region VI
Office of Environment & Energy
[redacted]

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386

Dear Sir or Madam,

SUBJECT: Draft Environmental Impact Statement – North Houston Highway Improvement Project

I am submitting comments the Draft Environmental Impact Statement for the North Houston Highway Improvement Project on behalf of the Region VI Office of Environment and Energy, US Department of Housing and Urban Development. My mailing address is: Zach Carter, US Department of Housing & Urban Development Region VI, 801 Cherry St, Unit 45, Suite 2500, Fort Worth, Texas, 76110.

The mission of the US Department of Housing & Urban Development is to support strong, sustainable, inclusive communities and quality affordable homes for all. In pursuit of this mission HUD carries out a number of housing and community development programs, including public housing, block grants, and competitive grants, among others.

According to the DEIS analysis of the proposed highway project preferred alternatives' impact on "public housing and other EJ community facilities," impacts would include the following:

- A possible increase in traffic noise, air emissions, and construction related impacts at Pecan Grove Manor, a low-income senior housing development at 611 E Rogers St.
- A possible increase in traffic noise, air emissions, and construction related impacts at Woodland Christian Towers, a senior housing facility located at 600 E Tidwell Road.
- Displacement of 72 units at Kelly Village, a 333 unit public housing development built in 1939 and modernized in 2005, located at 3118 Green.
- Displacement of all units, totaling 296, at Clayton Homes, a public housing development that was completely renovated with federal assistance in 2007, and is located at 1919

Runnels.

- Displacement of 60 supportive/transitional housing units for homeless veterans located at the Midtown Terrace Suites, located at 4640 Main St.

On p. 3-21 to 3-22, the DEIS indicates that TXDOT is in communication with the Houston Housing Authority and these discussions are informing the choice of alternatives and mitigation measures in the final EIS. We appreciate TXDOT's outreach to the housing authority. We also note that for purposes of compliance with NEPA and related laws and authorities for many HUD-assisted activities, including public housing, the City of Houston serves as Responsible Entity under 24 CFR Part 58, assuming HUD's NEPA decisionmaking responsibility. Under this Congressionally authorized framework, the Certifying Officer (see 24 CFR 58.13) of the City of Houston should also be consulted for matters involving environmental impacts to HUD-assisted properties. The Certifying Officer of Houston is by default the Mayor or City Manager, and by delegation the Director of the Houston Department of Housing and Community Development.

With regard to the impacts to HUD equities identified in the DEIS, we note the following:

Noise Impacts:

HUD's noise standards may be found in 24 CFR Part 51, Subpart B. For proposed new construction in high noise areas, the project must incorporate noise mitigation features. Consideration of noise applies to the acquisition of undeveloped land and existing development as well.

All sites whose environmental or community noise exposure exceeds the day night average sound level (DNL) of 65 decibels (dB) are considered noise-impacted areas. The interior standard is 45dB.

To the extent that the proposed highway activity would increase ambient noise and indoor noise levels above thresholds of acceptability, for HUD-assisted units that are not being displaced, HUD considers this to be an adverse impact of the proposed activity and strongly encourages TXDOT and the Federal Highway Administration to provide appropriate mitigation measures. HUD's noise standard was implemented through agency rulemaking and in furtherance of the Quiet Communities Act of 1978, and is the federal standard for analysis of noise impacts to HUD-assisted properties. We encourage TXDOT to pursue project alternatives and mitigation measures that will enhance, rather than worsen, the noise environment at locations of much-

needed affordable housing. We stand ready to assist EIS preparers with questions on HUD's noise standard.

Air Pollution:
Section 4.1.5 of the DEIS states that the analysis of the project's air toxics impacts from mobile sources will be conducted during development of the FEIS, and is not currently available. When this analysis is performed, we strongly encourage TXDOT to consider project alternatives that can avoid an increase in air toxics impacts to HUD-assisted developments. Federal regulations at 24 CFR 58.5(i)(2) state, "it is HUD policy that all properties that are being proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property." As noted in the DEIS, Executive Order 12989, Environmental Justice, requires that NEPA analyses consider the degree to which federally-assisted activities disproportionately and adversely impact minority and low-income communities, and that agencies involve residents in the NEPA decision-making process.

Displacement:
As noted above, the DEIS identifies displacement of a combined 428 public housing and transitional or supportive housing units. This will occur in an environment in which the supply of housing units is already significantly constrained. According to the City of Houston's Consolidated Plan for 2015-2019, the City's assessment of affordable housing and community development needs and market conditions, "The available housing units do not currently meet the needs of low-income Houstonians. The City consistently sees high rates of severe cost burden, meaning households are paying more than 50% of their monthly income for housing costs. Overcrowding is also a problem. The persistence of both of these housing problems indicates that the available housing stock is not meeting the needs of the residents. In addition, the interest in the HHA [Houston Housing Authority] waitlist also illustrates that there is not enough affordable [redacted] HHA administers approximately 18,500 housing choice vouchers *total*, yet receives approximately 85,000 applications for voucher assistance *each year*.
The DEIS should consider and mitigate the proposed highway project's full displacement impact, including the challenges

residents face in locating a quality affordable housing unit that will accept a Section 8 voucher. When HUD must approve demolition and disposition of public housing under Section 18 of the Housing Act of 1937, as amended, the relocation requirements of 24 CFR 970.21 may apply (HHA and HUD have staff who can help determine the specific requirements that apply). But beyond these minimum requirements, NEPA and EO 12898 call for a transparent and accurate analysis of the true impact of displacement on residents, given the existing conditions and trends in the Houston housing market. We request that TXDOT continue to undertake the credible analysis of this impact and determine appropriate mitigation in conversation with the Houston Housing Authority as well as the operators of supportive and transitional housing facilities, and most importantly, in communication with the residents who live and work in the properties that will be affected by the project. I would also appreciate being added to your distribution list for future notices and the FEIS.

Sincerely,

Zach Carter
Field Environmental Officer

July 27, 2017

Mr. Quincy Allen, P.E.
Houston District Engineer
TxDOT Houston District Office
P.O. Box 1386
Houston, Texas 77251-1386

Re: North Houston Highway Improvement Project

Dear Mr. Allen,

District H is in the unique position of containing I-45 from Downtown almost all the way to the beltway. As a result we have a significant interest in the outcome of this project. Many of the neighborhoods that are adjacent to I-45 have not benefited from its existence, languishing as underdeveloped and isolated corners of the city. The highway has served as a great divide rather than a true connecting force for many of these communities, and so the NNHIP stands as a once in a generation opportunity to address some of the problems caused by I-45.

Below are recommendations and observations amassed from various community groups and from this office on perceived issues with the Draft Environmental Impact Statement.

GENERAL

(I) Harris County Toll Road Authority is currently planning the Hardy Downtown Connector, a project which offers many opportunities for increased mobility options other than just increased lanes. The various detention areas integrated in the design of the project represent an opportunity to create a high comfort off-road hike & bike trail connecting the northern areas of the city to downtown. This proposed trail must cross under the combined I-10/I-45 section at Elysian Street, and so we ask that TxDOT work with HCTRA to leave space for a high comfort, off-road hike & bike trail under the combined highways. This opportunity was identified after the approval of the Houston Bike Plan and so is not represented there. We ask that TxDOT honor any changes or alterations to the Houston Bike Plan submitted by the City's Planning Department.

(II) The many detention ponds included in this plan should be designed as park areas or maintained green space in collaboration with the City Parks and Recreation Department. Poorly maintained green space is a significant issue in Houston due to the rapid growth of plant material, and District H already has many areas along the freeways and bayous that remain overgrown for a large part of the year. Maintained green space also serves as an opportunity to further one of Houston's most ambitious goals to create linear, connected parks and trails.

(III) The design of any bridge crossing over I-45 should be designed in similar fashion to existing bridges over I-69 in artistic quality. The adjacent neighborhoods and Houston Arts Alliance should be consulted and have input in the design of these structures to best reflect the character of the area.

(IV) The draft seems to indicate that the existing bike trail connection between White Oak Bayou and Spring Street will be demolished when I-45 is brought to ground level. The connector is the only currently existing bike connection over the White Oak Bayou other than the crossing at the other end of the Spring Street trail. Without this connector, the Spring Street path would dead-end as there are no nearby bike paths, trail or otherwise. We ask that TxDOT consider leaving space for the connector to remain or make another connector to keep access.

(V) The proposal to include a shared use lane along the frontage roads is highly inadvisable. Mixing 40+ MPH speeds with bike traffic is a recipe for disaster unless TxDOT makes more changes to the design of the frontage roads. While bike and pedestrian paths are certainly welcome and encouraged, shared use lanes in this environment are dangerous and not supported unless further design elements are implemented to slow speeds.

Near Northside

LACK OF ACCESS/ISOLATION OF NEIGHBORHOOD:

The removal of the North Main exit along I-45 South severely restricts access to the Near Northside when traveling South. With Cavalcade and Quitman remaining as the only other exits it will be difficult to enter and leave the neighborhood if you miss the Cavalcade exit. This is compounded by the lack of a bridge at North Street, making access across I-45 even more difficult. We ask that TxDOT consider reinstating the North Street Bridge so traffic across I-45 is not bottlenecked at N. Main and Quitman.

The most devastating effect of the NHHIP on the Near Northside, however, is the wall of pavement that will be created by the diversion of I-45 around the east side of downtown. This barrier will exist physically and psychologically, further isolating the neighborhood from the rest of the city. A large portion of the community already uses biking and walking as primary modes of transportation. We recommend bridging the environmental gap created by the I-10/I-45 wall with a hike and bike trail to connect the neighborhood with downtown, such as the San Jacinto Street trail proposed on the Houston Bike Plan.

Similarly, shifting I-10 and I-45 to the north will create a barrier between University of Houston – Downtown and its closest neighborhood. Every effort must be made to overcome this further distancing of one of the most accessible institutions of higher education in Houston from one of the city's most underserved areas. TxDOT must ensure the campus remains accessible to the Near Northside population, potentially through the construction of a trail or path to increase access from north to south.

Independence Heights

FLOODING/DRAINAGE:

Independence Heights suffers from frequent floods due to the expansive floodway of the Little White Oak Bayou, an issue that is being addressed by both the Harris County Flood Control District and the City

of Houston. We ask that TxDOT coordinate their flood mitigation efforts with those of the Harris County Flood Control District so that the effects of the increased impervious surface area from I-45's expansion may be properly addressed and not contribute to this already serious issue.

NEED FOR AFFORDABLE HOUSING:

TxDOT is buying out about 40 homes in Independence Heights for I-45's Right of Way, a significant number because Harris County Flood Control is also buying out 163 homes in the Glenburnie neighborhood of Independence Heights. Many of the homes in this neighborhood are subject to deferred maintenance and so we ask that TxDOT take careful consideration in the case of displaced homeowners in this area. Per TxDOT standards the homes the displaced homeowners relocate to must be decent, safe, and sanitary, and we ask TxDOT to ensure these homeowners are relocated into quality houses.

BAYOU TRAIL DEVELOPMENT:

Harris County has identified a severely flood-prone area along Little White Oak Bayou in Glenburnie where they are buying out homeowners mentioned above. The COH Bike Masterplan also identifies a bike trail to be located along the bayou in this location. We ask that TxDOT consider investing in the development of a hike and bike trail system along Little White Oak Bayou which runs under or parallel to I-45 for a significant portion of the project. Otherwise, the project must take into account the City of Houston's Bike Plan and leave the route open and available for future bike path development. This trail could serve as a catalyst for revitalization and increased mobility for both Independence Heights and even areas further north.

Sincerely,

Karla Cisneros, Council Member
City of Houston, District H

SEARS ✯ CRAWFORD, L.L.P.

ATTORNEYS AT LAW

[redacted]

SCANNED ON
006665415
JUL 28 2017
DE - HOUSTON

July 27, 2017

Via Hand Delivery and uploaded via
[redacted]

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386

RE: *Public Comments concerning North Houston Highway Improvement Project*

Dear TxDOT:

Thank you for the opportunity to comment on the proposed North Houston Highway Improvement Project ("NHHIP"). My property is located adjacent to I-10 as it passes through the north side of downtown Houston. My comments are limited to that portion of the NHHIP involving the realignment of I-10 near downtown.

By way of background, I own an historic building located at 1200 Rothwell which is the south bound feeder of I-10. The building was built in 1881 by Henry Henke for his 5th Ward grocery store near Allen's Landing on the banks of Buffalo Bayou. My building is designated as a City of Houston Historic Landmark. A photo of the building is attached. The proposed realignment of I-10 directly affects my property.

While I generally support the NHHIP, I have a few vital concerns which need to be addressed as part of the engineering, planning and construction of this portion of the project. I have met with TxDOT officials during the past year so that planners and decision makers could better understand the issues raised in this letter.

First, the historic warehouse district frequently floods even during modest rainfall events. These recurring floods threaten the very survival of my building and the other historic buildings in the area. I have attached a photograph which shows the conditions around the building after only a few inches of rain. As part of the realignment of I-10, TxDOT needs to immediately commission a comprehensive engineering study to identify the specific factors causing the flooding in the warehouse district adjacent so that the findings can be incorporated into the design of the I-10 realignment. This new study can build on the preliminary drainage study

recently completed by AECOM, however, it needs to be specifically focused on the historic warehouse district. As part of the study, the engineers should hold meetings with property owners in the warehouse district to get a complete understanding of the current conditions.

As a long time property owner, I have had meetings with state and local officials about the flooding in our area. From these meetings and my own personal observations of flooding conditions, I believe the flooding is being caused by several factors including: (1) massive amounts of rainfall runoff from I-10 into our neighborhood, (2) inadequate TxDOT drainage infrastructure along I-10 in our area, (3) inadequate City drainage infrastructure inside the warehouse district, and (4) the failure of the current infrastructure to account for topographical features that trap runoff water in our neighborhood. A comprehensive study by AECOM or other qualified engineering firm is necessary to determine the precise causes of the flooding and allow for design solutions to be incorporated into the design for the I-10 realignment.

Second, the realignment of I-10 will be an expensive and disruptive construction project which presents a once-in-a-lifetime opportunity to make needed improvements to the underground storm water infrastructure in and around the historic warehouse district. If we do not seize this opportunity to make these infrastructure improvements part of the overall project, the warehouse district will not survive and its historic buildings will be lost. The repeated flooding of the buildings jeopardizes the economic viability of these structures and, consequently, their very existence. Because underground storm water infrastructure involves the various governmental entities, TxDOT should closely collaborate with City and County officials to design and implement effective solutions as part of NHHIP. For example, if TxDOT designs and builds the customary, large storm water inlets on the realigned I-10, the inlets will be useless if they flow into the existing small diameter storm sewer pipes installed 100 years ago. The neighborhood inlets routinely fill with water and do not drain even during a modest rain fall. The vast nature of the NHHIP opens the door for various government entities (City, State and County) to work together to leverage the tax dollars already being spent on NHHIP to concurrently upgrade the aging and inadequate storm water system in this area.

Third, as presently drawn, the design provides significant green space between my building and the new location of I-10. It appears that this green space results from the relocation of the highway and the abandonment of current TxDOT right of way. As an adjacent property owner, I request to have a voice in the decisions about how this land is ultimately used. It is possible that this land may be needed as part of the flood mitigation solutions (see my comments above). If it is to be sold, the adjacent property owners should have a right of first refusal to purchase the land.

Finally, I request that TxDOT utilize construction strategies and methods that do not damage or undermine the structural integrity of my building. My building is constructed of brick

and care must be taken as to not damage it when demolition and construction work is being performed on the adjacent work site.

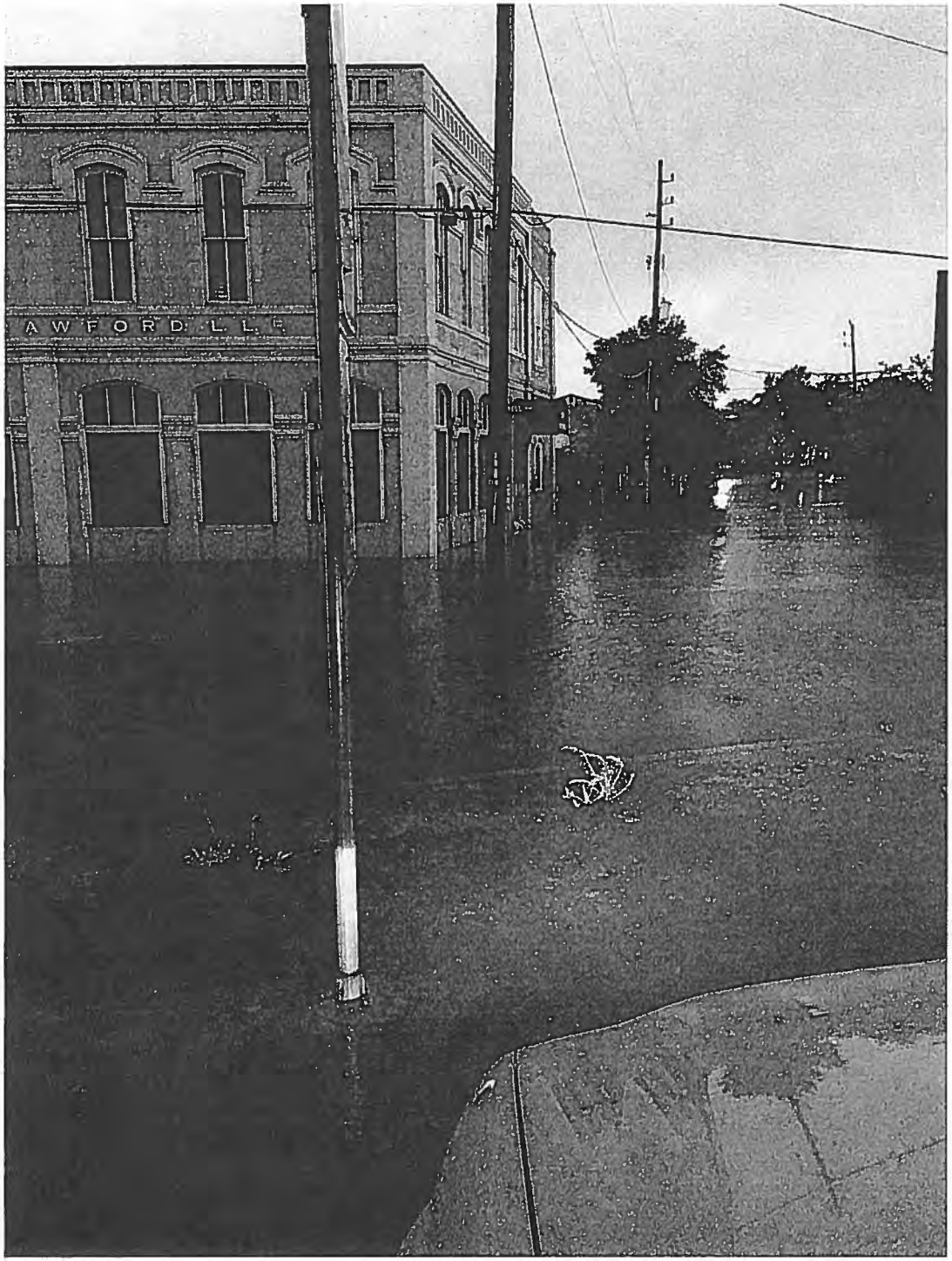
Thank you for the opportunity to comment. Please continue to keep us informed about the project as it proceeds. If you need additional information, I would be happy to provide it.

Very truly yours,

James C. (Clay) Crawford

cc:
Honorable Ed Emmett, Harris County Judge
Honorable Sylvester Turner, Mayor, City of Houston
Honorable Stephen Costello, Chief Resilience Officer
Mr. Quincy Allen, District Director, TxDot
Mr. Pat Henry, Director of Advanced Project Development
Ms. Wahida Wakil, Project Development
Mr. Darrin J. Willer, P.E., HNTB
Mr. Michael McGovern, P.E., AECOM

WEST SIDE ELEVATION


AWFORD L L R

SYLVIA R. GARCIA

STATE SENATOR

DISTRICT 6

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Quincy Allen, P.E.
Texas Department of Transportation, Houston District
P.O. Box 1386
Houston, Texas 77251

Dear Mr. Allen

As we move forward with one of the largest highway improvement projects in the long history of the Houston Area, I would like to submit a few requests to be included in the public comments.

I would first like to thank the Texas Department of Transportation (TxDOT) for undertaking this important and needed project. All Houstonians appreciate your efforts to relieve congestion in our region, especially in Houston's Downtown.

But as we move forward and I respectfully request that you consider the community and small businesses that this project will adversely affect. This is particularly important because many of the Senate District 6 neighborhoods affected by this project are low income and particularly vulnerable in real estate transactions and reduced connectivity. I ask that TxDOT to treat every neighborhood with the same respect you would a more affluent community with access to legal representation.

In the 85th Legislative Session I filed HB 1294 which would have required TxDOT to coordinate and communicate any highway closure with public officials from municipalities that will be affected by the closure. Despite HB 1294 not passing, I urge you to make every effort to implement the core principles of the bill, which only requires a line of communication with the department and local municipalities, it does not require the department to suspend or delay construction or road closures. We have a real opportunity to help people with increased connectivity and to minimize the negative impact to the community.

Up to this point in the planning stage, I appreciate how TXDOT has listened and shown a willingness to work with our community, and for working to build a modern highway system to move vehicles faster and safer. I look forward to Implementing the plan, and continuing to work with the agency to ensure the best transportation project for all concerned.

Sincerely,

Sylvia R. Garcia
State Senator District 6

[redacted] [redacted] [redacted]

My name is Mark Harris and I live [redacted]

I am writing to submit my comments on the construction project planned for I-45 through downtown Houston. I disagree with the plans to destroy the Pierce Elevated and re-route the road (Segment III). This will only provide a very short term benefit for a long term headache at a cost that is almost certainly going to be far higher than the initial projections indicate. Boston's “Big Dig” project is a great example on how these projects can help in a city without a prior “ring” set up for downtown but it also highlights just how these projects always cost more than originally projected and take far longer than originally projected.

The city's money should be spent wiser than this. The current improvements to the Pierce Elevated have already shown an improvement to travel times and traffic flow. Houston needs to invest in mass transit instead of simply adding concrete onto concrete for roads. We will end up just like Los Angeles if we keep just building roads without alternate means of transport.

Mark T. Harris

IRVINE & CONNER
PLLC

Irvine & Conner PLLC
[redacted]

Charles Irvine
[redacted]

July 27, 2017

VIA EMAIL and USPS
Mr. Quincy Allen, P.E.
Texas Department of Transportation, Houston District
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

We have reviewed the comment letter submitted to the Texas Department of Transportation (TxDOT) by a coalition of Houston nonprofits and neighborhood groups (the "Coalition Letter")[1] regarding the Draft Environmental Impact Statement (DEIS) for the North Houston Highway Improvement Project. We are submitting our comments in support of that Coalition Letter in the following areas:

• Procedural/General Issues • Section 4(f) • Noise Impacts	• Visual Impacts • Community Resources and Environmental Justice • Air Quality	• Water Resources • Stormwater and Floodplain Issues • Climate Change

COMMENTS

The I-45 corridor is a central transportation artery for the Houston area, used by residents and seen by visitors, often in their first trip to the downtown area from the airport. The North Houston Highway Improvement Project offers an opportunity to solidify values that are

[1] The Coalition Letter includes participation by: Air Alliance Houston, Avenue CDC, Bayou City Waterkeeper, BikeHouston, Buffalo Bayou Partnership, Eastwood Civic Association, Freedmen's Town Preservation Committee, Friends of Woodland Park, Galveston Bay Foundation, Germantown Historic District, Greater Heights Super Neighborhood 15, Heritage Society, Hermann Park Conservancy, Houston Parks Board, I-45 Coalition, LINK Houston, Montie Beach Civic Club, Museum Super Neighborhood 66, Scenic Houston, Trees for Houston, Washington Avenue Coalition/Memorial Park Super Neighborhood 22, White Oak Bayou Association, and Woodland Heights Civil Association.

important to Houstonians and to Texans: the aesthetic values of Texas highways; careful integration of transportation corridors with communities; sensitivity to environmental resources; management of flood plains; and preservation and enhancement of park space used by all.

A project of the magnitude of the North Houston Highway Improvement Project, which is expected to shape the transportation landscape of North Houston and the downtown area for decades, must be designed for the 21st century, mindful that it will have an impact on Houston for generations. Mitigation for unavoidable impacts will be critical to the project's success. Community engagement—direct dialogue between TxDOT and community members—will help ensure that impacts are avoided where possible, and that all appropriate and practicable mitigation is implemented for unavoidable impacts.

A. PROCEDURAL OR GENERAL ISSUES

1. Because the DEIS has failed to provide sufficient analysis on a number of key issues, additional NEPA documentation—such as another DEIS or supplemental EIS—is necessary before the Final EIS is developed and published.

There are a number of substantive deficiencies in the DEIS that need to be addressed before the FEIS is generated. There must be adequate opportunity for public review and comment in these areas. The DEIS makes clear that TxDOT is deferring various substantive aspects until the FEIS. Even if further public comment is allowed after the FEIS is issued, those comments would have much less impact on the agency decision and selection of project configuration.

For those reasons, the public must have further opportunity to participate on important substantive issues before the FEIS is generated and published. These important issues include:

- Parks (TxDOT has overlooked a variety of public resources and not addressed mitigation for key Houston parks and recreational areas);
- Noise (only a qualitative analysis has been conducted; and only barriers have been discussed as mitigation);
- Visual (the DEIS greatly understates impacts, calling visual sensitivity in all segments "low"; and relegates the mitigation phase of the visual impact assessment to five bullet points);
- Community and EJ issues (EJ analysis is inadequate and mitigation must be developed and publicly vetted);
- Air quality (the quantitative analysis has been postponed to the FEIS);
- Drainage (how bayou impacts will be addressed has not yet been disclosed).

"The broad dissemination of information mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time." *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 371 (1989). We are concerned that if the substantive deficiencies related to various aspects of the project are not corrected until, and released with, the FEIS, then the public will have insufficient time and opportunity to provide meaningful feedback to TxDOT. For this reason, TxDOT needs to release supplementary information on key aspects of the project (listed above and throughout this letter) **before** issuing the FEIS.

2. **We strongly recommend that TxDOT meet with key stakeholders over the coming months to receive feedback directly from community groups with specific concerns about the project.**

The impacts of the proposed project will be extremely disruptive to various residential areas, commercial corridors and districts, park users, and the general travelling public. TxDOT has already been in discussion with some stakeholders. We strongly suggest and recommend that TxDOT engage in dialogue with a wide variety of stakeholders. As is evident in the Coalition Letter, community groups are coming together to understand collective concerns about the project and to discuss ideas for improvement.

We believe that stakeholders are willing to and interested in meeting with TxDOT representatives in order to give constructive feedback on project concerns. If TxDOT so elected, we believe that community groups would be willing to form one or more "ad-hoc committees" to organize the various voices on different issues and project areas. Most importantly, TxDOT needs to engage in **direct** community dialogue to understand community concerns and to ensure project success.

3. **NEPA policy counsels for a "systematic interdisciplinary approach" for the development of a proposed action; TxDOT should not view the North Houston Highway Improvement Project as a single purpose project only to ameliorate transportation deficiencies.**

The Federal Highway Administration has promulgated regulations implementing NEPA policy and procedure. Among them, the regulations provide that "[p]ublic involvement and *a systematic interdisciplinary approach* be essential parts of the development process for proposed actions." 23 C.F.R. § 771.105. Similarly, the "alternative courses of action [should] be evaluated and decisions be made in the best overall public interest based upon *a balanced consideration* of the need for safe and efficient transportation; of the social, economic, and environmental impacts of the proposed transportation improvement; and of national, State, and local environmental protection goals." 23 C.F.R. § 771.105.

The regulations are particularly relevant to the proposed TxDOT project. At this stage, because of TxDOT's failure to include detailed information on mitigation measures for noise impacts, visual impacts, socio-economic impacts, park impacts, and other issues—the project does not currently appear to demonstrate a "balanced consideration" of the variety of social and environmental concerns at play. We hope this can be rectified in advance of the FEIS.

We believe that avoiding impacts where possible, and appropriate and practicable mitigation, is a key to ensuring that this project reflects a "systematic interdisciplinary approach." As TxDOT continues its review, we urge you to consider the issues raised in this letter, as well as in **Attachment A-1**, which specifies impacts and recommendations for mitigation by Segment.

B. <u>SECTION 4(F)</u>

1. TxDOT must follow Section 4(f)'s requirements.

TxDOT has assumed the Secretary of Transportation's responsibilities to protect parks and other special land uses under Section 4(f). *See* Memorandum of Understanding Between the Federal Highway Administration and TxDOT, § 3.2.1 (Dec. 16, 2014) (assuming responsibilities for compliance with Section 4(f)). Chapter 26 of the Texas Parks and Wildlife Code imposes similar but independent duties on TxDOT to protect parks and recreational lands. *See* Tex. Parks & Wildlife Code § 26.001.

Under Section 4(f), TXDOT may not spend federal funds on highway projects that will use property occupied by public parks or recreational areas, except in limited circumstances and only after meeting specific criteria. *See Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 411 (1971) (Section 4(f) is "a plain and explicit bar to the use of federal funds for construction of highways through parks—only the most unusual situations are exempted.").

Specifically, unless TxDOT, with the agreement of local officials, determines the use of a Section 4(f)-protected property will have only a "de minimis" impact, TxDOT first must determine that no feasible and prudent avoidance alternative exists. 23 U.S.C. § 138(a); 49 U.S.C. § 303(c); 23 C.F.R. § 774.3(a)(1); *see also* Tex. Parks & Wildlife Code § 26.001(a)(1). If no feasible and prudent alternative exists, Section 4(f) requires TxDOT to select the alternative that will cause "the least overall harm," 23 C.F.R. § 774.3(c)(1), and engage in "all possible planning" to minimize harm to the park or recreation area resulting from the proposed use. 23 C.F.R. § 774.3(a)(2).

In the DEIS, TxDOT does not comply with Section 4(f)'s strict requirements. We urge TxDOT to engage in further review and correct these deficiencies, which are outlined in greater detail below. At a minimum, TxDOT then should issue a supplemental DEIS and/or Section 4(f) evaluation and allow the public the opportunity for further comment.

2. The DEIS improperly engages in "preliminary" analyses and leaves for later resolution important aspects of impacts on 4(f) resources.

Federal regulations make clear that the alternatives analysis under Section 4(f) "is the heart of the environmental impact statement," 40 C.F.R. § 1502.14, and TxDOT's own guidance materials recognize that Section 4(f) "requir[es] substantial planning and coordination efforts" before the NEPA process begins:

> Poor planning and a lack of collaboration among subject matter experts, design engineers, [officials with jurisdiction], and regulatory authorities often can cause a delay in the environmental review process. Before the National Environmental Policy Act (NEPA) process even begins, there are steps that can be taken to begin identifying and considering potential Section 4(f) issues. **<u>These early steps can reduce the risk of Section 4(f) related delays that commonly occur later during project development.</u>**

TxDOT Environmental Handbook, U.S Department of Transportation Act: Section 4(f), § 4.0 (May 2015) ("TxDOT 4(f) Handbook") (emphasis added). "Determinations and findings regarding the outcome of Section 4(f) compliance efforts are typically included in the NEPA document…" *Id.* § 14.2.

Despite TxDOT's appreciating Section 4(f)'s mandatory nature, importance, and complexity, TxDOT's DEIS reflects only a preliminary and cursory effort to comply with Section 4(f)'s processes. For example, TXDOT's guidance materials identify "four paths to compliance" with Section 4(f), as well as ten steps TxDOT must follow. TxDOT 4(f) Handbook §§ 2.2, 3.0. From the face of the DEIS, however, it appears that TXDOT has not yet selected any of four paths and has followed only two of the ten steps.

As further illustration, FHWA's Policy Paper instructs that with respect to Section 4(f) properties, the overseeing agency has three options: (1) prepare a de minimis impact determination; (2) apply a programmatic Section 4(f) evaluation; or (3) prepare an individual Section 4(f) evaluation. U.S. Department of Transportation, Federal Highway Administration, Office of Planning, Environment, and Realty Project Development and Environmental Review, Section 4(f) Policy Paper, § at 3.3 (July 20, 2012) ("Policy Paper"). TxDOT has not selected any one of these options.

Further, the DEIS repeatedly defers key decisions relating to the Section 4(f) process to the Final EIS. For example, in § 3.18.2.1, the DEIS defers making any determinations of even de minimis impacts on Section 4(f) resources and includes an undefined "some day" commitment to follow through on this aspect of its duties:

> TxDOT will inform the official(s) with jurisdiction over the property of the intent to make a de minimis impact determination and then provide an opportunity for public review and comment. A final de minimis impact determination will be made after consideration of public comments and written concurrence from the official with jurisdiction that the project will not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection. For historic resources, consultation regarding Section 4(f) use will be completed with SHPO.

TxDOT cannot comply with Section 4(f) by deferring its review to very late in the environmental review process. To correct its deficiencies and avoid violating Section 4(f), TxDOT must complete its analysis under Section 4(f), issue a supplemental DEIS or Section 4(f) evaluation, and allow the public the opportunity to comment.

3. Under Section 4(f), TxDOT must account for impacts to bayou greenways and bike trails.

Section 4(f) imposes clear duties on TxDOT not to use federal funds to construct highways that affect parks except in the "most unusual situations." *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402 (1971). The Federal Highway Administration has made clear that the term

"public park" encompasses a broad range of parks and recreational areas and may include private land used for public purposes. *See* Policy Paper, at § 3.1, 24-25.

Specifically, the FHWA has advised that for each candidate property, overseeing authorities like TxDOT must "determine on a case-by-case basis whether the particular property should be considered publicly owned and, thus, if Section 4(f) applies." Policy Paper, at § 3.1. More specifically, the FHWA expressly recognized that private property may deserve Section 4(f) protection if, for example, "a governmental body has a permanent proprietary interest in the land (such as a permanent easement, or in some circumstances, a long-term lease)." *Id.*

This inquiry turns on the specific facts of each park. To illustrate, in evaluating whether private property subject to an easement deserves Section 4(f) protection, the FHWA has instructed that the overseeing agency must consider factors, such as:

- the views of the official(s) with jurisdiction
- the purpose of the easement, the term of the easement
- the degree of public access to the property
- how the property is to be managed and by whom
- what parties obtained the easement (public agency or non-public group), termination clauses, and what restrictions the easement places on the property owner's use of the easement area.

Id. at 24 (Answer to Question 1(B)). Similarly, the FHWA instructs with respect to private land leased by a governmental body:

> Generally, under a long term lease to a governmental body, such land may be considered to be "publicly owned" land and if the property is being managed by the governmental body as a significant public park, recreation area, or wildlife and waterfowl refuge then a use of the property will be subject to the requirements of Section 4(f). Such lease agreements should be examined on a case-by-case basis with consideration of such factors as the term of the lease, the understanding of the parties to the lease, the existence of a cancellation clause, and how long the lease has been in place.

Id. at 25 (Answer to Question 1(C)).

The DEIS § 3.1.1.1 recognizes potential impacts to parks that are alongside White Oak and Little White Oak greenways, but does not include the greenways themselves in its analysis. Importantly, they function as public parks and recreation areas, and TxDOT must evaluate and mitigate their impacts under Section 4(f).

a. Contrary to the DEIS's suggestion, White Oak Bayou Greenway falls within Section 4(f)'s scope.

The White Oak Bayou Greenway is part of Bayou Greenways 2020, a $220 million public/private investment by the City of Houston to provide continuous linear parks and

recreation areas, with hike/bike trails, along 150 miles of Houston's major waterways. It is decidedly public in nature and demands consideration under Section 4(f).[2]

Several documents confirm the public, recreational nature of the White Oak Bayou Greenway. Most straightforward, the Houston Parks and Recreation Department's publicly available inventory of parks and recreation areas lists the White Oak Bayou Greenway as one of the parks under its jurisdiction. Attachment B-1 (Houston Parks and Recreation Department's Inventory).

Further, on November 6, 2012 by a 68% majority, Houston voters passed a $166 million bond referendum to fund city parks. Of those funds, $100 million were earmarked for Bayou Greenways 2020 to create 150 miles of linear parks with hike-and-bike trails along Houston's major waterways. The $100 million in public bond funding is being matched with $120 million in both federally-funded transportation grants and private funding, all with the aim of maintaining the greenways as public recreational spaces. Local TIRZ and management districts also have contributed city funds.

As even more evidence of the public nature of the bayou greenways, the agreements passed pursuant to the November 2012 bond all are premised on the greenways' public, recreational nature. For instance, on July 3, 2013, the City of Houston and the Houston Parks Board LGC, Inc. codified the implementation of Bayou Greenways 2020 in the Interlocal Agreement for Bayou Greenways 2020. *See* Attachment B-2 (Interlocal Agreement for Bayou Greenways 2020 (July 3, 2013)). Under the "Findings" in Section 1.1, the Interlocal Agreement contemplates transforming the bayou greenways, including White Oak Bayou Greenway, into an extensive network of "parkland, trails and natural areas along the major bayous" for the "health and welfare of the citizens of Houston," 1.3 million of whom "live within 1.5 miles of one or more of the nine (9) major bayous within the City limits." *Id.* § 1.1. The Findings make clear that upon their completion, "all Bayou Greenways within the City limits ***will be open to the public***" for a range of recreational activities. *Id.* (emphasis added). In the Interlocal Agreement, the City specifically acknowledged these facts to be "true and correct for all purposes." *Id.* § 1.2.

Other aspects of the Interlocal Agreement confirm the public and recreational nature of the greenways. For example, under the agreement, the Director of the City of Houston's Parks and Recreation Department retains approval authority over all designs for Bayou Greenways 2020, and additional lands acquired under Bayou Greenways 2020 must comply with the City of Houston Parks and Recreation Department's standards for parkland acquisition. *See, e.g.*, *id.* § 2.4(A)(i), (ii) (conceptual development of park is "subject to the approval" of the Department and giving Department discretion to determine parcels are "essential" to the greenways' purpose); *id.* § 3.2 (requiring Department right to review financial commitments).

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[2] Over its 150 miles, Bayou Greenways 2020 covers lands under multiple ownerships including those of the Harris County Flood Control District, City of Houston Right of Way, UPRR, BSNFRR, CenterPoint and TxDOT itself in addition to City of Houston parks and land acquired under Bayou Greenways 2020, which are being added to the City's inventory of parks. Through some of the federal transportation grants obtained as part of the City bond match, TxDOT itself is implementing segments of Bayou Greenways 2020 along Hunting Bayou and within Herman, McGregor, and Mason Parks. These multiple ownerships do not undermine the conclusion that the Bayou Greenways are public parks deserving Section 4(f) protection in light of the significant other facts showing the greenways' public nature.

Similarly, on October 24, 2013, the City of Houston executed a “Bayou Greenways 2020 Economic Development Agreement” with the Houston Parks Board, Inc. The Economic Development Agreement comprehensively outlines the management of the Bayou Greenways 2020 and confirms the public nature of the parks and recreational areas that comprise the Bayou Greenways. *See* Attachment B-3 (Bayou Greenways 2020 Economic Development Agreement (Oct. 24, 2013)). The Recitals in the Economic Development Agreement confirm the public, recreational nature of Bayou Greenways. For example, the Recitals acknowledge:

- The Greenways are a "public/private project with the purpose of creating an integrated system of connected linear parks with walking, running and bicycle trails along the nine (9) major bayous within the City limits"
- The Greenways are specifically intended to "promote the health and welfare of the citizens of Houston and its surrounding areas by linking the City's existing stretches of linear parks, trails and larger traditional parks with new greenways"
- The City's contribution of funds toward the project acknowledging the "public purposes" that would be served by developing the bayou greenways

Other aspects of the Economic Development Agreement confirm the public, recreational nature of the greenways. For instance, in Article IV, Section G of the Economic Development Agreement, the City retains a management role over key aspects of the park by retaining “the exclusive right to conduct, or to book or permit charity walks, foot races, bicycle tours, or other public and private events in the Greenway segments.”

The Bayou Greenways are operated, funded, and fully intended to function as public parks and recreational areas. It cannot be disputed that the Bayou Greenways, including White Oak Bayou Greenway, require consideration under Section 4(f).

b. TxDOT must account for impacts to White Oak Bayou Greenway

The North Houston Highway Improvement Project directly impacts and conflicts with the City of Houston’s comprehensive parks initiative under Bayou Greenways 2020.

For example, the exhibits attached to the Interlocal Agreement contemplate a continuous Greenway along White Oak Bayou from the City limits to White Oak’s confluence at Buffalo Bayou in the heart of downtown. Existing segments of the Greenway included a long stretch along TC Jester Parkway and the stretch closer to downtown where the North Houston Highway Improvement Project proposes some **seven** new overpasses crossing the Greenway. **The impacts to the White Oak Bayou Greenway are illustrated in maps contained on pages 1-9 and 11 of Attachment B-4.**

New projects along White Oak Bayou executed under Bayou Greenways 2020 include the federally-funded TIGER 3 segment that links the existing Greenway upstream of downtown to Buffalo Bayou Park together with other community links along that existing stretch at UH Downtown’s campus on the north side of White Oak Bayou and the Leonel Castillo Community Center. As it nears completion, the White Oak Bayou Greenway will extend over 15 miles from

the City limits to Buffalo Bayou Park as part of the City's integrated park system—but the North Houston Highway Improvement Project may affect these goals. For instance, the segment directly impacted by the North Houston Highway Improvement Project is fully integral to that system.

Currently, the 1,100 feet of White Oak Bayou Greenway from the current I-45 overpass at UH Downtown west to Hogg Park are completely open to the sky and the bayou except for small under crossings at the railroad bridge and Hogan Street. The linear park features wildflowers and a hike-and-bike trail maintained by the Houston Parks Board. It offers amazing views of downtown for most of its length. Yet the DEIS does not account for **any** impacts to this visual resource or to the greenway itself. The North Houston Highway Improvement Project undoubtedly will significantly alter the current sense of open space on the White Oak Bayou Greenway because the project will extend seven new highway over-passes above the Greenway's widest stretch. The new overpasses not only would create an overwhelming new visual intrusion onto the landscape, it also will cause significant noise impacts. Moreover, additional lanes parallel to the bayou encroach further into the south side of the Greenway to the point where they impose on the bayou itself.

The DEIS appears to suggest that if the project maintains just the existing hike-and-bike trail, no impact results. That ignores the impact to the Greenway and open space itself of which the hike-and-bike trail is just a component. The project eliminates that open space. While some freeway will be removed by the project, Houston Parks Board estimates a net decrease of 18 acres of open space in the area of the project between UH Downtown and Hogg Park. That open space will be lost forever. Because the DEIS fails to identify the impact, it fails to offer alternatives or mitigation to minimize that impact as required.

These impacts are illustrative. By failing to assess impacts to the White Oak Bayou Greenway, TxDOT has shirked its duties under Section 4(f). TxDOT must consider these impacts and, at a minimum, prepare a supplemental DEIS or Section 4(f) evaluation with the input from stakeholders, including the undersigned, and allow the opportunity for further public comment.

c. TxDOT must account for impacts to Little White Oak Bayou Greenway

The DEIS recognizes that "The city's long-term bikeway vision plan includes future bike paths along Halls Bayou and Little White Oak Bayou (City of Houston 2016a). Long-term vision bikeway projects support the city's goal of providing citywide access; however, these projects do not have dedicated funding or an established implementation schedule." DEIS § 3.2.1.4.

This statement improperly construes the nature of and minimizes impacts to Little White Oak Bayou, which is in the process of being developed as a public park resource. Local organizations and government already have invested significant funds and time into Little White Oak Bayou for this purpose. For instance, the Houston Endowment has given an $800,000 grant to explore open space opportunities and connectivity for the Bayou Greenways, referred to as *Beyond the Bayous*. That exploration has identified Little White Oak Bayou as an important regional connector. More fundamentally, work on *Beyond the Bayous* showed that freeways, major

arterials, and rail roads pose serious barriers to successfully establishing connectivity between parks and communities.

Little White Oak Bayou also sits between Acres Homes and the Near Northside, two neighborhoods targeted by Mayor Turner as part of his Complete Communities revitalization initiative. Both currently are isolated by I-45. A further grant from Houston Endowment will allow the Houston Parks Board to supplement the Mayor's and City Planning's work by focusing on open space and connectivity opportunities within those particular communities. Planning I-45 to recognize and accommodate Little White Bayou as a valued open space system is key to realizing those opportunities and preventing further isolation of communities.

The I-45 expansion project will remove and/or impair greenspace that now de facto serves the community as a place of respite and even as an active park with informal trails. Houston has active plans to take that acreage and make it a greenway park. Because the DEIS neglects to include Little White Oak Bayou Greenway in its Section 4(f) analysis, the DEIS does not discuss this impact. The final EIS, if not a supplemental DEIS or Section 4(f) analysis, should address acreage of open land lost on Little White Oak, both to be covered and impaired.

Little White Oak Bayou represents a prime opportunity to extend open space connectivity north from White Oak Bayou Greenway to Woodland and Moody Parks and beyond up to Halls Bayou and ultimately Acres Homes. This connection between Acres Homes and downtown would benefit many of the underserved communities directly affected by the North Houston Highway Improvement Project. Through most of Segment 2 the project follows the course of the Little White Oak Bayou. The 20 lanes of the new I-45 will eliminate 10 acres of open space along Little White Oak Bayou. It is imperative that the project fully embrace the ecological values and open space potential offered by Little White Oak Bayou. The DEIS must be supplemented with specific design features to preserve this potential.

The DEIS suggests that lack of immediate funding for some of these related projects relieves the North Houston project from addressing or mitigating impacts it creates. That is not consistent with the spirit or the letter of the law. TxDOT must engage in "all possible planning" to minimize harm to the park. 23 C.F.R. § 774.3(a)(2). Moreover, the project has an obligation to fit within larger identified Houston land use initiatives, not become another single purpose barrier to larger land use schemes. This is consistent with NEPA's directive for a "systematic interdisciplinary approach."

The impacts to the Little White Oak Bayou Greenway are illustrated in maps contained on pages 12-14 of Attachment B-4.

d. The DEIS improperly excludes bike paths and trails in Segment 3 from Section 4(f) consideration.

Section 4(f) applies to bike paths and trails that function primarily for recreation. *See* Policy Paper at 48 (Answer to Question 15A) ("Section 4(f) would apply to a publicly owned, shared use path or similar facility (or portion thereof) designated or functioning primarily for recreation…"). This is true even if the paths and trails are on privately owned land "if an existing

public easement permits public access for recreational purposes." Policy Paper at 49-50 (Answer to Question 15D). TxDOT should make "every reasonable effort . . . to maintain the continuity of existing and designated trails." *Id.*

Rather than examine the use to which affected bike paths and trails are put, the DEIS quickly and incorrectly disposes of Section 4(f) consideration for bikeways and trails which are used as important recreational resources. DEIS § 3.18.1.1 ("Bikeways and trails within the project area function primarily for transportation purposes, and therefore, are not subject to Section 4(f).").

Publicly available information contradicts this conclusion. For instance, the Houston Bikeway Program's website shows the recreational nature of bikeways and trails along the Bayou Greenways and does not characterize these paths as serving exclusive transportation purposes. *See, e.g.*, City of Houston Bikeway Program, Current Projects, https://www.houstonbikeways.org/current-projects (last visited July 26, 2017). Further, the Houston Bike Plan, which was approved by the City Council on March 22, 2017, and which is acknowledged in passing references in the DEIS also acknowledges the multifaceted role bikeways in Houston play.

TxDOT cannot shirk its duties under Section 4(f) by ignoring the clear recreational purpose of many bikeways and trails within the project area. TxDOT must account for impacts to the bikeways and trails used for recreational or mixed-use purposes in a Supplemental DEIS or Section 4(f) evaluation.

4. The DEIS acknowledges that some parks fall within Section 4(f)'s scope but does not account for their impacts.

In some cases, the DEIS properly categorizes parks as falling within Section 4(f)'s scope but underestimates the impact of the North Houston Highway Improvement Project on those parks. In light of this oversight, TxDOT should reevaluate the impact of the project on the following parks and prepare a supplemental DEIS or 4(f) evaluation.

The DEIS identifies less than an acre of impacts to City of Houston parks. It dismisses that impact as related to marginal greenspace rather than the "use of facilities." By contrast, the total loss of open space in city parks may in fact approximate 3.27 acres. In a letter to the City of Houston's Parks and Recreation Department dated February 24, 2017, TxDOT is seeking a "de minimis" certification from the City of Houston for these impacts. The City of Houston, to date, has not concurred with this conclusion. The coalition, which this comment letter backs, would not support such a conclusion. As with the Bayou Greenways, the DEIS dismisses the impact to green space and open space as non-existent if the project does not impact other features of the park.

The DEIS also ignores the noise and visual impact to all of these parks. *See* DEIS § 3.6 (failing to account for noise impacts to parks); DEIS, App'x L, at § 4.3.2 (claiming, without support, the project will improve views for "the majority of viewer groups.").

Woodland Park

Although currently below grade at Woodland Park, I-45's constant din of freeway noise is already part of the fabric of a Woodland Park visit. With an added upper deck, above grade, the noise will be even more oppressive and incessant.

Sabine Promenade/Buffalo Bayou Park

In recent years, the Sabine Promenade/Buffalo Bayou Park area has undergone a nearly $90 million enhancement. TxDOT's plan for this area is not appropriate since it encourages faster turn movements in a location where people should be driving slowly to be aware of people walking and biking. In addition, given the visibility of downtown from Buffalo Bayou, standard TXDOT freeway standards are not appropriate. **The impacts to the Buffalo Bayou Greenway and related parks are illustrated in a map contained on page 10 of Attachment B-4.**

Sam Houston Park

Sam Houston Park is one of Houston's most important historical destinations, featuring the oldest building on its original construction site in Houston and the oldest surviving building in Harris County. Sam Houston Park is also a State Archaeological Landmark and contains four buildings designated as Registered Texas Historic Landmarks. One of these buildings is also registered under the NRHP. The DEIS fails to mention the visual and noise impact to this showcase of Houston's heritage. The DEIS fails to disclose whether or not these properties are registered under the NRHP, and whether the Texas SHPO has or has not concurred with the effects of the project.

Other Parks

In the DEIS, TxDOT contemplates acquiring land from Freed Art and Nature Park, Linear Park, and trails along White Oak and Buffalo Bayous, yet contends that there will be no impact on the park facilities. Apart from offering no explanation for this statement, the DEIS does not account for the loss of that park land.

To comply with Section 4(f), TxDOT must, at a minimum, fully evaluate impacts to these Section 4(f) resources and allow public comment on a Supplemental DEIS or Section 4(f) evaluation.

5. **We strongly dispute TxDOT's characterization that Segments 2 and 3 will impact less than 1 acre of parkland and believe the true impact is closer to 27 acres. The DEIS must account for the full scope of impacts on Section 4(f) resources.**

The DEIS estimates that the preferred alternatives for Segments 2 and 3 collectively will affect only 0.82 acres of park land. DEIS, App'x F, at Table 5-6. This is a gross underestimate.

Using TxDOT's May 2017 Schematic to estimate bayou greenway and parks impacts, Houston will lose approximately 27 acres of current open space. As noted above, these impacts are not disclosed or contemplated in the DEIS. The following tables estimate the park and recreation area impacts of the proposed project.

	Freeway to be Added	**Freeway to be Removed**	**Net Total**
White Oak Bayou Greenway / Freed Park	22 ac	4 ac	18 ac
Little White Oak Bayou Greenway	13 ac	3 ac	10 ac
Buffalo Bayou Greenway / Downtown Parks	4 ac	5 ac	-1 ac
Net Loss of Greenway			**27 ac**

Detailed Breakdown of Park Impact (acreages <u>are</u> included in the above Greenway calculations)

	Freeway to be Added	**Freeway to be Removed**	**Net Total**
Freed Park	0.17 ac	-	0.17 ac
Linear Park	2.35 ac	0.01 ac	2.34 ac
Sam Houston Park	0.63 ac	-	0.63 ac
Sesquicentennial Park	0.13 ac	-	0.13 ac
'Current' Parkland Impacted			**3.27 ac**

Existing Trails (By Others) Lost by Freeway Expansion

	Trail Removed
Little White Oak Bayou Greenway	0.2 mi

TxDOT should prepare a supplemental DEIS or Section 4(f) evaluation to properly account for and then mitigate for all impacts to these Section 4(f) resources.

6. **The DEIS favors options with maximum impact on parks without engaging in "all possible planning" to mitigate harm.**

Federal regulations require TxDOT to choose the alternative that "[c]auses the least overall harm in light of the statute's preservation purpose" by balancing several factors:

- The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
- The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
- The relative significance of each Section 4(f) property;
- The views of the official(s) with jurisdiction over each Section 4(f) property;
- The degree to which each alternative meets the purpose and need for the project;
- After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
- Substantial differences in costs among the alternatives.

23 C.F.R. § 774.3(c)(1)(i)-(vii).

An alternative selected as a result of this analysis "must include **all possible planning**, as defined in §774.17, to minimize harm to Section 4(f) property." 23 C.F.R. § 774.3(c)(2). "All possible planning" means identifying, as part of a Section 4(f) evaluation, "all reasonable measures . . . to minimize harm or mitigate for adverse impacts and effects."

Mitigation efforts generally may include:

- Avoiding an impact altogether;
- Minimizing the impact by limiting the degree or magnitude of the action;
- Minimizing the impact by modifying the design or design goals;
- Rectifying the impact by repairing, rehabilitating, or restoring the resource;
- Reducing or eliminating the impact over time by preservation and maintenance activities;
- Replacing land or facilities of comparable value and function; or
- Monetary compensation to enhance the remaining property or to mitigate the adverse impacts of the project in other ways.

40 CFR § 1508.20; TxDOT 4(f) Handbook, § 10.3.

In evaluating the reasonableness of a mitigation measure, TxDOT must "consider the preservation purpose of the statute," along with the following factors:

> (i) The views of the official(s) with jurisdiction over the Section 4(f) property;
>
> (ii) Whether the cost of the measures is a reasonable public expenditure in light of the adverse impacts of the project on the Section 4(f) property and the benefits of the measure to the property, in accordance with §771.105(d) of this chapter; and
>
> (iii) Any impacts or benefits of the measures to communities or environmental resources outside of the Section 4(f) property….

Id.

In the DEIS, TxDOT has not made any effort to address the factors above or to mitigate for lost park space. To illustrate, in the Community Impact Assessment Technical Report, attached as Appendix F to the DEIS, there is no mention of mitigation for the portions of parks and recreational areas lands that will be taken. *See* DEIS, App'x F, at § 7.

It cannot be disputed that the proposed project will have a significant impact on parks, open space, and recreation areas. To account for these impacts, TxDOT should adopt the following mitigation measures in a supplemental DEIS or Section 4(f) evaluation(s):[3]

<u>Segment 1</u>

- Coordinate with the City of Houston and Houston Parks Board for ways to develop opportunities for parks and open space along Little White Oak Bayou between I-610 and East Parker Road and Shepherd. Develop the detention basin between I-610 and Crosstimbers as a wet bottom basin and publicly-accessible green space tied the bikeway along the bayou. Install a trash mitigation system that will collect both heavy debris and floating debris.
- Coordinate with City of Houston and Houston Parks Board for ways to develop opportunities for parks and open space along Halls Bayou along I-45.

<u>Segment 2</u>

- Little White Oak Bayou: This bayou section is an important piece of the expanding high-comfort bicycle network that provides connectivity from outside the N Loop 610, under I-45 away from traffic, and into downtown making further east and west connections through Buffalo Bayou. Acknowledgement of this bayou as a necessary connector for bicyclists, pedestrians, and naturalists is unaddressed in this design and the crossings (Hogan/Crockett, Houston, Quitman/White Oak Dr., Main St, Patton, Cottage etc.). Allowing full access to Little White Oak Bayou requires the space to be maintained and carefully designed with high comfort bicycle and pedestrian crossings. Surrounding neighborhoods are historically under-served and connections via bicycle and on foot are measurably significant. The project should replace the existing culvert north of Patton Street with a bridge span designed to allow trails on both sides of the bayou. At I-610, a safe route along the bayou should be included (could suggest replacing this culvert, also or high comfort bike lane at signalized frontage road intersections). The new trail should connect to the existing bike trail along Little White Oak Bayou between Enid and Cavalcade, on the west side of I-45 and to a new park at the retention pond areas on the east side of I-45 (where Love's Truck stop is currently), and on to Moody Park/Woodland Park/White Oak Bayou trail. Mitigate for loss of green space along the bayou in this area and replace the existing trail with an equivalent trail.
- Improve greenspace and pedestrian accessibility to Woodland Park along Little White Oak Bayou east of I-45.

[3] Attachment A-1 contains a full list of segment-by-segment impacts and recommendations for mitigation.

- In 1914 Woodland Park was a 26 acre park in a neighborhood which included the two communities of Woodland Heights and Near Northside. In 1959, TXDOT acquired one third of the park (8.5 acres) to construct I-45 just to the north of downtown. The remaining 17.5 acres of I-45 Woodland Park is now situated entirely to the west of I-45 within the Woodland Heights. Because of I-45, Near Northside residents no longer have access to this park except via the North Street Bridge. TxDOT should improve greenspace along Little White Oak Bayou east of I-45, with hike and bike trails connecting to Moody Park. This will provide Near Northside residents with access to greenspace and Little White Oak Bayou.
- Provide for noise mitigation along the eastern border of Woodland Park. There already is a constant din of freeway noise at the park, and adding an upper deck above grade, the noise will become even more oppressive and incessant. TxDOT should provide state-of-the-art sound mitigation, as described elsewhere in these comments, with an additional shielding of tall trees and vegetation.
- Improve connectivity from Woodland Park to the Little White Oak Bayou east of I-45. This could be through an improved channel conduit under I-45 that would provide a safe walking and biking path along the bayou connecting Woodland Park on the west of I-45 to the hike and bike path along Little White Oak Bayou on the east side of I-45.
- Improve connectivity of public parks, the Houston Parks and Recreation Department's "String of Pearls", which can be achieved by connecting Woodland Park to Moody Park along Little White Oak Bayou. Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Little White Oak.

<u>Segment 3</u>

- The White Oak Bayou Greenway is part of Bayou Greenways 2020, a $220 million public/ private investment by the City of Houston to provide continuous linear parks and recreation areas, with hike/bike trails, along 150 miles of Houston's major waterways. The White Oak Bayou Greenway extends over 15 miles from the city limits to UH Downtown where a federally funded TIGER project, currently under construction, is connecting White Oak Bayou Greenway to Buffalo Bayou Park. The DEIS does not reflect the impact on White Oak Bayou greenway which clearly serves an open space and recreation area with the project. TxDOT should address this issue and work with the stakeholders to mitigate the impact on the White Oak Bayou Greenway.
- Sam Houston Park is one of Houston's most important historical destinations, featuring some of the oldest structures in the city. The proposed one-way connection from Walker/McKinney loop street should be removed since it separates Sam Houston Park from Buffalo Bayou. This roadway cuts through the original Sam Houston Park, which originally extended to Buffalo Bayou. This is also the primary biking and jogging route from downtown to the bayou and creates a very dangerous crossing point on a heavily-used route.
- Sabine Promenade/Buffalo Bayou Park area has undergone a nearly $90 million enhancement. TxDOT's should design roadways in a context sensitive manner to ensure accessibility and safety of people walking and biking.

7. **Without funding or any clear plans, the proposed deck parks are an inappropriate mitigation measure.**

The DEIS repeatedly refers to two potential deck parks but leaves the responsibility for funding these parks to unnamed third parties. While it is possible the deck parks could be a valuable addition to Houston's green space, without full funding, the deck park proposal has no mitigation value because it is speculative and would improperly shift the cost from the proponent of the project to the affected community.

As a general matter, it will be difficult to raise private and public money for deck parks if TxDOT is permitted to destroy the open spaces unlocked by the Bayou Greenways Initiative. Further, the deck parks discussed in the DEIS only may be designed if the capping greenspace is designed to account for the weight of the parks. These designs must be created and paid for as part of the highway project, or TxDOT's suggestion of decking is meaningless.

With respect to the deck park proposed for downtown, the costs will be significant. The size of this park currently is projected to cover 30 acres. By comparison, Klyde Warren Park in Dallas covers only five acres yet cost over $100,000,000. Projecting similar costs for Houston, the downtown deck park could cost more than $500 million. To reduce this cost and incorporate it into its project, TxDOT should reduce the size of the proposed park by several blocks (from 10+ blocks to 7) to a more manageable size.

With respect to the proposed deck park over I-45 near North Main, funding also is imperative. The original I-45 construction bisected one community into two. This has become a permanent separation resulting in different community cultures on either side of the freeway. There are constant efforts to reunite the communities but the swath of freeway that separates them remains a physical barrier. TxDOT should commit to funding and building this deck park. In addition, its function as a park and community connection is seriously compromised by a design using three lanes of feeder road separating the proposed park from the communities on each side. The proposed deck must be redesigned and fully funded to make it a physical reattachment point, reuniting the divided communities.

TxDOT should evaluate proper mitigation measures, incorporate these measures into supplemental NEPA documentation, and allow the public another opportunity to comment.

C. <u>NOISE IMPACTS</u>

We retained an acoustic engineer to aid in our noise comments; accordingly, where noted below, some of these comments reflect input from a sound expert. *See* Attachment C-1 (CSTI Acoustics, Memorandum No. M-1029-0 (July 21, 2017)).

1. **Under clear law, the FHWA will not provide funding for a project unless "feasible and reasonable noise abatement measures are incorporated into the plans." In the DEIS, TxDOT has not yet achieved this fundamental requirement.**

The Federal-Aid Highway Act of 1970 addresses the abatement of highway traffic noise. This Act mandates FHWA to develop highway traffic noise standards, 23 U.S.C. § 109, which the agency has done at 23 C.F.R. Part 772. The law provides that FHWA not approve the plans for a Federal-aid highway project unless the project includes adequate highway traffic noise abatement measures to implement the appropriate noise level standards. Specifically, "FHWA will not approve project plans and specifications unless feasible and reasonable noise abatement measures are incorporated into the plans and specifications to reduce the noise impact on existing activities, developed lands, or undeveloped lands for which development is permitted." 23 C.F.R. § 772.13.

Under 23 C.F.R. Part 772, the regulations contain a number of requirements for TxDOT during its planning stages: (1) identification of highway traffic noise impacts; (2) examination of potential abatement measures; (3) the incorporation of reasonable and feasible highway traffic noise abatement measures into the highway project; (4) coordination with local officials to provide helpful information on compatible land use planning and control; and (5) identification and incorporation of necessary measures to abate construction noise. *See* Federal Highway Administration, *Highway Traffic Noise: Analysis and Abatement Guide*, FHWA-HEP-10-025 (2011) ("FHWA Highway Traffic Noise Guide").[4]

Here, TxDOT has determined that the project will create noise impacts to a variety of receptors, such as residential areas, parks, churches and schools. DEIS at 3-43, 3-44. When the state agency determines that a project will create noise impacts, "noise abatement shall be considered and evaluated for feasibility and reasonableness." *Crabb v. U.S. Fed. Highway Admin*., 2015 WL 1033235, at *7 (S.D. Tex. Mar. 9, 2015) (citing 23 C.F.R. 772.13(a)). The abatement measures listed in § 772.13 are to be considered. *Sierra Club v. Fed. Highway Admin*, 715 F. Supp. 2d 721, 741 (S.D. Tex. 2010).

The Federal Highway Administration has provided detailed guidelines for what constitutes feasible and reasonable noise abatement. Feasibility is determined by, among other factors: topography; access requirements for driveways, ramps, etc.; the presence of local cross streets; drainage; utilities; maintenance; and noise reduction (acoustic feasibility). *See* FHWA Highway Traffic Noise Guide at 38. Reasonableness is evaluated by, among other factors: the viewpoints of the impacted residents and property owners in determining the reasonableness of abatement, and available technologies, "but the primary consideration is to provide abatement for impacted noise sensitive land uses." *Id*. None of these factors for feasibility and reasonableness appears in the DEIS.

Instead, TxDOT has only conducted a "qualitative" evaluation. Further, this qualitative evaluation is only for a single type of noise abatement measure, namely, noise barriers. With

[4] Available at https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf.

language that highlights the lack of analysis, the DEIS calls them "*potential* feasible and reasonable traffic noise barriers." *See* DEIS, App'x I ("Traffic Noise Technical Report"), at Tables 10–12 (emphasis added).

The criteria for a noise barrier being feasible and reasonable can be determined only as part of a quantitative analysis. *See* Attachment C-1 at 1. Further, it is important to note that there is no analysis of other potential mitigation measures at all—which also must be reviewed for reasonableness and feasibility. This is a fundamental requirement of a noise analysis under federal law, and the agency has not undertaken it or given the public the opportunity to review it. *See Crabb v. U.S. Fed. Highway Admin*., 2015 WL 1033235, at *7 (stating that, "as the regulations make clear, if the state agency determines at the first stage of a § 772 analysis that noise impacts will occur, then the agency must consider abatement measures").

2. **The DEIS' conclusion that "all alternatives would result in traffic noise impacts [and] noise barriers could reduce noise in many locations" provides insufficient detail for public review. We disagree with TxDOT's proposal to wait until the FEIS to disclose its recommended solutions. Supplemental NEPA documentation is warranted to give the public an opportunity to comment.**

For each segment of the project, the DEIS concludes that "all alternatives would result in traffic noise impacts [and] noise barriers could reduce noise in many locations." DEIS, at ES-15, 18, 21. Specifically, the DEIS states that "[r]esidential noise receivers located throughout the study area are anticipated to experience noise impacts under the absolute criterion . . . for all of the proposed build alternatives." DEIS at 3-43; App'x I at 41. And "traffic noise impacts [will result] at other land use areas including parks, churches, and schools." *Id*.

As stated, the DEIS concedes that it has only conducted a "qualitative" evaluation of the "potential for feasible and reasonable traffic noise barriers." DEIS at 3-44. It states further that a "quantitative examination of the potential mitigation measures and specific proposed mitigation details (*i.e.*, noise barrier dimensions, cost, etc.) would be determined and proposed for the preferred alternative during preparation of the Final EIS." *Id*. at 3-45; App'x I at 42. This approach is problematic.

First, a qualitative evaluation provides insufficient information to the public on the agency's review. As stated, the criteria for a barrier being feasible and reasonable can be determined only as part of a quantitative analysis. *See* Attachment C-1 at 1. We hired an acoustic engineer to review the noise technical report provided in the DEIS, and his review was necessarily limited by the lack of quantitative information. If the quantitative analysis is first provided in the Final EIS, as TxDOT proposes, then there will be little or no opportunity for TxDOT to make revisions based on community feedback. *Id*. This could be alleviated with a supplement to the Traffic Noise Technical Report issued prior to the FEIS. *See id*. Second, the noise analysis thus far is only for noise barriers – which may not be feasible in certain locations where necessary breaks in the barriers would reduce their effectiveness. Other noise mitigation techniques must be investigated, and the public must have an opportunity to comment on proposed mitigation.

3. **There are other mitigation techniques that TxDOT has not considered among "reasonable and feasible" abatement measures.**

TxDOT has only discussed noise barriers in the DEIS. While noise barriers may be an effective noise mitigation measure, they are not the only technique available. It is important that other techniques exist, because these other techniques may be more feasible and reasonable to implement in certain areas of the proposed project or may supplement a barrier in a particularly noisy area.

There are at least two key alternatives to constructing typical noise barriers. First is that transparent noise barriers can be used, when there are concerns that a noise barrier would block view of commercial properties. *See* Attachment C-1 at 2.

A second alternative is implementing quiet pavement. *Id*. The DEIS has not considered quiet pavement, for which there are a number of options such as longitudinal tining and porous asphalt. *Id*. Various techniques have been studied by a variety of different agencies. *See, e.g.*, Attachments C-2 and C-3 (studies on "Grooving and Grinding" and "Next Generation Concrete Surface").

Given a recent TxDOT project utilizing noise reducing pavement (http://www.my290.com/85-construction/385), which was favorably received by residents and commuters, TxDOT should consider using quiet pavement for this project. Next Generation Concrete Surface (NGCS), the material used in the U.S. 290 project, used 'longitudinal grooving' to both reduce tire/pavement noise and increase friction. This alternative is not only noise-reducing, but also safer. NCGS's success along Loop 610 encouraged TxDOT to begin a similar project on the I-10 Katy Freeway.

The current recommended route for the NHHIP, particularly along Segment 1 and 2, runs adjacent—or close to—many parks, schools and residential areas. Noise barriers are most effective when placed directly in front of potentially affected locations. Noise reducing pavement, on the other hand, reduces sound at the source. Due to the high number of schools and parks that are within a couple blocks of the new proposed ROW, quiet pavements would be the best abatement measure to keep noise impacts low for these locations. In short, TxDOT needs to consider quiet pavement techniques – of which there are a variety – in addition to noise barriers.

4. **The Technical Report does not provide any discussion of barriers between the mainlanes and feeder roads, or on elevated MaX lanes.**

Our expert has identified that the Technical Report does not discuss barriers in certain possible project locations, which could have a positive benefit on noise mitigation, depending upon what alternative is selected. *See* Attachment C-1 at 2. As context, Section 5.0 of the Traffic Noise Technical Report states:

- Traffic noise barriers would be located along the outside of the frontage road/ROW where barriers could be continuous, without gaps for driveways or streets.
- Traffic noise barriers could also be located in between mainlanes and frontage roads.

However, as discussed by our expert, the Traffic Noise Technical Report does not provide any discussion of barriers between the mainlanes and feeder roads. *See* Attachment C-1 at 2. Although such barriers are not always as effective as barriers at the edge of the ROW, barriers at this location can still be very effective, blocking noise from 14 of the 16 total lanes of traffic in Segment 2, where there are only two lanes of frontage road. *Id*.

Additionally, our expert notes that, in instances where the MaX lanes are elevated, those lanes could also be treated with a moderate-height barrier at the edge of the elevated structure. *Id*. This possible location of a barrier should specifically be considered since noise from elevated roads without barriers can penetrate further into nearby neighborhoods as it readily propagates over first-row buildings. As the road structure must be designed to support the barrier load, this type of treatment is very difficult to retrofit later.

In areas where the mainlanes are depressed, a moderate-height barrier along the edge of the depressed lanes may be especially effective and will not affect visibility of commercial uses, which is already partially or totally eliminated due to the depression.

The issue of access is being used to prevent consideration of noise barriers in areas with mixed commercial and residential uses. A barrier on elevated MaX lanes and between the frontage road and mainlanes would provide noise reduction while still allowing access along the frontage road.

5. **With regard to residential neighborhoods, the DEIS has given no consideration of noise barriers for mixed adjacent blocks, which is particularly problematic in the low-income communities.**

In his review of the Technical Report, our noise expert identified that the DEIS has eliminated the possibility of noise barriers for certain areas even before the quantitative analysis has been initiated. Specifically, Section 5.0 of the Technical Report states that for adjacent blocks that are less than 50% residential, "abatement was not considered feasible and reasonable." Commercial property adjacent to frontage roads with access from other roads seems to be considered just like commercial property with direct access from the frontage road. *See* Attachment C-1 at 1. This elimination from consideration occurs even before the quantitative noise analysis. *Id*.

Also, when TxDOT evaluated land use, it considered the "potential for commercial development," such that noise barriers were not considered for certain residential areas based on vacant land adjacent to the residences. *See id*. This method of eliminating residences from consideration for noise barriers is not discussed in TxDOT's Guidelines for Analysis and Abatement of Roadway Traffic Noise. *Id*.

Often deed restriction are used in wealthier neighborhoods to homogenize land use, while poorer areas often have mixed uses and more vacant lots. Thus, TxDOT's method of eliminating the consideration of barriers for these mixed areas results in less consideration of noise reduction for poorer neighborhoods. *Id*.

6. **Park land is afforded strong protection under federal law, and also "exterior areas where frequent human use occurs" are entitled to "primary consideration" by the agency. TxDOT must consider effective noise mitigation measures in these park and public areas.**

Park land was discussed above in the prior section. Under federal law, a highway project can constructively use park land if the project produces severe noise impacts within the park. *Ware v. U.S. Fed. Highway Admin*., 2016 WL 1244978, *4 (S.D. Tex. 2016) (citing 23 C.F.R. § 774.15(e)(1)). It is not clear from the DEIS how TxDOT is satisfying the protections in 23 C.F.R. § 774 for park land. Even if certain public areas are not classified as 4(f) park land: "In abating traffic noise impacts, a highway agency shall give primary consideration to exterior areas where frequent human use occurs." 23 C.F.R. § 772.13(b).

When TxDOT evaluates mitigation measures, our expert recommends that the entire impacted area of the park should be considered when evaluating reasonableness and cost effectiveness. *See* Attachment C-1 at 3. While there is a methodology for the reasonableness review for residential areas due to the existence of "first row" or "second row" housing, with a park there is no similar physical infrastructure so the entire park parcel must be considered. *Id*.

Additionally, our expert recommends that quiet pavement techniques should be used by TxDOT in the vicinity of park properties. *Id*. For example, large parks adjacent to the highway corridor typically extend from impacted to non-impacted areas. *Id*. But the so-called 'non impacted' parks or portions of large parks could still have sound levels that many would consider high, even if they do not exceed the TxDOT criteria. *Id*. Noise barriers provide the most benefit to the area of land behind the barriers. (Id.) Quiet pavement has a beneficial effect over a greater area, and will provide better benefits for parks that are both directly adjacent to and also those nearby the highway corridor. *Id*.

Further, TxDOT has paid insufficient attention to Houston's bike paths, which qualify as either a park or "exterior areas where frequent human use occurs." 23 C.F.R. § 772.13(b). The Houston Bike Plan was adopted by City Council on March 22, 2017. It includes a bike path along Little White Oak Bayou extending from just north of I-10 to north of 610. The route is immediately adjacent to I-45 for much of the route, primarily on the west side of I-45. The bike path currently exists along segments of this route. As an example of TxDOT's insufficient attention to these critical park and bike areas is Site S1-R164, Little White Oak Trail. *See* Attachment C-1 at 3. It may represent the partially existing bikeway. However, the specific site selected for evaluation is set much further back from I-45 than most of the proposed path and has therefore been assessed as having no noise impact. *Id*. TxDOT must evaluate representative locations for park areas.

Our expert observed that TxDOT has made assumptions about the future use of certain land, in order to minimize the amount of mitigation required. In some instances, for example, TxDOT assumed that the future use of vacant lots would become commercial (minimizing the amount of required noise mitigation), and then also TxDOT was unwilling to make assumptions about expected use of future bike paths, which would require TxDOT noise mitigation. The Bike Lane map was approved by Houston City Council, and is not speculative, so these land uses must be taken into account in TxDOT noise analysis.

7. **We do not believe TxDOT has complied with 23 C.F.R. § 772.9 requiring the use of traffic characteristics that yield worst case assumptions.**

Specifically, 23 C.F.R. § 772.9 states: "In predicting noise levels and assessing noise impacts, traffic characteristics that would yield the worst traffic noise impact for the design year shall be used." As a result, as our expert points out, it is important to select representative sites that are truly representative or are conservative (*i.e.*, have slightly higher levels than typical). *See* Attachment C-1 at 4. For example:

- Site S1-R164, Little White Oak Trail, is located far back from I-45 behind commercial buildings and has no noise impact. However, this trail is actually much **closer** to I-45 and would have a noise impact just a few hundred yards further south.

Our expert points out that TxDOT has not used worst case assumptions for speed. *Id*. For example:

- In the modeling, a speed of 60 mph was used for the mainlanes. Based on current patterns, sound levels currently exceed this speed, and higher actual speeds are also expected in the future.

Further, our expert points out that TxDOT has likely not used worst case assumptions for traffic capacity. Although TxDOT should not be expected to accurately predict the future, some adjusted (increased) noise assumptions on traffic speed and volume would be prudent. *See id*. For example:

- Traffic capacity was based on current driving technology, but rapid advances in self-driving automobiles may bring substantial changes to traffic even before the planned highway is completed. One advantage of self-driving cars is the ability to reduce the spacing between vehicles, resulting in more vehicles per hour on each lane. This could result in increased noise.
- Modified traffic patterns with more truck traffic at night could also result in greater noise impacts.

We request that TxDOT re-visit its analysis with these considerations identified.

8. **While the Technical Report identifies some "potentially benefitted" sites in terms of noise impact, this characterization may be misleading.**

The Traffic Noise Technical Report identifies locations where the proposed highway project will result in noise reduction, either due to roadway alignment or depression of the roadway. We appreciate that it may be useful to understand that there may be some noise benefits of the project; however, properties with noise levels that will exceed the noise criteria still must be considered for noise treatments when their existing sound levels are even higher above the noise criteria. *See* Attachment C-1 at 3-4. The figures in Appendix D of the Traffic Noise Technical Report show impacted sites in red but "potentially benefitted" sites in green, which fails to

convey that many of these sites are in fact still impacted by noise over the criteria standard. *Id*. If they are above the noise standard, then mitigation is appropriate.

9. **Portions of Section 3.6 are excerpted verbatim from TxDOT's document "Examples of Recommended Text for Documenting Traffic Noise Analysis", calling into question whether TxDOT has fulfilled its NEPA obligations to undertake a "hard look" at important aspects of its noise analysis.**

It is apparent that TxDOT has cut and paste portions of Section 3.6 Noise from the TxDOT publication "Examples of Recommended Text for Documenting Traffic Noise Analysis."[5] That is, several portions within Section 3.6 are nothing more than form language, pre-drafted as "recommended text" for a noise analysis. It appears that TxDOT has pulled some of the form language from the publication's "Example 3: Typical Analysis - Impact with No Feasible and Reasonable Abatement" and/or "Example 4: Typical Analysis - Impact with Feasible and Reasonable Abatement" as well as from the example for undeveloped land.

Among the form language that was excerpted is the section on "noise abatement measures [that] were considered" including "traffic management, alternation of horizontal and/or vertical alignments, acquisitions of undeveloped property to act as a buffer zone, and the construction of noise walls." *See* DEIS at 3-44. This suggests that TxDOT did not undertake consideration of a range of sound mitigation techniques or best management practices available to address and reduce noise impacts for the specific I-45 project, beyond those excerpted from its form. TxDOT appears to have relied uncritically on a predetermined menu of considerations.

To provide another example of form language that has been cut and pasted into the DEIS: "Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns . . . ." (DEIS 3-46). Thus, for construction noise impacts, again TxDOT has not undertaken a "hard look" at these impacts.

NEPA requires agencies to take a "hard look at environmental consequences" when making a decision. *Sabine River Auth. v. U.S. Dept. of Interior*, 951 F.2d 669, 676 (5th Cir. 1992) (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989)). Using form language from pre-drafted text raises the question of whether the requisite "hard look" has been done. While it may be appropriate to use form language as a starting point for an analysis, it cannot be used to limit a review of options available to an agency, particularly on key items like mitigation and abatement measures.

[5] Available at http://ftp.dot.state.tx.us/pub/txdot-info/env/toolkit/730-01-ds.pdf.

D. VISUAL IMPACTS

1. Federal law requires that "aesthetic values" are considered for a project's development, but TxDOT's visual impact analysis provides little substance on how the aesthetic values will ultimately be achieved.

NEPA was established, in part, to assure "safe, healthful, productive, and aesthetically and culturally pleasing surroundings." 42 U.S.C. § 4331. Under federal law, final decisions on highway project development must be made in the overall public interest, taking into consideration a number of socio-economic, engineering, and environmental factors including aesthetic values. 23 U.S.C. § 109(h); *see also* 23 C.F.R. § 771.105. Federal guidelines recognize that "[c]ommunity acceptance of a proposed transportation project is frequently influenced by the extent of its visual impacts." *See* Federal Highway Administration, "Guidelines for the Visual Impact Assessment of Highway Project," FHWA-HEP-15-029 (January 2015) ("FHWA Visual Impact Guidelines") at 1-1.[6] And further, research shows that "the view from the road is the basis for much of what we know about our everyday environment and for our mental image of our surroundings." *Id*. "Roads move more than people, goods, and services—they are extensions of a community's values and aesthetic preferences." *Id*. While there are many important aspects of highway design, the ultimate visual experience cannot be overstated.

The DEIS discusses potential visual changes in the built environment based on the various project alternatives. The DEIS discusses existing conditions, viewer sensitivity, and impacts of the alternatives. But the DEIS discusses the "mitigation [for] visual and aesthetic qualities" in a mere handful of bullet points on one page, in the final section of the Visual Impact Assessment Technical Report. DEIS, App'x L, at 5-1. According to TxDOT, "[w]here practicable, mitigation to improve the visual and aesthetic qualities of the project area would include" features such as landscape plantings per TxDOT's Green Ribbon Landscape Improvement Program; promoting roadside native wildflower planting programs; noise barriers; providing adequate signage and access to roadway facilities; and treatment of the side surfaces and columns of the project. This is the sum total of the DEIS discussion on achieving aesthetic values, and it contains a qualifier that TxDOT will only work towards mitigation for aesthetic values "where practicable."

The Mitigation phase of a visual impact assessment is among the most critical parts. According to the federal guidelines, the "purpose of the mitigation phase is to define the mitigation and enhancement efforts to be included in project design. This final phase of the VIA process is typically completed after a preferred alternative has been selected." See FHWA Visual Impact Guidelines, at 3-2. Here, TxDOT has identified the preferred alternative for each project segment. It is unclear why more has not been done on discussing the mitigation phase.

Thus one of the most pivotal aspects of a Visual Impact Assessment has been reduced to five bullet points. NEPA demands more. The public cannot give meaningful feedback on visual impact mitigation for a highway project of such vast scope as the I-45 expansion, if the visual mitigation is nothing more than a handful of bullets. In advance of TxDOT's FEIS, the agency

[6]Available at www.environment.fhwa.dot.gov/guidebook/documents/VIA_Guidelines_for_Highway_Projects.asp

should provide a more detailed plan on how it plans to mitigate the visual impacts; what techniques will be used; and where mitigation will be implemented. We request an opportunity to view the proposed visual mitigation and an opportunity to comment on it, before the Final EIS.

2. **There is a variety of best management practices available to TxDOT related to mitigation measures for visual impacts.**

The FHWA's *Guidelines for the Visual Impact Assessment of Highway Project* recognizes best practices on the topic. According to the Guidelines, the "goal of the VIA guidelines is to maintain or enhance existing visual quality. To achieve this, mitigation can act on the visual resources of the natural, cultural, or project environments or on the experience of viewers. Section 7.4 provides examples of mitigation, types of mitigation, and recommendations for developing effective mitigation." FHWA Visual Impact Guidelines at 7-1.

Also, the National Cooperative Highway Research Program's framework for conducting VIAs would also be a useful tool for TxDOT to incorporate in a revised VIA. The report provides case studies on visual impacts analysis and is attached here. *See* Attachment D-1.

Studies exist for achieving the integration of a noise barrier into the visual landscape.[7] Since noise barriers will be necessary in certain locations, it will be important to integrate those barriers into the environment.

3. **We question, and request the reevaluation of, TxDOT's conclusion that "viewer sensitivity" in all three segment areas is "typically low."**

The DEIS concludes that viewer sensitivity is "typically low" for all three segments. DEIS at 3-108; *see also* App'x L. As described in the VIA, "viewer sensitivity is the degree to which viewers are sensitive to changes in the visual character of visual resources." App'x L at 2-2. The Federal guidance document further explains: "The population affected by the proposed project is referred to as viewers . . . viewers are defined by their relationship to the proposed highway project and their visual preferences." FHWA Visual Impact Guidelines at 5-6.

There are several portions of Segment 1 and 2 where the proposed alternative will impact residential neighborhoods, schools, churches, cemeteries and other land uses that are not easily relocated. As the federal guidance document explains for residential neighbors, their "visual preferences tend toward a desire to maintain the existing landscape as it is—they settled where they are for a reason, including how their neighborhood looks." In light of this guidance, TxDOT has not adequately considered that for these land uses, their visual sensitivity to a massive new highway project can hardly be considered "low." Whether the preferred alternative is selected requiring the expansion of the highway to the west, or whether another alternative is selected requiring the expansion of the highway to the east, the expanded highway system will encroach on land that has never before been a neighbor to an interstate freeway. The loss of commercial frontage road means that some residential and community areas will be immediate adjacent neighbors to I-45.

[7] See, e.g., http://www.schiu.com/sectores/artigos/2010-Art006-implantationofNoiseBarriersinPortugueseLandscape.pdf

TxDOT acknowledges that "those closest to I-45 will have more exposure" (App'x L at 3-4, 3-5), but seems to forget that once land is condemned and commercial frontage development is lost, those closest to I-45 will have real visual impacts.

To this end, we point TxDOT to the following viewers in Segment 1, and challenge the conclusion that these viewers would have "low" sensitivity to a massive highway project:

- Hidden Valley and Northline Terrace, which are residential communities in close proximity to I-45, and north & south of 249 / West Mount Houston Road (in the vicinity of, and south of, Halls Bayou), and south of West Gulf Bank Road. Hidden Valley and Northline Terrace are approximately 90% minority communities, between 55-70% low income.[8]
- Northern Independence Heights, which is west of I-45, east of Yale St, north of E Tidwell Rd; 87% minority and 57% low income.
- Independence Heights, including Ventanas Garden and La Vista Villa Apartments, which are west of I-45, northeast of Little White Oak Bayou; 96% minority and 53% low income.
- Unnamed Neighborhood that is east of I-45, south of Crosstimbers Rd, west of Fulton St. It is 95% minority; 64% low income.
- Aldine 9th Grade School, Aldine Senior High School and Stovall Middle School, directly east and adjacent to I-45 with cross streets West Rd and Airline Dr.
- Berean Baptish Church, east of I-45 and south of west road.
- Adath Israel Cemetery, east of I-45.

Depending upon whether the highway is expanded eastward or westward, the highway expansion will encroach on these communities. And with the loss of commercial property on what is now the frontage road, many residential communities will lose their visual barrier. By and large, these communities qualify as environmental justice communities, triggering additional obligations for TxDOT's review and consideration.

Similarly, we point TxDOT to the following viewers in Segment 2, and challenge the conclusion that these viewers would have "low" sensitivity to a massive highway project:

- Southern Independence Heights neighborhood, which is west of I-45, north of 610, south of HB&T Railroad, east of N Main St. It is 99% minority; 58% low-income.
- Unnamed Neighborhood, which is East of I-45, north of 610, south of HB&T Railroad, west of Irvington Blvd. It is 96% minority; 56% low-income.
- Neighborhoods adjacent I-45, East of Little White Oak Bayou, west of Fulton St, north of Cavalcade St. It is 90% minority, 50% low-income.
- Northern Woodland Heights, West of I-45, east of Airline Dr, north of W Patton St, south of Cavalcade St) It is 82% minority; 43% low-income

[8] The data here was obtained from the EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN), available at https://www.epa.gov/ejscreen.

- Germantown Historic District, West of I-45, east of Houston Ave, north of Parkview St.
- Independence Heights Park and Burrus Elementary School, west of I-45
- Roosevelt Elementary School, West of I-45
- Adath Emeth Cemetary, West of I-45
- Montie Beach Park, West of I-45
- Jefferson Elementary School, east of I-45
- Hollywood Cemetery, Holy Cross Cemetery and Moody Park East of I-45, adjacent to Little White Oak Bayou
- Woodland Park, West of I-45 with cross streets Houston Ave and Parkview St

Again, depending upon whether the highway is expanded eastward or westward, the highway expansion will encroach on these communities, and with the loss of commercial property on what is now the frontage road, the residential communities will lose their visual barrier.

In Segment 3, there are both residential communities and extensive park systems, all users of land that typically would not have a "low" visual sensitivity; among them:

- Residential areas, encompassed between Houston Ave, I-45. and 10
- Other residential areas, such as Clayton Homes, Kelsey Village Housing, and neighborhood surrounding Swiney Park
- Parks alongside White Oak Bayou near the junction of I-45 and 10
- Freed Art & Nature Park
- Hogg Park
- Allen's Landing Memorial Park
- Sam Houston Park
- Tranquility Park
- Sesquicentennial Park

The federal guidelines counsel that any visual analysis should "highlight[] especially those areas where the proposed project will alter the harmony of the natural environment." *See* FHWA Visual Impact Guidelines at 6-8. Certainly changes in the vicinity of these park lands will change the harmony of the natural environment, and TxDOT has not adequately recognized this.

Accordingly, for all of these identified viewers in Segment 1, 2, and 3—residential neighborhoods, schools, park users, et al.—we believe their sensitivity would be more accurately characterized as "moderately high to high" and not "low."

4. **We question, and request the reevaluation of, TxDOT's conclusion that only "neutral visual impacts" in Segments 1 and 2 will result, and that the design alternatives do "not degrade the visual quality of the area" for those Segments.**

The DEIS concludes that there will be "neutral visual impacts" for Segment 1 and 2, and that the design alternatives do "not degrade the visual quality of the area." DEIS at 3-109, ES-16 & ES-

19. No similar conclusion is given with respect to the preferred alternative for Segment 3, except that it would "provide the most beneficial visual impacts." DEIS at 3-110.

While it is possible that the vantage of a driver on I-45 may experience "neutral" visual impacts along the stretch of the highway from the Beltway to Loop 610, it is impossible to make the same conclusion from the vantage of the residents, businesses, schoolchildren, or users of land that suddenly find themselves neighbors to such a significant highway system. These are very different viewer groups. As stated above, whether the preferred alternative is selected requiring the expansion of the highway to the west, or whether another alternative is selected requiring the expansion of the highway to the east, the expanded highway system will encroach on land that has never before been a neighbor to an interstate freeway. The loss of commercial frontage road means that some residential and community areas will be directly adjacent neighbors to I-45.

Examples of such land users was given above. TxDOT needs to take into consideration the visual impacts of an encroaching highway on residential and community areas such as schools, cemeteries or churches, and parks. Simply because a vehicle driver may or may not appreciate a new vista from a highway, does not mean the same is true for the members of the adjoining communities. We dispute, and request the reconsideration of, TxDOT's conclusion that only "neutral visual impacts" for Segment 1 and 2 will result.

5. **TxDOT must ensure it has meaningful input from viewers and specifically on their visual preferences. To this end, community engagement, and additional photo simulations for the community, would better enable the public to provide feedback, particularly in areas of visual sensitivity.**

Among the purposes of a VIA is to understand visual preferences of the community. The federal guidance document on Visual Impact Assessments makes clear that the "VIA is developed with input from the NEPA public involvement process to *directly and accurately ascertain viewer preferences*." FHWA Visual Impact Guidelines at D-2 (emphasis added). And, "since people are a key component of the [VIA] model, it is critical to know what the public actually values about their visual environment." *Id*. at 3-4. Thus one key purpose of a visual impact assessment is to create a dialogue with the public. Presumably, an outcome of the public's opportunity to comment on the DEIS is to provide initial feedback to TxDOT on some visual preferences, in terms of the alternatives that have been studied, and within the limits of information that has been provided.

However, we believe that direct community dialogue would greatly assist TxDOT in understanding the community's concerns with visual impacts. As stated above in Section A-2, we believe that stakeholders are willing and interested in meeting with TxDOT representatives in order to give constructive feedback on the proposed project design.

Further, while we appreciate the visual representations that have been provided thus far (such as found in Appendix L), the visuals and diagrams on pages 4-3 to 4-19 of Appendix L (Visual Impact Assessment Technical Report) offer only limited insight into how the expanded highway system will impact areas of viewer sensitivity such as residential communities, parks, schools, and the like. TxDOT has not offered meaningful analysis of mitigating for visual impacts—whether vegetative buffers or noise barriers will be used in particular locations. As a result, it is

difficult for the public to give meaningful input on preferences in these sensitive areas—other than to imagine what TxDOT "might" do.

We believe that additional visual representations would enable the public to understand the visual impact on the built environment and for the public to provide meaningful input and feedback. Specifically, visual representations of static viewsheds in areas of viewer sensitivity would be useful, and with visualizations of mitigation measures.[9] When TxDOT begins to meet with community groups, providing additional visual representations would enhance the dialogue. With additional visual information from TxDOT on how sensitive viewer areas (residential neighborhoods, parks, and schools) will be impacted by the expanded highway, then the public can give feedback on visual preferences.

TxDOT notes its reliance on a National Cooperative Highway Research Program report entitled *Evaluation of Methodologies for Visual Impact Assessment*. There is another report by the same research program on *Visualization for Project Development*.[10] *See* Attachment D-2 ("Visualization Overview" chapter excerpt). The report discusses that, in the transportation community, "visualization is becoming . . . more a core requirement within the highway project development process." *Id*. at 38. Visualization "technology can be used throughout the life cycle of a project plan—from the process flow of value engineering, to the project development and environment study phase." *Id*. at 5. Specifically, critical issues such as roadway aesthetics, vertical and horizontal alignment fit, traffic flow, and line of sight can be identified. The general public can also obtain a greater understanding of the project by viewing the proposed changes from a potentially unlimited number of viewpoints." *Id*.

As stated, the large scale changes proposed to I-45 and the transportation corridors around downtown could present an opportunity to improve the visual character of these corridors. According to research, in "addition to mitigation, the opportunity for enhancing visual quality should also be considered when evaluating the impacts a proposed project has. A VIA process that identifies such opportunities enables NEPA's aesthetic mandate to be met through a simple program of effective location, design, and mitigation decisions." NCHRP, *Evaluation of Methodologies for Visual Impact Assessments* at 143.

In short, we believe that community dialogue and additional visualization tools would enable the public to provide constructive feedback on viewer preferences, and ultimately enhance the overall visual character of the project. As with other aspects of the DEIS, it would be beneficial for the public to give such feedback before an FEIS is prepared and published.

6. **Parks are among the areas requiring visual analysis, but the DEIS and VIA include little visual analysis of park impacts.**

Federal guidance counsels that, as part of the VIA, "practitioners should identify and analyze visual impacts on Section 4(f) properties in coordination with the analysis of Section 4(f) properties." FHWA Visual Impact Guidelines at 2-4. As noted above in Section B on parks and

[9] Note, the federal guidance defines "static viewsheds" as "what neighbors of the road see from a stationary location." FHWA Visual Impact Guidelines at 4-6.
[10] Available at https://www.nap.edu/download/13986.

4(f) issues, too much of the park analysis has been deferred for later resolution. The public must see these analyses before the final EIS.

7. **TxDOT must budget for complete removal of billboards that will be "displaced" by the project.**

The DEIS contemplates the "displacement" of billboards along the footprint of the I-45 project. For instance, the DEIS notes that the preferred alternatives for Segment 1 will displace 24 billboards, Segment 2 will displace 11 billboards, and Segment 3 will displace 9 billboards. *See* DEIS, App'x F, at §§ 5.5.1, 5.5.2, 5.5.3. But the DEIS makes no effort to explain what will happen to billboards once "displaced."

Under the City of Houston's Sign Code, TxDOT cannot commit to building new billboards to replace those which must be removed. Since 1980, the City of Houston has prohibited the construction of new billboards. City of Houston Sign Code § 4612(b)(1) ("From and after the effective date, no new construction permits shall be issued for off-premise signs..."). Since then, local billboard inventory has dropped by almost 90%.

Within that context, TxDOT must not undertake a major highway project through the heart of sensitive areas—which include, for example, scenic districts, residential areas, the central business district, tourist-magnet parks, bayous, a convention center, sports and theater areas—without total removal of the signs that currently exist within the footprint of the I-45 project. Relocation cannot be an option. To move billboards to other areas would degrade other vistas. Billboards should not be treated differently than any other commercial structure in the path of a transportation project—any of which would be permanently removed and not replaced.

Sensitivity to the local Sign Code, to citizen preference, and the development evolution of the community must be a factor in TxDOT's project plan. Development evolution means that sensitivity to community character and sense of place makes oversized, commercial signage inconsistent with the built and natural environment in many areas that the project touches. Complete removal of these billboards by TxDOT will be met with a very positive response across the city.

Finally, the Texas Supreme Court's recent decision in *State v. Clear Channel Outdoor, Inc.*, clarified that "a billboard may be a fixture to be valued with the land, and that while the advertising business income generated by a billboard should be reflected in the valuation of the land at its highest and best use, ***the loss of the business is not compensable and cannot be used to determine the value of the billboard structure***." *State v. Clear Channel Outdoor, Inc.*, 463 S.W.3d 488, 490 (Tex. 2015) (emphasis added). This opinion strongly suggests that the cost of removing a billboard without replacing it elsewhere will be affordable for TxDOT.

In the Final EIS, we urge TxDOT to budget for the cost to completely remove all displaced billboards.

E. COMMUNITY RESOURCES AND ENVIRONMENTAL JUSTICE

1. TxDOT is required to consider environmental justice principles in all TxDOT programs, and ensure that projects do not have a disproportionately high and adverse effect on protected populations.

Executive Order 12898 requires each Federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations[.]" Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (Feb. 11, 1994).

In 2012, the Office of the Secretary of Transportation issued Updated Environmental Justice Order 5610.2(a) ("USDOT EJ Order"). This Order sets forth the DOT's policy to consider environmental justice principles in all DOT programs, policies, and activities; it describes how the objectives of environmental justice will be integrated into planning and programming; and it sets forth policies to prevent disproportionately high and adverse effects to minority or low-income populations. The USDOT EJ Order highlights the importance of avoiding disproportionately high and adverse effects in programs, policies, and activities, and includes as its aim the identification of potential effects, alternatives, and mitigation measures. DOT Order 5610.2(a) at 6. The Order adopts a goal to "avoid[], minimize[] or mitigate[]" disproportionate effects. *Id*. at 7.

In implementing its requirements under NEPA, Title VI, URA, SAFETEA-LU and other statutes involving human health or environmental matters, the USDOT EJ Order states that the following information should be obtained where relevant, appropriate, and practical:

- Population served and/or affected by race, color, or national origin, and income level;
- Proposed steps to guard against disproportionately high and adverse effects on persons on the basis of race, color, national origin, and income level.

The Order also provides that DOT operations will be administered so as to identify and avoid discrimination and avoid disproportionately high and adverse effects on minority populations and low-income populations by:

- Identifying and evaluating environmental, public health, and interrelated social and economic effects of DOT programs and activities;
- Proposing measures to avoid, minimize and/or mitigate disproportionately high and adverse environmental and public health effects, and providing offsetting benefits and opportunities to enhance communities, neighborhoods, and individuals affected by DOT programs, policies, and activities;
- Considering alternatives to proposed activities where such alternatives would result in avoiding and/or minimizing disproportionately high and adverse human health or environmental impacts; and

- Eliciting public involvement opportunities and considering the results thereof.

Id. at 9-10.

DOT officials must ensure that any of their programs, policies, or activities that will have a high and adverse effect on minority populations or low-income populations "will only be carried out if further mitigation measures or alternatives that would avoid or reduce the disproportionately high and adverse effect are not practicable." *Id*. at 11. Activities that will have a high and adverse effect on populations protected by Title VI will only be carried out if (1) a substantial need for the program, policy, or activity exists; and (2) alternatives that would have less adverse effects on protected populations, either (a) would have other adverse social, economic, environmental or human health impacts that are severe or (b) would involve increased costs of extraordinary magnitude. *Id*. at 11-12.

FHWA Order 6640.23A, "FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," ("FHWA EJ Order") adopts similar policies concerning environmental justice. The Order adopts the USDOT EJ Order's four methods of identifying and avoiding discrimination and disproportionately high and adverse effects on protected populations.

The FHWA EJ Order requires FHWA staff to ensure that programs, policies, and activities "do not have a disproportionately high and adverse effect" on protected populations," and defines when activities that have a disproportionately high and adverse effect can be carried out. FHWA Order 6640.23A at ¶8.[11]

2. The DEIS concludes that minority and low-income communities will be adversely affected. But the DEIS fails to adequately consider methods to and alternatives that would "avoid or reduce" the disproportionately high and adverse impacts on minority and low-income populations.

The DEIS concludes that "[w]hile minority and low-income individuals and community facilities in the project area would be adversely impacted by the proposed project, no reasonable alternatives would avoid adverse impacts or have substantially less overall adverse impacts than other alternatives." DEIS at ES-4; *see also* 3-17, 3-23.

It further concludes that each alternative would "displace single-family residences and/or multi-family units in areas with high minority populations (i.e., over 50 percent) and some low-income areas" and "places of worship, schools, and other facilities used by minority and low-income populations would be displaced." *Id*. at 3-17. Other adverse impacts include increased noise and traffic congestion during construction, increased noise and air emissions near environmental justice communities, and disruption to neighborhood and community cohesion. *Id*. at 3-17; 3-21. Additional details regarding these impacts were provided in Appendix F ("Community Impact Assessment Technical Report").

[11] The language in this Order tracks that found in DOT Order 5610.2.

Under NEPA, the applicable regulations, and FHWA's EJ Order 6640.23A, a DEIS must assess whether environmental justice impacts are possible; conduct an environmental justice analysis; evaluate whether each alternative will have a disproportionately high and adverse impact on protected populations; and avoid or minimize any disproportionately high and adverse impacts to protected populations or, if impacts cannot be avoided, work with the affected community to develop mitigation measures to offset the impacts.

The requirements to comply with Title VI of the Civil Rights Act are similar (though not identical), to those under NEPA.

The current DEIS does not meet the legal standard. Instead, the DEIS concludes that minority and low-income individuals and community facilities would be adversely impacted by the proposed project, but simply states that no reasonable alternatives would avoid these adverse impacts or have "substantially less overall adverse impacts" than other alternatives. *See, e.g.*, DEIS, App'x F, at 5-56–5-60. In its mitigation section, the DEIS states that additional stakeholder outreach for facilities specifically serving environmental justice and other sensitive communities is ongoing, and potential mitigation measures for these impacts will be determined in the future. App'x at 7-3.

While we appreciate that TxDOT has met with interested stakeholders for facilities that serve environmental justice communities, and hope that these future meetings are productive, this approach does not satisfy its obligations under NEPA.

The conclusion that all alternatives will have a disproportionately high and adverse impact on protected populations should not end a NEPA analysis of these impacts or foreclose the possibility of further reducing these impacts. The environmental justice section of the DEIS must further analyze mitigation for all adverse effects, should make clear which alternative has the least adverse effects on protected populations, and should specify why this alternative is not being selected.

FHWA's Environmental Justice Reference Guide outlines the analysis process under NEPA. This guidance, which tracks the legal requirements under NEPA and Title VI, states that if there are disproportionately high and adverse effects on a protected population, then the agency should consider mitigation for all adverse effects, focusing on the protocol of avoidance, then minimization, and then measures to offset or remedy the adverse effects. Federal Highway Administration Environmental Justice Reference Guide (April 1, 2015), at Fig. 8. If there are disproportionately high and adverse effects after the mitigation, then the agency must consider whether there are further practicable mitigation measures or alternatives that would avoid or reduce these effects. If so, then the project proponents must apply those measures. If not, and the affected population is protected under Title VI, then there must be a substantial need for the project and the alternative with the least adverse effects must be selected unless that alternative has much more severe social, economic, environmental, or human health impacts, or that alternative would involve increased costs of an extraordinary magnitude. *See id.*

In its current form, the DEIS does not provide enough information to satisfy this analysis.

First, the DEIS states that potential mitigation measures for impacts to EJ communities will be determined in the future. App'x F at 7-3. But without understanding what mitigation is being proposed for all adverse effects, including effects on EJ communities, the public cannot understand the actual extent of these impacts or make comments on further practicable mitigation measures or alternatives that would further reduce these impacts. The EJ analysis under NEPA is intended to be an iterative process. While we recognize that TxDOT has met with interested stakeholders and is working on some mitigation measures for EJ communities, without publishing this information in the DEIS, we cannot properly evaluate the adequacy of the proposed mitigation.

Consequently, we request that TxDOT publish a supplemental DEIS with specific mitigation measures on which the public can comment. For the I-70 East Project, discussed in greater detail below, a Supplemental DEIS and Section 4(f) Evaluation was published following the first DEIS, and this Supplemental DEIS contained more detailed mitigation for each alternative.

We also ask that TxDOT set aside a portion of the budget for eligible small-scale community-drive projects and draft community benefit agreements, and make these commitments public before publishing a Final EIS and Record of Decision.

Second, the DEIS concludes that impacts will be disproportionately high and adverse for protected populations if any of the alternatives are selected. That may very well be true. However, the information in the DEIS indicates that alternatives that are not recommended may reduce the disproportionately high and adverse effects of the proposed project. For example, for Segment 1, (Proposed Recommended) Alternative 4 will displace 218 total housing units, compared to 169 for Alternative 5 and 63 for Alternative 7. DEIS at Table 5-8. In Segment 2, (Proposed Recommended) Alternative 10 will displace 101 housing units, compared to 44 for both Alternative 11 and Alternative 12. *Id*. at Table 5-1. [12] Similarly, the Proposed Recommended alternative for Segment 3 will displace 916 housing units, and other alternatives may have a far less impact from an EJ perspective. *See id.* at Table 5-16. Many, if not most, of these displacements occur in protected communities.

While we recognize that EJ impacts encompass much more than displacements of housing units, much of the EJ analysis in the DEIS focuses on displacements, and the information provided suggests that the proposed recommended alternatives likely do not have the least adverse effects on protected populations. Under Title VI caselaw and FHWA's environmental justice guidance, the alternative with the least adverse effects on protected populations must be approved unless specific circumstances exist (*e.g.*, under FHWA's EJ guidance: the alternative would have adverse social, economic, environmental, or human health impacts that are more severe, or the alternative would involve increased costs of an extraordinary magnitude). There is insufficient information in the DEIS to make this determination.

Given the magnitude of the proposed project's effects, and the fact that a significant portion of the adverse effects will be borne disproportionately by minority or low-income communities,

[12] The Proposed Recommended alternative will also displace the most number of businesses.

TxDOT must ensure that all practicable mitigation measures that would reduce these effects are considered, publicly vetted, and implemented.

3. **The EJ analysis must make clear that nearly all project impacts disproportionately affect EJ communities; this fact must be made explicit and should inform proposed mitigation.**

As mentioned, the EJ analysis in the DEIS focuses somewhat narrowly on the displacement of residential units and displacement of community resources that serve low-income and minority populations. *See, e.g.*, Tables 3-2, 3-3, and 3-4; Section 3.2.4. However, the provided Census data is clear that impacts to non-displaced residents within the project's footprint and in surrounding communities will also be borne disproportionately by low-income and minority communities. For example, approximately 92 percent of the Segment 1 Census block area is a minority population; approximately 85 percent of the Segment 2 Census block area is a minority population; and approximately 67 percent of the Segment 3 Census block area is a minority population.

Given this information, the DEIS implies, but does not explicitly state, that many, if not all, of the social, environmental, and public health impacts for this project are also environmental justice impacts. This includes noise, air quality, and water resource impacts, as well as disruptions to community cohesion and access to public resources.

This fact should be made explicit in any supplemental or amended DEIS or the FEIS. Additionally, any proposed mitigation for these impacts is subject to the EJ analysis outlined above, and all practicable mitigation measures that would reduce these impacts must be considered, publicly vetted, and incorporated into the final project.

4. **TxDOT should evaluate impacts, concerns, and potential mitigation on a neighborhood-level scale, and should use block meetings and establish working groups to carry out this evaluation.**

In the context of transportation, "effective and equitable decisionmaking depends on understanding and properly addressing the unique needs of different socio-economic groups." FHWA Environmental Justice Reference Guide (2015), at 2. According to the DEIS, the environmental justice data was gathered from Census block data, with field investigations to confirm community buildings, neighborhood facilities, and other land uses. TxDOT has also held a couple of rounds of public meetings and has held meetings with stakeholders during the project development process. TxDOT has committed to coordinating with interested stakeholders, including the Houston Housing Authority, to discuss potential project impacts on sensitive communities in the future.

However, the environmental justice analysis in the DEIS is relatively coarse-grained: it analyzes whether particular Census blocks are disproportionately low-income or minority, highlighting displacements to residential units and neighborhood facilities. Appendix F discusses neighborhoods and community cohesion, but the community profile is provided on a segment

basis,[13] and the subsequent discussion of superneighborhoods again focuses on displacements, with little data on disruptions to neighborhood connectivity or neighborhood-specific concerns about the project's impacts. *See* App'x F, at §§ 4, 5. From an environmental justice standpoint, this information is not specific enough to understand and properly address the unique needs of different socio-economic and community-based groups.

To use a different project as an example, during the I-70 East environmental study in the Denver area, the Colorado Department of Transportation (CDOT) used specific outreach programs designed to reach Hispanic/Latino and African American populations and neighborhoods, including door-to-door outreach, block meetings, neighborhood meetings, and establishing working groups to address specific issues. Attachment E-1 (FHWA Case Study, "Building a Foundation for Meaningful and Active Participation: I-70 East Project, Denver Area, Colorado"). This process helped CDOT understand specific neighborhood features, properties of interest, information on the social organization of the community, and perceptions of existing neighborhood transportation problems, and minimizing adverse effects on protected communities became an explicit project goal in the NEPA analysis. *Id*. During the final design stages, urban-design workshops were held and local residents and businesses were encouraged to provide input and advice. *Id*. Ultimately, CDOT made 149 separate mitigation commitments, including many aimed at reducing the adverse effects on environmental justice communities. Attachment E-2 (Final EIS, "I-70 East Final Environmental Impact Statement and Section 4(f) Evaluation," Appendix 9 (Jan 2016)). Among other things, and as a point of interest for this project, CDOT committed to lowering the highway and covering portions of it to include space for community and neighborhood activities. *See id*.[14]

In another transportation case for the Newtown Pike Extension Project in Lexington, Kentucky, the project coordinator developed a community impact assessment that included a household survey determining length of residency, whether family lives in the neighborhood, likes and dislikes about the neighborhood, important community resources, mode of transportation to work, and familiarity with the project. Attachment E-3 at 12 (FHWA Case Study, "Preserving Community Cohesion through Southend Park Neighborhood Redevelopment," Newtown Pike Extension Project, Lexington, Kentucky). Later, an additional survey was conducted to understand the met and unmet needs of a particular community's residents. The team used an urban anthropologist to provide an oral history of the area, allowing team members to really understand the affected individuals, their community, and their needs. A business survey was

[13] *See* App'x F, at 4-1ff.

[14] CDOT also committed to providing residents close to the highway with storm windows, furnace filters, attic insulation and two free portable or window-mounted air conditioning units; providing $100,000 to facilitate access to fresh food; providing an HVAC system and new doors and windows for an affected elementary school, plus two new classrooms; providing $2 million in funding to support affordable housing in the Elyria and Swansea Neighborhood; and providing eligible residents of some affected neighborhoods with free transponders, pre-loading of tolls, and other means to reduce barriers to using the Express Lanes after the project is completed. *Id*. These mitigation commitments were all included for a project with much less impact and much less total cost than the proposed North Houston Highway Improvement Project.

also conducted to better understand impacts. *Id*. A community liaison was established to facilitate ongoing interaction and incentivize community participation. *Id*. at 13.

We respectfully request that TxDOT review the other FHWA Environmental Justice case studies available online to help determine best management practices moving forward.[15]

Recognizing that it may be too late in the process to undertake some of these specific methods employed during the scoping phase, it is not too late to increase community outreach and create working groups that can analyze impacts, concerns, and preferred mitigation on a neighborhood- or superneighborhood-level, especially for communities that are particularly impacted and/or are predominantly low-income or minority. Proposed mitigation for environmental justice impacts must address the particular needs of the affected groups. It is difficult to know where TxDOT is in this process given the lack of information provided in the DEIS, but we request that a more fine-grained, community-based approach be undertaken as mitigation is developed for the proposed project's impacts.

5. Some examples of particular EJ concerns for this project are included here.

In addition to the recommendations included above, we note the following concerns that affect EJ communities:

- If the preferred alternative for Segment 3 does move forward in substantially its current form, we recommend that TxDOT consider committing, as CDOT did for the I-70 East project, to funding and/or ensuring funding for the proposed cap. We also recommend that an ad hoc committee is formed in the near future to help obtain commitments related to this cap and associated public space. This committee should include individuals from the east end of downtown Houston, including EJ communities, to help ensure that there is sufficient connectivity over the highway and public access to downtown from these communities. It is clearly important that TxDOT's infrastructure be able to support any future above-highway park space.

- We are concerned with the elimination of the Polk Street connection to downtown, which currently acts as an east-west connector.

- Census data shows that the largest share of people who use public transportation and bike are in lower-income brackets. Given the fact that the preferred alternative will affect individuals who commute downtown, it is important to ensure that current east-west connectors are maintained to the greatest extent possible and that any potential impacts to these modes of transportation are coordinated with appropriate local agencies, nonprofits, and affected communities. With respect to the existing purple and green rail lines that serve communities in the east and southeast, TxDOT must coordinate with METRO and others to minimize impacts to ridership. It takes time to adapt to changing

[15] Available at https://www.fhwa.dot.gov/environment/environmental_justice/resources/ej_and_nepa/case_studies/case00.cfm.

modes of transportation, and minimizing impacts during the construction phase will require early coordination. With respect to bicycle infrastructure, TxDOT must continue coordinating with interested parties to minimize impacts and ensure continued and improved connectivity between communities outside the highway infrasturcture and downtown Houston.

F. AIR QUALITY

1. TxDOT's air quality analysis recognizes that information is incomplete or unavailable to predict project-specific air impacts, but regulations still require TxDOT to conduct an analysis based on theoretical approaches or other research methods.

Section 4.1.5 of the DEIS states that information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions. CEQ regulation 40 C.F.R. § 1502.22 requires that when information is incomplete or unavailable, the agency shall include an evaluation of such impacts based upon theoretical approaches or research methods generally accepted by the scientific community. Thus, when information is incomplete or unavailable, the agency cannot avoid analyzing the issue altogether; TxDOT must conduct the analysis using theoretical approaches or other research methods. TxDOT has not done this.

2. The DEIS fails to provide sufficient information regarding the current non-conformity with Texas' State Implementation Plan.

The DEIS states "The proposed project is not consistent with the State Implementation Plan (SIP) because it was not included in the 2040 Regional Transportation Plan (RTP) or the 2017-2020 Transportation Improvement program (TIP)." ES-4, DEIS 3-39, App'x C at 1. The DEIS further states that "The proposed project will be added to the RTP and TIP prior to the environmental decision." DEIS 3-39. However, the DEIS does nothing to explain the process or the timing of it. Thus, as a public disclosure document, the DEIS falls short. For example, the public should have been told that the Houston-Galveston Area Council (H-GAC) performs the conformity determination, and that two state agencies (TCEQ & TXDOT) and two federal agencies (FHWA & EPA) must review and concur. The most recent conformity determination was in July 2016. *See* http://www.h-gac.com/taq/airquality_model/conformity/2016.aspx.

3. The DEIS and the most recent conformity determination rely upon unrealistic or inaccurate post-project traffic speed predictions which may lead to underestimates of air quality impacts.

In July 2016, the TCEQ stated the following in its concurrence letter for the July 2016 conformity determination:

> The H-GAC used a methodology for its regional emissions analysis that deviates from the methodology used to calculate MVEB for the applicable SIP revision. While both methodologies employed the Motor Vehicle Emission Simulator (MOVES) model to estimate on-road emissions, the MVEB was calculated with

> utilities developed by the Texas A&M University Transportation Institute that utilizes MOVES in a mode that categorizes emission rates based on 1 mile-per-hour (mph) vehicle speed increments. For its regional emissions analysis, the H-GAC relied on the Spatial Emission Estimator (SEE) modeling framework, which utilizes MOVES in a mode that categorizes emission rates based on 5 mph vehicle speed increments. The SEE tool can be programmed to bin speeds at the 1 mph level, but the TCEQ determined that to be unnecessary for this conformity analysis because the regional emission estimates were sufficiently below the applicable MVEB.[16]

We are concerned that TXDOT's reliance on emissions calculations that depend in part upon predicted post-project speed improvements is misplaced. For example, during the I-10 expansion project, TXDOT similarly relied upon predicted increases in vehicle speeds for its emissions calculations. However, seven years after the I-10 project was completed, average rush-hour vehicle speeds hover between 10 mph and 30 mph in many sections of I-10. *See* Attachment F-1 (Transtar speed charts). One study of the Transtar travel time data showed that in 2014, during peak rush hour, it took 70 minutes, 27 seconds to travel from Downtown, past Beltway 8, all the way to Pin Oak, just past the Katy Mills Mall. Compare this with 2011, when this same trip took 46 minutes, 53 seconds. *See* http://www.houstontomorrow.org/livability/story/it-took-51-more-time-to-drive-out-katy-freeway-in-2014-than-2011/. In short, expanding I-10 from eight lanes to 23 may have only provided short-term speed increases, but over the long term the expanded freeway in fact attracts and encourages more vehicles (in part due to induced growth and increased numbers of commuters), so the speed increases are lost over time.

Here, the DEIS Air Quality Technical Report relied on projected speeds of 60 mph for the main lanes and HOV of segments 1 & 2, and 50 mph for Segment 3. We recommend that TXDOT justify these projected speeds by comparing post-project measured speeds after other highway expansions projects, including I-10. We further recommend that TXDOT evaluate and explain the sensitivity of the MOVES and SEE models to determine whether more realistic lower post-project speeds have a significant impact on air emissions. We also request that TXDOT provide this information to H-GAC for use in its conformity determination with a recommendation that they use 1 mph speed increments.

4. The DEIS fails to analyze Mobile Source Air Toxics and other pollutants on a localized and quantitative basis.

The DEIS states that that localized MSAT concentrations "could be higher under certain Build Alternatives than the No Build Alternative." DEIS at 3-22. However, the DEIS makes no attempt to evaluate project specific MSAT health impacts, and only undertakes the bare minimum of qualitative MSAT analysis. DEIS at 3-40, App'x C 19–24. The DEIS states that a "quantitative MSAT analysis would be conducted during preparation of the Final EIS to calculate total MSATs of the affected network links as a result of the proposed project." DEIS at 3-40. Therefore there is nothing in the DEIS that allows the public to understand where these localized

[16] http://www.h-gac.com/taq/airquality_model/conformity/2016/docs/TCEQ-Concurrence-HGB07 0816.pdf.

increases in MSAT emissions would be, or by how much MSATs will increase. It is also impossible to determine whether these increased MSAT emissions will be predominantly borne by minority and low-income populations. FHWA Order 6640.23A states that when an adverse effect is predominantly borne by a minority or low-income population, the impact is disproportionately high and adverse. As such, all practicable mitigation of near-road air impacts to this population should be considered.

With the exception of carbon monoxide, it appears that TXDOT will rely primarily on analyzing air impacts at the regional level (*e.g*., through the conformity determination), and we are concerned that EIS will not give adequate consideration of near-road air emission impacts, especially to minority and low-income populations. CEQ's *Environmental Justice Guidance under the National Environmental Policy Act* states that "Agency consideration of impacts on low-income or minority populations . . . may lead to the identification of disproportionately high and adverse . . . effects that are significant and that otherwise would be overlooked. Council on Environmental Quality, "Environmental Justice: Guidance Under the National Environmental Policy Act" (Dec. 10, 1997) at 10. No analysis of localized impacts from MSAT emissions is presented in the DEIS.

Additionally, CEQ's *Environmental Justice Guidance under the National Environmental Policy Act* states that "Agencies should recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action. These factors should include the physical sensitivity of the community or population to particular impacts." *Id*. at 9. The analysis in the EIS does not appear to have given consideration to any factors that may amplify the near-road air emissions (*e.g*. community asthma rates). While near-road air emissions may be minor for the general population, the impact may be amplified for minority and low-income populations along the proposed project.

5. The DEIS relies upon EPA vehicle engine and fuel regulations that the Trump administration has criticized as too strict and ordered EPA to reconsider.

Further, the DEIS indicates that near-road air impacts will be sufficiently mitigated by implementation of EPA's vehicle engine and fuel regulations. DEIS 3-40. The DEIS claims that even with a predicted 100 percent increase in vehicle miles travelled (VMT) total emissions of MSATs will be "reduced by over 80 percent." DEIS at 3-40. While it may be true that EPA's national vehicle and fuel regulations will result in lower levels of ambient air pollution over time regardless of project alternative, nevertheless the preferred alternative will presumably result in near-roadway populations facing additional exposure to air pollutants than they would otherwise in the absence of the alternative.

However, on March 15, 2017, President Trump instructed EPA to re-evaluate these very regulations. NBC News, Trump Rolls Back Obama-Era Fuel Economy Standards, (Mar 16, 2017), at http://www.nbcnews.com/business/autos/trump-rolls-back-obama-era-fuel-economy-standards-n734256.

> Trump said he was ordering the EPA to reopen a mid-term review of Corporate Average Fuel Economy, or CAFE, standards that would require the industry to deliver a fleet average of at least 54.5 mpg by 2025.
>
> "My administration will work tirelessly to eliminate the industry-killing regulations," Trump said, his new EPA chief Pruitt adding his assertion that "these standards are costly for automakers and the American people."

The re-evaluation may be completed before the FEIS is issued, and if so, TXDOT must update its air quality analysis to reflect any new EPA vehicle engine or fuel standards in place at the time. We recommend that TXDOT closely monitor the ongoing EPA re-evaluation of the 2016 regulations.

6. The DEIS fails to implement EO 13043 because it mostly ignores the impacts on children.

The DEIS contains a brief discussion of the impacts of the proposed project on children, but only with respect to displacement of community resources used by children, such as schools, child care facilities, parks, housing, and other places where children live, learn, and play. DEIS at 3-6, 3-23. However, there is no reference to Executive Order 13045 *Protection of Children from Environmental Health Risks and Safety Risks* in the DEIS. Pursuant to this EO, the DEIS must include discussions regarding the identification of impacts on children, including pollution and sources of concern; exposure assessment and baseline health conditions including poverty rates, respiratory impacts, traffic noise, impacts from air pollutant emissions and chemical exposures; and impacts that could potentially affect obesity.

7. TxDOT should review and incorporate the findings of additional relevant studies.

Motor vehicles are a major source of air pollution in Houston. Exposure to traffic-related air pollution is linked to a range of adverse health outcomes. Reducing exposure to traffic-related air pollution will provide public health benefits, including improved cardiovascular and respiratory health and reduced rates of cancer. There are many traffic-related air quality and air pollution studies that TxDOT must fully evaluate, consider and discuss in any amended or supplemental DEIS or the FEIS, including, but not limited to the following:

- Health Effects Institute Panel on the Health Effects of Traffic-Related Air Pollution, (2010) *Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects.*
- Loomis D, et al. (2013). *The carcinogenicity of outdoor air pollution*. Lancet Oncology, 14 (13): 1262–1263.
- Benbrahim-Tallaa L, *et al*. (2012). *Carcinogenicity of diesel-engine and gasoline-engine exhausts and some nitroarenes*. Lancet Oncolocy, 13 (7): 663–664.
- Crouse DL, *et al* (2012) *Risk of nonaccidental and cardiovascular mortality in relation to long-term exposure to low concentrations of ne particulate matter: a Canadian national-level cohort study.* Environmental Health Perspectives 120 (5), 708

- Zhang, K., & Batterman, S. (2013). Air pollution and health risks due to vehicle traffic. *The Science of the Total Environment*, *0*, 307–316. http://doi.org/10.1016/j.scitotenv.2013.01.074

G. WATER RESOURCES

1. The DEIS must consider the full impacts to important waterways.

All alternatives cross important waterways, most notably Buffalo and White Oak Bayous. All alternatives also cross other smaller bayous, including Halls and Little Oak Bayous. Each of these waterways are impaired waters as identified on TCEQ's Section 303(d) list, for variously bacteria and depressed oxygen demand, but TCEQ does not assess waterway impairment for litter, floating garbage, or gross solids. In the DEIS, TxDOT discloses the impacts for the proposed project on water resources, DEIS at 3-48, *et seq*. The DEIS recognizes TxDOT's *Storm Water Management Guidelines for Construction Activities*, stating that they provide discussions of storm water controls to be implemented during construction (TxDOT 2002). DEIS at 4-39.

The DEIS fails to adequately discuss the many ways that roadway and highway construction negatively impact water quality and does not adequately describe or quantify those negative impacts and potential mitigation for those impacts. As Houston continues to grow, it is widely accepted that careful stewardship of our water supply and of the quality of that water is increasingly important. TxDOT will need to take every effort to halt the continued degradation of water quality caused by road construction and work toward improving the quality of the stormwater discharged from their new roadways. The I-45 proposed project presents TxDOT with an ideal opportunity to incorporate the best design and implement the best management practices for stormwater and rainwater runoff.

Stormwater leaving a roadway or highway surface carries with it oil, grease, and other petroleum-based fluids, tire particles, vehicle litter, and various toxic and non-toxic materials that are spilled onto the roadway surfaces. Water temperatures of this runoff is typically very high when leaving pavement surfaces, resulting in very low oxygen levels, and low oxygen levels result in anaerobic conditions and fish kills. In addition, current construction practices allow heavy quantities of fine suspended solids to enter streams and bayous during construction and repair of roads and these fine particles provide a refuge for stream bacteria, especially fecal coliform, which are already a problem in urban waterways. Indeed, the current portions of highways (I-45, I59, and I 10) that cross the bayous were designed to allow runoff from the road way directly into the bayous without any pollutant control. Where they cross the bayous, the existing highways appear to lack any functional stormwater collection system, and instead have drainage holes on the sidewalls to allow runoff to flow directly into the bayous below. *See* Attachment G-1 (photos). While such a design may have been acceptable decades ago, it is no longer acceptable today, because all the runoff carries pollutants directly into the bayous.

2. **The DEIS must contemplate appropriate mitigation measures for impacts to water resources.**

Water quality features need to be built into the stormwater system in such a way as to remove and confine petroleum based liquids, solids and litter from the stormwater discharge stream. Detention basins may need to be designed and constructed to thoroughly treat the first flush of rainfall (typically the first inch), and to meet, or be less than, the natural runoff rates. Basins should be designed to receive 100% of the first flush flows, and wherever possible, basins should be designed with wet bottoms to maximize the containment time-frame and to maximize water quality improvements. It is our understanding that current TxDOT policy discourages the use of wet bottom detention and design their basins to only take peak flows. Specific and measurable water quality goals should be established to monitor roadway runoff to ascertain whether the management practices are achieving their objectives.

Water quality controls must be designed and built into the stormwater system to remove and confine petroleum based liquids, solids and litter from the stormwater discharge stream. Detention basins should be designed and constructed to thoroughly treat the first flush of rainfall (typically the first inch), and to meet the expected runoff rates. Detention basins should be designed to receive all of these first flush flows, and wherever possible, basins should be designed with wet bottoms to maximize the containment time-frame and to maximize water quality improvements. It is our understanding that current TxDOT policy discourages the use of wet bottoms and designs their basins to only take peak flows, however we urge TxDOT to re-evaluate this policy. Specific and measurable water quality goals must be established to monitor roadway runoff to ascertain whether the management practices are achieving their objectives.

There are many transportation departments in the US and elsewhere that have developed better designs, techniques and policies concerning stormwater runoff. We encourage TxDOT to review the progress and up-to-date designs, techniques and policies. Some of these are listed below:

- California: http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/index.htm#litter (Attachment G-2 (listing many studies, assessments, designs, and reports of pollution control from stormwater))
- North Carolina (Attachment G-3)
- Hawaii (Attachment G-4)

Many other examples likely exist; therefore, we encourage TxDOT to research best management practices outside of Texas with the objective of improving designs, techniques and policies for reducing pollutant runoff from new roadways in the Houston region. Best management practices have progressed beyond those identified in the 2002 TxDOT guidance paper.

We retained a professional engineer, a hydrologist, to assist in some of the comments in the following three sections. Attachment G-5 (Report of Lawrence G. Dunbar, P.E. (July 21, 2017)). In assessing impacts on the bayous, our expert recommends that TxDOT evaluate the impact of pollutants, sediment and trash expected to be generated from the proposed project on the adjacent bayous. As stated in his letter report, the hydrologist states that an evaluation of the impact of pollutants, sediment and trash expected to be generated from the proposed project on

the adjacent bayous should be conducted, and appropriate mitigation measures incorporated into the designs of the various alternatives for comparison purposes. Attachment G-5 at 3.

The preferred alternatives and the other alternatives all increase the area of highway and the number of crossings of Houston's bayous. Many of the proposed highways also cross Houston's important Greenway Bayou trail system. We therefore request that TxDOT exceed its current 2002 policies, and design and construct this I-45 project to best protect the water resources and quality of Houston's bayous and parks.

H. STORMWATER AND FLOODPLAINS

1. As with other aspects of the DEIS, here too with drainage TxDOT has improperly delayed analysis until the FEIS.

The DEIS states that "a detailed hydrologic and hydraulic study would be performed for the proposed project during the design phase to determine the appropriate locations and size of bridges, culverts, or other drainage structures that would be required." DEIS at 3-62. However, this deferral does not allow the public an opportunity to review or comment on these structures nor on the study itself. Furthermore, without such a study being done as part of the DEIS, a fair comparison of the various alternative and their costs cannot be made.

2. In rebuilding I-45, TxDOT should mitigate for the stormwater impacts of the entire project, as Greens, Halls, Little White Oak, White Oak, and Buffalo Bayous do not have extra capacity for increased runoff, and the original footprint of I-45 was not mitigated for stormwater impacts.

The Bayou Preservation Association (BPA) has submitted important comments to TxDOT on this issue and we wish to reiterate them here. Attachment H-1 (BPA Comments on NHHIP (Dec. 1, 2011)).

As described in the BPA letter, TxDOT has adopted a practice of only mitigating for increases in impervious surfaces, effectively grandfathering any changes to existing surfaces. This practice ignores the cumulative impact of highway projects from decades past that did not take into account stormwater impacts, and impacts to floodplains. We wish to reiterate BPA's comment that TxDOT, as an agency charged with public safety, should design and construct stormwater facilities that take into account the entire project area when undertaking a significant highway reconstruction project. This is within TxDOT's engineering capabilities and is the right thing to do for the Houston community.

3. The DEIS needs to integrate Executive Orders 13690 and 11988 related to floodplains into the drainage analysis.

As explained by Executive Order 13690, Executive Order 11988 of May 24, 1977 (Floodplain Management), requires "executive departments and agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a

practicable alternative." *See* Attachment G-5 at 3. Executive Order 13690 expanded upon this directive.

As raised by our hydrologist, the projected increase in rainfall rates for a 100-year storm event due to climate change should be incorporated into the hydrologic analyses presented in the TxDOT drainage study. The projected increase in rainfall rates should be incorporated into the design analyses of detention ponds needed for this project. Further, TxDOT needs to consider how the executive orders impact the level to be set for the mainlanes to be protected against flooding from the various bayou floodplains. *See* Attachment G-5 at 3.

4. **With regard to bayou floodplain, HCFCD's "No Adverse Impact" policy was ignored.**

In Section C.7.2 "Preliminary Conveyance Impact Analysis", the assessment of potential impacts was done only "in locations where future improvements impinge on the regulatory floodway." DEIS at § C.7.2. However, as our hydrologist observed, the regulatory floodway incorporates an assumed condition of some filling/obstruction within the floodplain that may not currently exist. *See* Attachment G-5 at 3. This conveyance analysis therefore does not reflect any impacts that would occur outside of the regulatory floodway but within the flow effective boundaries of the bayou's floodplain. *Id*. This would be contrary to HCFCD's No Adverse Impact policy. *Id*.

5. **Project impacts should be evaluated for expected floodplain conditions due to the expected increase in heavy rainfall rates due to climate change; extreme events studied by TxDOT should include the 500 year event (at a minimum).**

The DEIS states "the [drainage] study would also confirm that the project would not adversely impact existing floodplain conditions within the vicinity of the project for extreme events (i.e. storm events in excess of a 100-year storm event)." DEIS at 3-62. According to our expert, however, project impacts should be evaluated for not only existing floodplain conditions but also future expected floodplain conditions due to the expected increase in heavy rainfall rates due to climate change, as discussed below in Section I. Attachment G-5 at 3.

TxDOT does not make clear how large of an event in excess of a 100-year storm event will be evaluated as an "extreme event" (e.g. 101-year event, 200-year, 500-year, or 1,000-year). Consulting with our expert, we recommend that the extreme event should at least include the 500-year event, in part because FEMA floodplain maps include the 500-year floodplain. *Id*.

I. CLIMATE CHANGE

1. While the DEIS discusses hurricanes as a byproduct of climate change, the DEIS omits and generally ignores extreme rainfall, which Houston already is experiencing, and climate change is expected to worsen these effects. TxDOT should ensure that the project design considers increased intensity and frequency of rainfall and must appropriately develop infrastructure and drainage management.

The DEIS states the following: "Climate change is expected to alter future weather patterns, including precipitation. Extreme weather events (hurricanes, tropical storms) are generally expected to increase in intensity with a warming climate." DEIS at 4-6. Specifically, it is mentioned that "one consistent indication from climate change models is an increase in hurricane rainfall rates predicted with increasing average temperatures." *Id*. at 4-7. The DEIS further states that "The changes to precipitation currently predicted can be used to describe climate change's impact on flood risk to the alternatives…" *Id*. at 4-6.

Many in the scientific community adhere to the proposition that among the effects of climate change is the increase of extreme weather events—such as more intense and more frequent extreme precipitation events. *See* Attachment I-1 (National Academies of Sciences, *Attribution of Extreme Weather Events in the Context of Climate Change* (2016)).[17] We appreciate that TxDOT includes a section on climate change, DEIS 4-1 *et seq*. But TxDOT has not adequately incorporated the implication that for the Houston area, there will be more intense and more frequent extreme precipitation events—not just during hurricanes—which will effect floodplain and drainage management and related highway design.

As our expert observed, the DEIS does not mention that extreme precipitation events, not necessarily associated with hurricanes, will have increased intensities with a warming climate and that such would be expected to result in increased stormwater runoff and increased flooding/floodplains. Attachment G-5 at 1. All this needs to be disclosed and addressed in the DEIS.

Instead the DEIS focuses on changes in "annual heavy precipitation days" and "the average number of days per year receiving more than 1 inch of precipitation. DEIS at 4-6. As such, the DEIS concludes in its summary table 4-1 that "No impact expected due to non-tropical storm rainfall given predicted small increase in annual heavy precipitation days." *Id*. at 4-13. However, it should be acknowledged in the DEIS that impacts are expected due to non-tropical storm rainfall given the expected increase in precipitation intensities in the future due to climate change.

The DEIS table goes on to state "Potential impact from hurricane rains that **could** be more intense when making landfall"; however, this is inconsistent with the above referenced statement from the DEIS that hurricane rains are predicted to be more intense. Thus, according to our expert, the DEIS should state that this impact from hurricane rains "**would** be expected to be" more intense when making landfall. Attachment G-5 at 2.

[redacted]

Of note, the DEIS states that "one purpose of the project is to eliminate areas of flooding in the I-45 mainlanes." DEIS at 4-7. Thus, as our expert explains, it is imperative that the flood analyses incorporate the expected increase in flooding in and around I-45 due to the expected increase in extreme rainfall rates/intensity due to climate change. *See* Attachment G-5 at 2. It is disingenuous to acknowledge that "greater rainfall is predicted in individual storms" without also acknowledging that this would also be expected to cause increased flooding, rather than always stating that it "could" cause increased flooding. *Id*. at 2.

For all these reasons, we take issue with this statement: "The projected indicators of future heavy precipitation, along with the proposed design of the Build Alternatives, **does not indicate that climate change would significantly impact current/future flooding risk associated** with the existing roadway (No Build) or proposed Built Alternatives." DEIS at 4-8 (emphasis added). To the contrary, climate change in the form of increased intensity and frequency of precipitation will absolutely impact the No Build and Build Alternatives.

2. **Given climate change, TxDOT needs to be thinking in terms of transportation resiliency.**

There are many studies emerging now on preparing transportation and transportation projects for the future in light of climate change and extreme weather events. For example, the National Cooperative Highway Research Program has published a report on *Response to Extreme Weather Impacts on Transportation Systems* (2014).[18] *See* excerpts in Attachment I-2. The report includes several case studies from different states on extreme precipitation (including ones on flooding, and a case study from Texas on drought), with lessons learned from each. Attachment I-3.

Another study on *Transportation System Resilience, Extreme Weather and Climate Change* counsels very specifically: "The long-term solution to transportation system resiliency is not just about cleaning up after events and repairing the infrastructure, but **planning for and designing infrastructure with the current and future climate in mind**." *See* Attachment I-4.

It is absolutely essential that extreme precipitation is a part of the analysis of a large-scale transportation project in the Houston area. Any rebuilding of I-45 presents a unique opportunity to plan for the future, and to build a project that will be resilient to the future conditions. We strongly recommend that this analysis become a part of the North Houston Highway Improvement Project.

Sincerely,

Irvine & Conner, PLLC

by_____

Charles W. Irvine

[redacted]

ATTACHMENT
A-1

CONNECTIVITY AND MULTIMODAL CONSIDERATION

The City of Houston adopted a Complete Streets policy in 2013 to ensure streets are constructed for all users of the system. The City also requires that streets should be built using a Context Sensitive Design guidelines as those recommended in the Institute of Transportation Engineers (ITE) - Design Walkable Urban Thoroughfares: A Context Sensitive Approach and National Association of City Transportation Officials (NACTO) – Urban Street Design Guide and others. Since the project location is within the urban core of the City, the design on the proposed project should meet these guidelines.

The existing freeway infrastructure built in the 1960's separated communities, impacted neighborhoods and had a significant impact on the City of Houston. The NHHIP should improve connectivity between communities in and around Downtown; not reduce it. Where possible, strong connections should be maintained and new ones should be added to the existing street network. Reducing street connectivity in areas in the urban core of Houston should be avoided or mitigated wherever possible. Connectivity should be considered not only for vehicular traffic, but for all modes of transportation; inclusive of people on foot, people on bicycles, transit users, and for freight.

Based on the schematic exhibits it's not clear if local street network operations have been analyzed at the same level of detail as freeway operations. While the freeway operations are critical for regional circulation, the local circulation is critical for the City of Houston and for the adjoining communities impacted by this project. Improving connectivity, by providing multiple routes where people can travel, is critical to avoid relocating congestion from freeways to local streets.

The NHHIP project should be built to reflect the infrastructure needs for the next 50 years. This can only be achieved if multimodal consideration of transit and freight are integrated into the proposed design. Houston is a multi-centric city. Activity centers are located throughout the region and integrating two-way high capacity transit into the design benefits the overall region. The proposed MaX Lanes concept could be designed and operated to ensure that reliable and frequent high capacity transit could be operated to connect all regional activity centers. The existing HOT lanes operations do not allow for reliable transit operations resulting in significant increase in single occupancy trips in our region.

The U.S. Census Bureau shows that the largest share of people who bike, in large car dependent cities like Houston, are in lower-income brackets. Given the immediate surrounding neighborhoods and the location of our bayou greenways, current and future bicycle infrastructure, bicycle connectivity is of paramount concern. Providing for high-comfort bikeway connectivity across and along the proposed project is essential to the changing demographics in our region. It is also needed to address the additional barrier between neighborhoods, especially the increased barrier between lower social-economic neighborhoods and the Central Business District. In areas where vehicular connectivity may be removed, options should be evaluated to preserve pedestrian and bicycle connectivity.

The proposed schematic drawing does not identify sidewalks along sections of the proposed project. In general, sidewalks should be identified along all frontage roads and public streets on the schematics in

all typical sections. All bridges should have wide sidewalks for safe crossing. Ensuring access to pedestrian and ADA accessibility along all public streets is critical.

We look forward to coordinating with TxDOT on the proposed deck structure across the freeway; however, it is also important to have safe connectivity and accessibility to these areas across the proposed frontage road. The deck structure should also be coordinated with the City and other adjoining entities to ensure appropriate design and infrastructure for proposed improvements over these decks.

SEGMENT 1

- Consider extension and direct connection from I-45 MaX lanes to Greens Road to serve Greenspoint area. This will help with redevelopment of the area and support potential METRO Limited Stop Downtown to Airport Route (e.g., Downtown> Shepherd> Greenspoint> IAH)
- Ensure Halls Bayou Crossing north of W. Mt. Houston is designed to allow trail crossings under freeway and frontage roads.
- Connections on Crosstimbers, Victoria/Lyerly, Tidwell Rd., Cortlandt/E Witcher, Rosamond, W Parker Road, Rittenhouse, etc. should be designed with high comfort intersections for bicyclists and pedestrians. These are vital connection for the Independence Heights, Garden Oaks, Oak Forest and Acres Homes areas to safely reach either Little White Oak Bayou or the Red Line into downtown.
- The HOV ramp from Airline Drive providing access to Independence Heights and Northside Community is being removed. Provide alternative access for the communities to managed lanes.
- Provide local street connection between Veterans Memorial and I-45 southbound frontage road along the METRO T-Ramp.
- Little White Oak Bayou extends north of I-610 to Crosstimbers in Independence Heights and ultimately to Acres Homes. See Segment 2 comments and apply to Segment 1. Also, design any detention basins along this section of the bayou to be accessible green space.

SEGMENT 2

- Clarify end of streets like North Street, Woodland Street and Farwood Street on the east side of I-45. Ensure connectivity to the Frontage Road for some, if not all streets.
- Consider extending IH-610 Segment east to allow Helmers Street connection across the freeway. Helmers would be a very useful north-south connection, potentially as a residential minor collector, as it is continuous from Fulton Street on the South to Berry Street on the north, a distance of almost 3 miles. Right now, only north-south connections through here are Fulton and Irvington and Fulton has Red Line impacts. Extension of Helmer may allow for safe pedestrian and bicycle connectivity between neighborhoods across IH-610.
- Assess the option to bring pedestrian and bicycle trail underneath freight railroad north of Stoke Street. If pedestrian and bicycle connection cannot be provided under the freight rail line, integrate pedestrian and bicycle facility into frontage road design to cross rail ROW and provide connection to Stokes Street.

- The removal of North Street Bridge creates greater access issues between Heights and Northside possibly leading to more traffic congestion. Provide pedestrian and bicycle connection along I-45 and Little White Oak Bayou to mitigate the removal of the North Street bridge.
- Little White Oak Bayou: This bayou section is an important piece of the expanding high comfort bicycle network that provides connectivity from outside the N Loop 610, under I-45 away from traffic, and into downtown making further east and west connections through Buffalo Bayou. Acknowledgement of this bayou as a necessary connector for bicyclists, pedestrians, and naturalists is unaddressed in this design and crossings (Hogan/Crockett, Houston, Quitman/White Oak Dr., Main St, Patton, Cottage etc.) allowing full access to Little White Oak Bayou need to be maintained and carefully designed with high comfort bicycle and pedestrian crossings. Surrounding neighborhoods are historically under-served and connections via bicycle and on foot are measurably significant. The project should replace the existing culvert north of Patton Street with a bridge span designed to allow trails on both sides of the bayou. At I-610, a safe route along the bayou should be included (could suggest replacing this culvert, also or high comfort bike lane at signalized frontage road intersections). The new trail should connect to the existing bike trail along Little White Oak Bayou between Enid and Calvacade, on the west side of I-45 and to a new park at the retention pond areas on the east side of I-45 (where Love's Truck stop is currently), and on to Moody Park/Woodland Park/White Oak Bayou trail. Mitigate for loss of green space along the bayou in this area and replace the existing trail with an equivalent trail.
- Deck Park over I-45 near North Main - The original I-45 construction bisected one community into two. This has become a permanent separation resulting in different community cultures on either side of the freeway. There are constant efforts to reunite the communities but the swath of freeway that separates them remains a physical barrier. Create a deck park over the freeway near North Main. This will be a physical reattachment point, reuniting the divided communities. Address the accessibility issue to the proposed Deck Park location near Main Street with the proposed multilane frontage roads and U-turn ramps.
- Justify the need for 1 lane northbound frontage road from Quitman Street widening to 4-lanes near Main Street. Ensure pedestrian and bicycle accessibility along he proposed frontage road.
- The proposed design has significant impact on the adjoining neighborhoods. Address the additional barrier between neighborhoods, especially the increased barrier between the Northside neighborhood and the Central Business District. See Segment 3 comment about a Fulton-North San Jacinto Street connection.
- Connectivity in and out of Northside neighborhoods needs to be addressed in a way that it becomes improved not worse by new design.

SEGMENT 3

SOUTH: US 59/I-69

- Ensure proposed design does not prohibit future two-way high capacity transit on I-69/US 59 with focus on Spur 527. Direct or expedited connections from the existing HOV/HOT to Wheeler

TC should also be explored.

- With the proposed reconfiguration of I-69 at Wheeler Transit Station, there is an opportunity to improve multi-modal circulation, access to the transit center and plan for future capacity needs with the University Corridor and US 90A transit connections. Coordinate with City and METRO to ensure this area is designed to maximize future transit and development opportunities. The Deck Park Cap at this location provides an opportunity for public and private investment to develop a Transit Oriented Development. TxDOT should actively engage in the development and implementation of the Wheeler Area Park Cap and related street and transit connections.
- Evaluate options to maintain Blodgett connection from San Jacinto to Main St. This is very useful connection and very helpful to the bus operations at the Transit Center. With the redesign of the San Jacinto on-ramp to east side of street, this should be achievable.
- IH-69 exit to Main Street near Wheeler TC should be designed to allow improved pedestrian and bicycle connectivity and safe crossings as identified in Houston Bike Plan/METRO Bike & Ride studies.
- Ensure all bridges, including Montrose, La Branch, Austin and Almeda bridges are wide enough for safe pedestrian and bicycle crossings.
- The proposed project allows for separated pedestrian and bicycle facility along the south side of US 59 between Graustark and Main Street and the Center Point utility corridor. This would safely connect the Montrose and Boulevard Oaks neighborhoods to the Wheeler Transit Center. Evaluate feasibility of grade separated trail extension below Montrose bridge since midblock crossing at the bridge may be challenging.
- Links to Downtown should support high-quality, fast, reliable connections to major activity centers.
- As currently proposed, the primary access to and egress from the SH 288 Managed Lanes or Toll Lanes would be provided on Chenevert Street south of Elgin, adjacent to the Houston High School for International Studies and Baldwin Park. This configuration is suboptimal for everyone involved. Drivers using the Managed Lanes will more likely be destined for Downtown than Midtown, or might be trying access another freeway to continue. Either way, ending up on Chenevert Street will introduce unnecessary delay and confusion. Presence of the existing freeway ramps disrupt the neighborhood fabric and introduce unsafe vehicle speeds in a residential area. The proposed design would set this problem in concrete for another 50 years. Like other managed lanes connections, the SH 288 Managed/Toll Lanes could just be connected to the SH 288 main lanes near Alabama. The other option would be reconfigured the ramps to connect to Hamilton and Chartress that serve as the frontage road along this section of the freeway. Doing so would make access much more intuitive, improving the chances of success for the Managed Lane project. It would also give drivers headed toward Downtown or other connecting freeways a more convenient route for doing so than Midtown surface streets.
- As part of the removal of the ramps from the neighborhood, the grid of local streets be reconnected including Francis Street, Chenevert Street, and Holman Street. Re-gridding the streets would create surplus land for redevelopment to mitigate the impact of the project on adjacent neighborhoods. Connecting Holman Street through to Hamilton Street would obviate the need for the freeway-style ramps connecting to Chenevert Street south of Holman Street.

Removing them would be more consistent with the context of the neighborhood while improving safety, reducing right-of-way acquisition, and creating more surplus right-of-way.

EAST: I-69, I-45, SH 288

- Connectivity on the east side has historically been limited and the project should ensure that this issue is appropriately addressed. There is no proposed street that provides direct two-way east-west access between Downtown and the East Downtown / East End area along the stretch between IH- 45 South to IH-10, a distance of nearly 2 miles. Even those streets that cross the proposed IH- 45/IH-69 trench require switching to an adjacent street through several turns to continue east/west.
- The loss of connections such as Polk, Leeland/Bell and Runnels are significant. Include Runnels to McKee or Canal to Ruiz connection. The loss of Runnels cuts off the area of the East End north of the West Belt Subdivision rail line and Buffalo Bayou and limits access to Downtown to just the Franklin/Navigation underpass. Other option for residents is to backtrack to Harrisburg, which doesn't connect to downtown that well due to the street network, stadiums and large parking lots in the area. One of these proposed connections would be significant improvement.
- Evaluate options for northbound exit from US 59 main lanes to Runnels Street.
- Evaluate options for extending Canal Streets across I69/US 59/I-45 between Downtown and Second Ward.
- Existing two-way connection of Nance Street to Jensen is being replaced by one-way frontage road along Rothwell. Identify another two-way connection between Jensen and Nance Street. This is especially important since the westbound frontage road along I-10, which is not proposed to be extended across I-69.
- Maintain Jensen Street exit from IH 10 eastbound or provide other alternatives to maintain connectivity without at-grade rail crossings.
- Identify option for ingress and egress from I-69 near the Buffalo Bayou areas to improve access to and from Downtown, East Downtown, East End, and 5th Ward.
- Proposed design still has limited connectivity to the 5th ward areas north of Buffalo Bayou. The exit ramp for Jensen previously proposed has been removed. Provide alternate access from 5th Ward to mitigate any loss of access. Evaluate options to extend Bringhurst across I-10 to enhance connectivity across I-10. Providing an additional crossing of IH-10 between Gregg St and Hirsch St would be very beneficial, given the potential Midway East River development of the KBR site and Lovett Homes development on MDI superfund site in the East End.
- Evaluate options to maintain Polk Street Connection across I-69 / I-45
  Coordinate with the City, adjoining management entities to evaluate design options to bring I-45 Main Lane ramps and I-45 to I-69 N ramps down below grade between Polk and Rusk. Maintain critical Polk Street connection (Adjust Polk alignment and grades as needed). This proposal eliminates crossings for Dallas, Lamar, McKinney (similar to today).
    - This change would reduce the size of the proposed Park Cap by several blocks (from 10+ blocks to 7) to a more manageable size. For reference, Klyde Warren is about 5 acres, the east side park cap as proposed is nearly 30 acres.
    - The potential park area as currently conceived is as big as 15 Market Square Parks or 2.5 Discovery Greens. That is a lot of park space to program and maintain. Some of the space should be envisioned with the potential to be developed with walkable one to two story buildings, potentially as a home for the businesses displaced in East

Downtown. Freeway support structure should be designed with this in mind. For example you could relocate all the bars and restaurant along St. Emanuel demoed by the freeway widening to location on top of the cap creating an instant destination linking the convention center and stadiums. Would be similar to the bar/meeting space that is on top of Klyde Warren and provide revenue to support maintenance.

- Polk Street pedestrian and bicycle connection is a critical connection to Downtown. The Lamar Street separated bike lane is proposed to be extended along Polk Street to connect East Downtown and other East End neighborhoods to Downtown, Main Street Rail and Buffalo Bayou as part of TIGER Grant. In any scenario, maintaining this pedestrian-bicycle connection is vital for residents and businesses in the area.
- The loss of Downtown to East End/East Downtown connectivity at Polk and Runnels also impacts METRO service from the East End to Downtown. Routes 40, 41, 48 will need to find separate routes for eastbound and westbound trips. This will increase complexity, impact reliability for customers, and potentially incur service costs for METRO. Keeping Polk open would mitigate some of these issues and is recommended.
- Proposed Lamar St at St. Emanuel intersection is difficult to see on the schematic but seems awkward with difficult geometry. Keeping Polk open (with related ramp changes) would address connectivity issues and eliminate need for this funky design.
- Connect Leeland to a Leeland/Bell one-way pair as it is currently. This will require redesign of the freeway off-ramp connected to Bell, which seems achievable. If Polk connection is eliminated, TxDOT should identify funds for grade separation of Leeland at the West Belt Subdivision rail lines so that major east west connection exists without barrier between Eastwood and downtown.
- Maintain Walker Street crossing between St. Emanuel and Hamilton as an extension of Columbia Tap trail to west side of SB frontage road (instead of as a street crossing) then bring trail south to Polk St. along the back of the convention center.
- Ensure Buffalo Bayou trails can connect to East End/Fifth Ward though detention area and freeway crossings. This is critical connection for the East End and must be excellent.
- Consider making more bridges and related traffic control two-way (e.g., Leeland, Commerce). This should be paired with consideration of more two-way streets in downtown. At the proposed box/beam structure behind the GRB, Rusk, Capital, Leeland, and Commerce Street connectivity travel is diminished between downtown and southeast Houston.
- Southeast Houston is a historically under resourced area and an area that relies on bikes to safely travel throughout the city. Crossings at these points need to be designed with wide sidewalks and high comfort bike lanes complete with physical barriers, green paint, signage, and a continuation of the Bike Plan's programmed projects to build these streets out as dedicated on-street bicycle lanes. In addition, consider sustaining the connection on Polk Street as it connects to the Harrisburg and Columbia Tap trails.

NORTH: I-45, I-10

- This realigned segment of I-10 and I-45 has significant impact on existing businesses and could benefit by improving the connectivity in this area, which is already hampered by freight rail lines and the Bayou. Coordinate with the City and UPRR on the potential to realign the freight main along the passenger main to remove existing freight crossings through Downtown.

- Integrate connection to link area north of UPRR on the north side of the post office site to Downtown. This could potentially be incorporated into Downtown Connector, Bagby, Washington Avenue extension design.
- Plan for the extension of San Jacinto Street to Fulton including potential grade separation at the UP Passenger Main crossing which is hugely impactful to drivers and transit in this area. This extension could help mitigate the impacts along the north side of Downtown.
- Provide improved version of existing pedestrian and bicycle bridge crossings of freeway east of Elysian and link to a new north-south trail connecting to Near Northside.
- The schematic drawings do not define street network under the freeway segment of IH-10 north of Downtown. This area is designated "Excess ROW" and has significant potential to transform the warehouse district area. Coordinate with the City and Downtown District on the alignment of roadway network to ensure circulation in this area.
- Consider abandoning Conti Street between McKee and Frontage Road. Space could be abandoned and reallocated to development space. Also evaluate the option to clean up transition from Lyons to McKee to make smoother and more legible. McKee and Hardy streets provide pedestrian bicycle connectivity between Buffalo Bayou and the Northside neighborhood. Ensure bridges across I-10 are designed to incorporate safe and high comfort bike facilities.
- Links to Downtown should support high-quality, fast, reliable connections to major activity centers or the northwest transit center. The loss of the existing downtown connector tied into Franklin, should be re-evaluated to see if it could be better used as part of high capacity transit network or as an alignment for a light rail extension.
- Coordinate with City, METRO and TCP to explore High Capacity Transit connection to northwest Transit Center and proposed High Speed Trail Terminal. The existing I-10 corridor west of Segment 3 could be planned to include the extension of METRO's purple and green light rail lines. The current North Houston Highway Improvement Project plans do not consider this connectivity, and in fact, would preclude it, since the plans call for the demolition of the HOV ramp.

WEST: Downtown Connector, Pierce Elevated

While the planned project will remove the I-45 main lanes from the west side of downtown, the planned "downtown connectors," their ramps and related surface streets will have significant impacts on Buffalo Bayou, Sam Houston Park, Fourth Ward and Midtown. With the assistance of the Downtown District, community representatives from the surrounding area have achieved consensus on modifications we are asking TxDOT to make to its plans from Buffalo Bayou to Pierce Street during its FEIS phase:

Buffalo Bayou and Sam Houston Park

Sam Houston Park is Houston's most historic park, and Buffalo Bayou is Houston's greatest natural resource. The project should protect and even benefit both important civic assets.

- Configure NB cloverleaf and SB ramps to and from Allen Parkway to allow for a cleaner bridge design over Allen Parkway and Buffalo Bayou.
- The design of both bridges over Buffalo Bayou (elevated connectors and surface street) should minimize bridge piers and be carefully coordinated with design features of the park and bayou.

- Our groups are inclined to support a proposal for a “signature bridge” over the park and Buffalo Bayou (pending design details)

Downtown Connectors South of Buffalo Bayou
In many areas, the project is converting overhead freeway lanes to below-grade except here where a freeway underpass is being replaced with an overpass at West Dallas.

- With “low profile” bridge structures (thin slabs) and minimal re-grading, current standards can be met and still allow the elevated connectors to pass over Allen Parkway and then go below West Dallas as the I-45 main lanes do today.
- Continue the downtown connectors below grade south of Andrews.
- Include a direct pedestrian connection and gateway at Andrews Street from downtown to Fourth Ward.
- Shift all roadways within the existing right-of-way to open up more space on the Fourth Ward side for a linear green space and high-comfort trail (see below).
- Include the possibility of a small cap park on the north side of Andrews as part of the Fourth Ward Gateway.

Surface Streets
Reconnecting with Complete Streets communities that were split apart by the freeway is a critical component of the project scope.

- Provide direct connections from Walker and McKinney to Houston Avenue (terminate two-way north-south surface street at this direct connection on north side of bayou).
- Eliminate the Walker Street roadway to Allen Parkway that bisects Sam Houston Park.
- Reduce the two-way surface street north of Allen Parkway by one lane in each direction.
- Reduce Heiner Street to two lanes (three lanes once the Bagby ramp merges with Heiner Street) to accommodate the green space and high-comfort trail (see below)
- Extend the NB Pease Street to West Dallas over the depressed downtown connectors to access Allen Parkway.
- As an Option to #5, consider extending the two-way surface street north of Allen Parkway along Heiner Street to St. Joseph Parkway to improve the legibility of the street network.

Multi-Modal Trails and Green Space
Multi-modal connections between the area’s high-density urban populations and Buffalo Bayou is a critical component of the project scope.

- Along the west side of the right-of-way from Pierce to Allen Parkway, provide a high-comfort multi-modal trail from Midtown, south downtown and Fourth Ward to Buffalo Bayou.
- It is critical that the at-grade Allen Parkway crossing be designed for pedestrian and cycling safety.
- Provide a safe connection at Andrews Street from this high-comfort trail into the green space between the downtown connectors and then to Pierce Street (and possibly the Pierce Sky Park).
- Preserve the option for the Pierce Sky Park from Andrews Street to Pierce Street, including a transition to the high-comfort trail accessing Buffalo Bayou.
- Include gateways to Fourth Ward/Freedmen’s Town at Andrews Street and West Dallas Street.

Other comments

- Review need/potential to maintain IH-10 HOV Connector near Amtrak Station coordinating with Metro's upcoming planning to address express transit connectivity from downtown to NW transit center. Maintenance as a transit only facility could have significant value. If the existing IH-10 Connector is removed as currently proposed, Washington Avenue should be connected to the Post Office site. Ideally the connector could be maintained and designed to allow the Washington Avenue connection, and incorporate a transit stop to serve post office redevelopment.
- Coordinate with the City of Houston, and adjoining communities and management districts on the opportunity to along the Pierce Elevated between Downtown and Midtown to ensure the preservation of multimodal opportunities to connect East Downtown, to Buffalo Bayou Park.

DESIGN

This project represents a once in a lifetime opportunity, and the details which impact how people safely get around need to be fully thought out. This requires careful planning and a greater level of detail than has been provided by the current schematics. Focus on well thought out design of safe intersections, sidewalks and bikeways, transit stops, frontage roads, and connections have the potential to greatly enhance mobility options. Failure to do so would be a huge detriment to the project. Elements like wide outside lanes for bicyclists, which are likely to be eliminated as guidance from the next AASHTO bikeway design guide, should not be included in this project. The design needs to be forward looking and incorporate best practices for safe multimodal streets. Transit, including how the NHHIP can be designed to support faster transit trips between major activity centers and destinations, should be much more prominently considered in the plan. This should include rail expansion opportunities as well as the potential for an optimized express bus network.

Ensure bridge widths throughout the project include sufficient space for quality sidewalks and high comfort bikeways as called for in City of Houston standards and guidelines, and not be designed to match existing cross-section or old standards. Ensure all bridges across the freeway and street crossings under the freeway provide for a minimum 6' unobstructed sidewalks. Where appropriate wider sidewalks should be provided since there is limited buffer between the vehicular lanes and the pedestrian.

All lanes on city streets and frontage roads should comply with City of Houston's 11' lane standards and encourage appropriate travel speeds and safe travel. Having different lane width for different roads create inconsistent driver experience. 12' lanes are freeway lane standards and not local streets. They encourage excessive speeds through urban area where higher speeds are out of context and unsafe. It is also recommended that the local street network and the frontage road be designed with target/design speed not to exceed 30 mph, especially in the urban areas.

Define which intersections are proposed with traffic signals and all-way stop control. It is impossible to truly assess whether the design supports safe walkability, bikeability, and transit use without this information. Traffic control recommendations should be developed with multi-modal safety and connections in mind.

Entire design should be reviewed to ensure optimized bus stop locations have been considered. Stops (and access to stops) must be designed to ADA and METRO standards with room for shelters to support high quality transit experience.

Of the bicycle features proposed, a clear design criterion with the safety of bicyclists in mind is not apparent. The City of Houston has committed to building only high comfort bicycle lanes and facilities through the recently adopted Bike Plan. A high comfort bicycle lane minimizes people's interaction with high volume, high speed traffic, and requires more separation and protection as these traffic characteristics increase. Design standards for bicyclists and pedestrians need to be set to reflect the Houston Bike Plan's high comfort commitment.

Design bikeways for people of All Ages and Abilities in line with the high-comfort bikeway guidelines set out in Houston Bike Plan. Protected bikeways or side paths set behind the curb should be designed for all bike connections. Bike lanes should be 6' wide minimum. 14' wide outside lanes designed as shared bicycle facilities are unacceptable and should not be included in this project. Intersections should be designed for safe crossing to accommodate bikeways and sidewalks.

Along frontage roads, the bikeways constructed in this project need to sustain a high level of comfort for both motorists and cyclists to create a clear and safe space for both parties to travel with no room for misinterpretation.

The proposed bicycle lanes along the outside of the frontage roads do not provide adequate protection for cyclists and create more opportunity for bicycle/motorist collisions. Instead, it is recommended any bikeway associated with these roadways be completely separated from vehicular traffic, be positioned behind the outermost curb, be at least 6 feet wide and separated from pedestrian traffic.

An intersection is the most likely place for a vehicle-bicycle collision. A protected intersection (or Dutch Junction) for bicyclists and pedestrians is recommended and makes travel considerably safer for all parties. This design includes small islands as buffers from right-turning motorists. Green paint is then used to direct the cyclist from one protected lane to the next in a circular fashion moving counter-clockwise. College Station, TX has already completed a similar design and the protected intersection in the Energy Corridor in Houston is planned to be implemented in the fall. It is recommended that TxDOT use such safer intersection design treatments and consider design guidance from NACTO in the design of intersections.

Multiple streets have been shown with sweeping, large radius turns. Several of these match the existing roadway curb lines which may have been designed at a different time for different uses. This project should take the opportunity to minimize these issues, especially in areas where large numbers of people walking can be expected around Downtown and Buffalo Bayou. Sweeping right turns, not limited to Sabine Street and the IH-69 exit to Main Street, need to be avoided. This design makes it difficult for both the motorist and the cyclist to anticipate a potential collision.

It is not clear if local street network and intersections have been analyzed in any way. Given the impact of the project on adjoining communities and the City, coordinate with the City and included this analysis in the plan and FEIS analysis. If not, it is a serious oversight to understand the proposed plan impacts.

In general, creating excess unproductive space should be avoided in street design (e.g., small triangles of isolated land) unless there is clear plan to address the use of the space (e.g. public art projects).

Consider all detention areas and how to make these attractive and usable green spaces.

The City of Houston has adopted a Complete Streets policy to ensure streets are constructed for all users of the system. The City's Infrastructure Design Manual also requires streets should be built using a Context Sensitive Design guidelines as those recommended in the ITE - Design Walkable Urban Thoroughfares: A Context Sensitive Approach and NACTO – Urban Street Design Guide, and others. Since the project location is within the dense urban core of the Houston, especially Segments 1 and 2 any future engineering design should meet these guidelines. Segment 3 should be designed to General Urban context guidelines.

While the freeways are designed to FHWA and AASHTO design guidelines; all frontage roads, adjoining local streets and intersection should be designed consistent with the City's Context Sensitive design guidelines.

It is important to ensure that all freeway overpasses are designed with lighting to ensure safety of all user of the roadway. Coordinate with the City, adjacent community, and management entities for identify opportunity for peacemaking improvements under the freeway.

SEGMENT 1

- Evaluate how the Airline, Victoria Drive and Northbound I-45 Intersection would operate safely and legibly to people traveling through any mode of travel. Existing configuration should be improved to ensure safety for all users of the roadway.
- Clarify plan for Werner Street in northeast corner of Tidwell intersection with I-45.
- All intersection should also be designed with special care for safe, comfortable crossings for pedestrians. Most arterials crossing I-45 are on METRO's bus network, have significant nearby boardings and will require safe crossings to serve stops for people traveling in both directions. Additionally, development adjacent to I-45 should be safely accessible for people walking. In particular, the intersection of Shepherd and I-45 is directly adjacent to the N. Shepherd Park & Ride. This intersection should be assessed to ensure that is safely traversable by people walking.
- N. Shepherd Transit Center would be logical extension for METRO Red Line. We encourage consideration of how that connection could be made and to consider that in design so as to not preclude options. For example, consider making West Little York and Parker crossing spans wide enough as these would be potential point for light rail to cross I-45 to reach N. Shepherd.
- Most intersections in Segment 1 are proposed with suburban intersection design considerations. This segment falls within an urban area and all intersections should be designed to improve pedestrian and bicycle accessibility. To this end, an intersection design that incorporates a free

flow right turn lane with a pedestrian island creates an unsafe environment for pedestrians since many drivers do not yield to pedestrians at such intersections. Additionally, several intersections have dedicated right turn lanes. Ensure the traffic counts warrant dedicated right turns. 5-6 lane/multi-lane frontage roads are daunting for pedestrians to cross. Coordinate with City of Houston on all intersection designs.

- Ensure adequate clearance across Halls Bayou to allow for adequate natural drainage conveyance, and a pedestrian and bicycle trail along the bayou.
- Provide dedicated left turn lane at the proposed Blue Bell Interchange.
- Justify the need for 5-lane frontage road for portion I-45 between West Road Blue Bell Road, a minor collector street.

SEGMENT 2

- The proposed extension of frontage roads under IH-610 at I-45 interchange are beneficial. These roadways and intersections should be designed to also allow safe pedestrian and bicycle crossings as there is not another crossing for approximately ½ mile in either direction. The large radius turn lanes are not typically supportive of safe, comfortable crossings at these locations.
- Entire design should be reviewed to ensure optimized bus stop locations have been considered and stops (and access to stops) would be designed to ADA and METRO standards to support high quality transit experience. For Segment 2, this is most critical for the Cavalcade St. bridge crossing and the operation of the existing 44 Acres Homes which travels on a section of Main St and Houston Avenue impacted by the NHHIP project
- Justify the need for proposed multi-lane frontage road along northbound I-45 between Quitman and N. Main. A single lane north of Quitman is expanded to 4 lanes at N. Main Street creating significant impact on adjacent properties. Additionally, this creates a design that encourages high speed adjacent to the proposed park deck.
- Add safe pedestrian crossings, and bike lanes, to cross, and continue east, on Calvacade (has existing bike lanes), Patton, and Cottage St-Searle Dr. These are to have access to the red line train stops at Calvacade and Moody Park, as well as shops, the MD Anderson YMCA, the new park (see below), and neighbors
- Add shade trees along sidewalks and bike lanes on Calvacade, Patton, and Cottage St – Searle Dr.
- Ensure a location to post a Welcome to Brook Smith/Montie Beach sign at the I-45 and N. Main intersection
- Ensure the design maintains safe multi-modal accessibility across the I-45 and I-610 interchange.
- Reconfigure the design of the local network to the new frontage road along I-610 and I-45 on the northeast side of the interchange. Create two-way T-intersection instead of the proposed one way connection to Reid Road. Evaluate the option to extend Melbourne Street to I-45 northbound frontage road

SEGMENT 3

SOUTH: US 59/ I-69

- Ensure Wheeler Bridge is designed to accommodate University Corridor LRT, 4-lanes vehicular and pedestrian accommodations. Current proposal does not take into account the proposed high capacity transit along Wheeler Street.
- Consider widening Almeda bridge to allow simple buffer buildings (See example of I-670 in Columbus, OH). This would reduce view of freeway and make a more seamless commercial corridor experience on this important roadway.
- Justify why Caroline Street warrant 4-lanes with dedicated left turn lane at Wheeler Street. Maintain the current 4-lane configuration with wide median across I-69 to maintain the existing character of Caroline Street.
- Area south of Baldwin Park should be redesigned to more of a neighborhood context without sweeping high speed curves in streets. For example, Francis Street could be designed as a T-Intersection with Chenevert. This would allow block between Chenevert, Francis, Jackson and Stewart to be reassembled at full city block. This could be used for green space or redevelopment opportunities given the impact of the proposed project.
- Proposed access from Chenevert to the extension of Hamilton Street can be designed as a 2 lane local street and limit impacts on adjacent properties and would be a context sensitive design solution.
- Where frontage roads are proposed, such as between Midtown and Museum Park or between Downtown and the East End, it would be helpful to know which intersections would be proposed for signalization or all-way stop control. This will greatly impact people's ability to safely cross at these locations, especially those walking or biking. It would likely be beneficial if all of these are considered for either a signal or all-way stop control.
- Ensure Wheeler Transit Center can function effectively for all users with this project. Current Schematic does not show exit point for Transit Center driveway. This project presents opportunity to rethink operations.
- The design of the street network near Wheeler Transit Center should be optimized to maximize TOD opportunity. Main goal would be to minimize train/roadway conflicts (e.g., train does not cross streets in the middle of intersections) while maximizing transit operations and TOD potential. Design should be developed to accommodate future two-way express bus service on I-69/US 59 with particular focus on Spur 527. Direct or expedited HOV connections to Wheeler TC should also be explored.

EAST: I-69, I-45, SH 288

- Tuam Street is a local street and does not warrant 4 lane redesign as 2 lanes with left turn lane and dedicated bike lanes.
- Re-evaluate the need for 5 lanes on McGowen Street. Two lanes with dedicated left turn lane and bike lanes may be adequate based on the existing and projected capacity.

- Revise the design of Hamilton and McGowen Street to remove free flowing right turn lane.
- Propose Chartres Street at McGowen Street should be redesigned to limit ROW taking from the new residential development in Third Ward.
- Redesign Webster Street and Hamilton Street intersection as a T -intersection to improve pedestrian accessibility along Hamilton .
- Light new bridges along I-69 in a manner similar to those in Montrose along I-69.
- The project appears to take out HPD's South Central command station. How is this impact being mitigated and have alternate location been identified to relocate the facility in the area?
- Include bike lanes and wide sidewalks on Elgin, Tuam and McGowen bridges. Light new bridges in a manner similar to those in Montrose along I-69.
- Southbound Hamilton at McGowen and northbound Chartres at Elgin should be designed without sweeping right turn lane
- When reconstructing Green/Purple crossing of I-69/I-45 trench between East End and downtown, design larger radii turns to support faster train operation speeds. Improve signal operations for rail crossing at St. Emanuel and design Hamilton crossing to work effectively. Coordinate with the City of Houston and METRO and potential for dedicated transit lanes on Capital and Rusk as well as rail connection through proposed cap park.
- Ensure potential bottle necks are evaluated in the design process
    - Could I-45 to I-69N to I-10 ramp be separated to eliminate some of the likely weaving though that section? I-45 N to I-69 N connection could occur in vicinity of Runnels. This has potential to reduce weaving through that area overall.
    - I-69 S south of merges seven southbound lanes (2 from Hamilton/Webster, 4 from I-69 S main lanes, 1 from I-45N) in 6 lanes, which drop to 4 lanes once two lanes are peeled off to local streets on south end of midtown. This seems like it will end up as a major bottle next similar to existing I-69 NB at the Spur. Don’t really have a solution but seems like it will be challenge at day one of opening.
- In the area, north of Minute Maid Park, the operations of the proposed southbound frontage road and existing Hamilton appears problematic. Having two parallel one-way street traveling the same direction and located 100’ apart seems like a recipe for conflicting queues and confusing operation for motorists both on these streets and crossing them. There is significant potential for wrong way turns from crossing streets as drivers are used to the alternative pattern of one-way street Downtown. Consider consolidation of these streets or revisions to ramp access to Downtown.
- Ensure underpass at Commerce/Navigation proposed by GCFRD can be constructed with acceptable and safe grades/visibility for all modes of traffic.
- The intersection of Franklin and St. Emanuel frontage road seems poorly thought out given existing grades, typical travel speeds, and sight distance, should the full underpass mentioned above not come to fruition.
- Ensure rail underpasses are built with drainage improvement to avoid flooding.
- Ensure at grade crossing of railroads is avoided in the proposed design for enhance freight and vehicular circulation and safety.

- Design the proposed detention basin north of Runnels as a wet bottom basin that is publicly accessible gateway feature from the bayou trail system.
- Include landscaping and noise mitigation along widened freeway adjacent to Fifth Ward, East Downtown, East Downtown, Downtown, First Ward, Third Ward and Midtown.

NORTH: I-45, I-10

- Reconstruct Hogan, Quitman, McKee and Hardy bridges with safe pedestrian and bike friendly crossings and sidewalks.
- Ensure the design of Providence and Rothwell accommodates pedestrian and bicycle users.

WEST: Downtown Connector, Pierce Elevated

- Sabine Street at Allen Parkway should be shown as T-intersection without sweeping right turn design. These are not appropriate for the context, given walking and biking crossings and desired travel speeds along Buffalo Bayou Park.
- The removal of the existing freeway and the proposed configuration of Downtown Connector will have significant impact on Buffalo Bayou Park and Sam Houston Park. Coordinate on design and identifying opportunities to enhance the parks, with City of Houston, Buffalo Bayou Park, Downtown District and HCFCD is critical to minimize impact on our parks, bayous and its users.
- Minimize the number of piers supporting the downtown connector bridges over Buffalo Bayou.
- Realignment of I-45 along Pierce Elevated creates a unique opportunity to connect adjoining neighborhoods like East Downtown, Third Ward, Midtown, Downtown, and Fourth Ward with a unique urban space. We encourage the City, Midtown District, Downtown District, and other adjacent neighborhoods to develop the best solution that would meet the goals of the City and our neighborhoods. We look forward to these partners to work with TxDOT over the next few years to discuss options along this corridor since this is the last phase of the NHHIP Segment 3 project.
- Design and locate the downtown connectors to preserve the option of retaining some of the existing freeway bridge structures, similar to the Pierce Sky Park concept, where possible.
- Evaluate the opportunity to create a deck park or green belt extension between W. Gray and St. Joseph to allow for the opportunity to extend greenway along the Pierce Elevated, connecting Buffalo Bayou, Midtown and Downtown to Third Ward and East Downtown.

PARKS AND OPEN SPACE

The proposed project has a significant impact on parks, open space and recreation areas in the Houston Region. The project should identify opportunities to limit this impact and mitigate any impact proposed.

SEGMENT 1

- Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Little White Oak Bayou between I-610 and East Parker Road and Shepherd. Develop the detention basin between I-610 and Crosstimbers as a wet bottom basin and publicly-accessible green space tied the bikeway along the bayou. Install a trash mitigation system that will collect both heavy debris and floating debris.
- Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Halls Bayou along I-45.

SEGMENT 2

- Little White Oak Bayou represents a prime opportunity to extend open space connectivity north from White Oak Bayou Greenway to Woodlands Park, Moody Parks and beyond up to Halls Bayou. It also connects neighborhoods like Near Northside, Independence Heights and Acres Homes. This connection between Acres Homes and downtown would benefit many of the underserved communities directly impacted by the North Houston Highway Improvement Project. Through most of Segment 2 the project follows the course of the Little White Oak Bayou. It is imperative that the project fully embrace the ecological values and open space potential offered by Little White Oak Bayou.
- Improved greenspace and pedestrian accessibility to Woodland Park along Little White Oak Bayou east of I-45.
- In 1914 Woodland Park was a 26 acre park in a neighborhood which included the two communities of Woodland Heights and Near Northside. In 1959, TxDOT acquired one third of the park (8.5 acres) to construct I-45 just to the north of downtown. The remaining 17.5 acres of I-45 Woodland Park is now situated entirely to the west of I-45 within the Woodland Heights. Because of I-45, Near Northside residents no longer have access to this park except via the North Street Bridge. Improve greenspace along Little White Oak Bayou east of I-45, with hike and bike trails connecting to Moody Park. This will provide Near Northside residents with access to greenspace and Little White Oak Bayou.
- Connectivity from Woodland Park to the Little White Oak Bayou east of I-45. This could be through an improved channel conduit under I-45 that would provide a safe walking and biking path along the bayou connecting Woodland Park on the west of I-45 to the hike and bike path along Little White Oak Bayou on the east side of I-45.
- Connectivity of public parks, HPARD's "String of Pearls", can be achieved by connecting Woodland Park to Moody Park along Little White Oak Bayou. Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Little White Oak.

SEGMENT 3

- The White Oak Bayou Greenway is part of Bayou Greenways 2020, a $220 million public/ private investment by the City of Houston to provide continuous linear parks and recreation areas, with hike/bike trails, along 150 miles of Houston's major waterways. The White Oak Bayou Greenway extends over 15 miles from the city limits to UH Downtown where a federally funded TIGER project, currently under construction, is connecting White Oak Bayou Greenway to Buffalo Bayou Park. The DEIS does not reflect the impact on White Oak Bayou greenway which clearly serves an open space and recreation area with the project. TxDOT should address this issue and work with the stakeholders to mitigate the impact on the White Oak Bayou Greenway.
- Sam Houston Park is one of Houston's most important historical destinations, featuring some of the oldest structures in the city. The proposed one-way connection from Walker/McKinney loop street should be removed since it separates Sam Houston Park from Buffalo Bayou. This roadway cuts through the original Sam Houston Park, which originally extended to Buffalo Bayou. This is also the primary biking and jogging route from downtown to the bayou and creates a very dangerous crossing point on a heavily-used route.
- Sabine Promenade/Buffalo Bayou Park area has undergone a nearly $90 million enhancement. TxDOT's should design roadways in a context sensitive manner to ensure accessibility and safety of people walking and biking.
- Lighting improvement is needed under the ramps at Lyons Avenue and Gregg Street. These Improvements should be coordinated by TIRZ 18 and the Houston Arts Alliance.

COORDINATION & PROCESS

This project will be transformative, for the region and City TxDOT closely coordinates with the City of Houston, METRO and other entities such as Management Districts, TIRZs to make the project as strong as possible. This means thinking beyond the direct right-of-way of the project to understand opportunities and impacts on street, bikeway, greenway, and transit networks. It also means working to tie communities together, not separating them further with ever wider freeways serving as barriers.

The project impact facilities managed by multiple agencies, entities and organization. While TxDOT has engaged these organizations on planning level concepts, additional coordination warranted ensuring the design drawings and details are coordinate with these agencies, entities and organization. Develop a process for coordination to ensure major issues are resolved early in the design phase of the project. This could be achieved through workshop for design level discussion and decision for the proposed project.

Several stakeholders have submitted recommendations that have potential to significantly improve connectivity but have not been reflected in current plans. Plans state that these are "subject to change". Clarify to the public the process to consider these changes.

Ensure coordination with the City and other organization to ensure safe pedestrian bicycle access for trails along Buffalo Bayou and White Oak Bayou.

Ensure coordination with local business being impacted during the construction phase of the projects to identify opportunities to limit impact to businesses.

ECONOMIC DEVELOPMENT

A project of this magnitude has significant impact on potential development, both positively and negatively. It will also impact the City's tax base through acquisition of valuable land in the City's urban core. The design should be optimized to support high quality development opportunities that are beneficial to the City of Houston and the surrounding communities. To pretend this is solely a mobility project and to overlook the development impacts would be huge missed opportunity. TxDOT and its partners should work to identify and incorporate development opportunities into the project in the initial design, especially in areas where the project eliminates significant existing tax base.

Segment 1 has significant impact, approximately 212 acres, proposed widening of the project. TxDOT should identify other options and meaningfully engage the neighborhoods to limit this impact on the community.

NOISE & ENVIRONMENTAL

In general noise and environmental impacts should be mitigated proactively as a part of the project. Plan should designate where noise walls are proposed to mitigate neighborhood impacts. Reduce road noise with grooved pavement and slower speed limits especially in the densely-populated and historic areas.

Roadway alignments and the project scope should allow for street trees and pedestrian realm designed to urban standards. Add landscaping along freeway lanes and frontage roads plus noise walls to mitigate for increased traffic from wider freeway. Develop a landscape plan and coordinate with the City and stakeholders along the corridor to reduce visual impacts along the corridor.

The NHHIP project will have a significant impact on Houston neighborhoods and businesses. Provide a landscape plan for the project where landscape screening will be provided along the project to screen the freeway and also help mitigate the air quality and noise impact from the freeway while improving aesthetics.

Waterways affected by the project are already listed as impaired waters. TxDOT should model the runoff and stormwater discharges into Buffalo Bayou, White Oak and, Halls and Little White Oak in order to meet state requirements that prohibit the addition of any pollutant load into impaired waters and focus instead on improving those waters through the additional application of more rigorous best management practices for stormwater and runoff. Similarly, TxDOT should adopt and disclose the best management practices and plans that will be adopted, including source controls, to avoid further discharge of trash into these waterways.

SEGMENT 1

- All alternatives would result in traffic noise impacts. The current DEIS does not adequately address mitigation.

SEGMENT 2

- Ensure all neighborhoods with noise impacts, irrespective of existing conditions, are mitigated appropriately with options such as noise/sound wall including the southeast corner of I-610 and I-45 adjacent to Delaney Street.
- Provide for noise mitigation along the eastern border of Woodland Park. There is constant din of freeway noise is part of the fabric of a Woodland Park visit. With an added upper deck, above grade, the noise will be even more oppressive and incessant. Provide state-of-the-art sound mitigation with an additional shielding of tall trees and vegetation.
- The TxDOT plan proposes to increase the amount of flow of Little White Oak Bayou under I-45 via a larger culvert or channel will result in hydrologic changes within the LWOB channel in Woodland Park. Increased water flow upstream, at the I-45 culvert, will add increased flooding pressure and erosion downstream within the park.
- Erosion can be mitigated with careful planting of appropriate vegetation particularly along the steep banks of the Little White Oak Bayou channel to prevent collapse and further instability due to increased flood water pressure.
- Little White Oak Bayou continues to be one of the top 10 polluted waterways in the greater Houston area. The bayou suffers from freeway pollution from both run-off and litter. It makes a small meander on the east side of I-45. Current TxDOT plans include detention basins on the east side of the freeway along the Little White Oak Bayou channel. Currently most of the channel is not accessible and is tremendously polluted with dissolved pollutants, heavy trash within the channel, and floating debris of cups and plastic bags, much of this coming from the freeway.
- Create detention ponds that are open and unfenced, planted with native plants which filter dissolved pollutants from freeway run-off.
- Install a trash mitigation system that will collect both heavy debris and floating debris. There are several locations along Little White Oak Bayou where this could be installed and maintained. Ideally it would be located upstream of both Moody Park and Woodland Park.

SEGMENT 3

- The proposed realignment of the freeway near Hardy Yards will have significantly larger noise and visual impact on the Hardy Yards area. The current DEIS does not adequately address mitigation along this area.
- Include landscaping and noise mitigation along widened freeway adjacent to Third Ward and Midtown.
- Impacts of run-off on Buffalo Bayou west and northeast of downtown. Provide wet bottom detention where detention is being proposed along this section.

- Ensure detention ponds that are open and unfenced, planted with native plants which filter dissolved pollutants from freeway run-off.
- Install a trash mitigation system that will collect both heavy debris and floating debris.

HISTORIC

The project segment between 610 and I-10 impacts several historic neighborhoods. Three designated historic districts are located along I-45 south of North Main Street. The project's affect on the National Register-listed Near Northside Historic District on the east side of I-45 must be addressed as part of the review process along with potential impacts on two city-designated historic districts on the west side of I-45: Germantown and Woodland Heights. Both of the city-designated districts are potentially eligible for listing in the National Register. The Brooke Smith Addition on the west side of I-45 and the north side North Main Street is also potentially eligible for listing in the NRHP. The project's potential impact on historic resources in the First Ward, on the west side of I-45 south of I-10, should also be considered, particularly the National Register-listed Jefferson Davis Hospital (1925).

ATTACHMENT
B-1

FACILITY NAME	ADDRESS	STREET	KEY MAP	YEAR ACQ.	ZIP 77+	ACREAGE	COUNCIL DISTRICT
Adams (Catherine)/Rawley Park	4800	Rawley	494G	1972	020	0.40	B
Alabonson Park	9650	N. Houston Rosslyn	411N	2003	088	50.21	ETJ
Alief Community Park	11903	Bellaire Blvd	529E	1993	072	37.30	F
Allendale Spaceway	9300	Howard	536N	1929	017	1.33	E
Allen's Landing Memorial Park	1001	Commerce	493M	1966	002	1.76	H
Almeda Park	14201	Almeda School Rd	572Y	1968	047	1.00	K
Alvarez/Roark/Giraud Greenspace	0	Elm Street	535B	2009	012	3.27	I
American Legion Park	3621	Golf Dr.	452P	1951	018	4.74	C
Anderson Park	5701	Beverly Hills	491X	1960	057	7.10	J
Andover Park	6301	Nunn	534U	1952	087	4.85	I
Antioch Park	1400	Smith/Clay	493Q	1981	002	0.65	I
Antoine Greenspace	1125	Antoine Dr.	451X	2010	055	0.37	A
Apache-Elbert Triangle	7000	Elbert	455N		028	0.81	B
Aron Ledet Park (PB2)	6323	Antoine Dr.	411Y	2003	091	13.44	A
Autry Park	911	Shepherd/Allen Parkway	492M	1962	019	2.84	C
Avenue Place Park	4211	Cettipark Street	453Z	2010	009	1.05	H
Baldwin Park	1701	Elgin	493U	1905	004	4.88	D
Banyan-Camway Triangle	7200	Camway/6900 Banyan	454M		028	0.78	B
Beech-White Park	7551	Scott	533Q	1987	021	15.27	D
Bell Park	4800	Montrose	493W	1968	005	1.15	C
Bendwood Park	12700	Kimberly	489D	1961	024	13.54	G
Bennett (Mills) Park	5511	Ennis St	533C	1924	004	1.00	D
Bethel Church Site	801	Andrews	493P	2009	019	0.47	C
Beverly Hills Park	10201	Kingspoint	576S	1960	075	21.67	D
Blackhawk Park	9401	Fuqua	575V	1988	075	76.81	D
Blueridge Park	5600	Court Rd	611B	1990	053	45.15	K
Bollintom Greenspace	7555	Elm Street	535A	2009	012	0.39	I
Bonham Park	8401	Brae Acres Road	530Q	1959	074	8.57	J
Boone Road Park	7700	Boone Rd.	529K	1984	072	27.38	F
Bordersville Park	19622	Carver Ave	335S	1999	338	0.85	B
Braeburn Glen Park/Lee LeClear Tennis Ctr.	9510	S Gessner	530T	1970	074	12.90	J
Braeswood Park	2345	Maroneal/Kelving	532L	1959	030	1.96	C

FACILITY NAME	ADDRESS	STREET	KEY MAP	YEAR ACQ.	ZIP 77+	ACREAGE	COUNCIL DISTRICT
Braeswood Parkway		9825 S Gessner Drive 77071 and 1802 Holcombe Blvd 77030	531+	1950	071 & 030	400.00	CDJK
Brays Greenway Park	8001	Hockley	535A	2009	012	0.57	I
Brentwood Park	13220	Landmark	572J	1961	045	7.90	K
Brewster Park	1800	Des Chaumes St	494E	1973	026	6.09	B
Briarbend Park	7926	Woodway	490R	1958	063	1.27	G
Briarmeadow Park	7703	Richmond	490Z	1958	063	4.61	F
Bricker Park	4548	Bricker	533U	1953	051	2.17	D
Broadmoor-Kretschmar Park	1500	Elliott	494X	1936	023	0.60	I
Brock Park & Golf Course	8201	John Ralston	456E	1957	078	354.85	B
Brock, Richard Park (formerly Jones, Randall Park)	1709	Bingham	493F	1970	007	0.45	H
Brookline Park	3300	Real	534L	1955	087	10.56	I
Brown (Herman) Park	400	Mercury Dr	496A	1979	013	717.35	I
Buffalo Bayou/Tinsley Park /Jamail (Lee and Joe) Skate Park	18-3600	Allen Pkwy/Memorial Dr	492M	1916	002	156.52	CH
Burnett Bayland Park	6000	Chimney Rock	531B	1996	081	31.98	J
Burnett St. Park	1500	Burnett	493H	1971	009	0.40	H
Busby Park	6700	Hirsch	454P	1979	026	5.83	B
Calloway (Yvette) Park/Southland	6502	Allegheny	533L	1950	021	1.10	D
Cambridge Village Park	13000	Nitida	571H	1983	045	81.78	K
Camp Logan Triangle	6401	Coppage/Rodrigo	492F	1940	007	0.98	C
Campbell Woods Park	2315	Crestdale	450P	1960	080	0.93	A
Candlelight Park	1520	Candlelight	452F	1952	018	9.53	C
Canterbury Village Park	12822	Northumb	572R	1950	047	4.40	D
Carter Park	7000	Santa Fe	574D	1949	061	2.00	I
Castillo Park	1200	Quitman	493D	1978	009	1.84	H
Cedar Hill Park	4510	Cedar Hill Lane	414U	2010	093	0.28	NO
Charlton Park	8200	Park Place	535P	1926	017	8.70	I
Cherryhurst Park	1700	Missouri	492V	1925	006	1.90	C
Chew (Ervan) Park	4502	Dunlavy	492Z	1945	098	3.40	C
Chimney Rock Park	11655	Chimney Rock	571B	1967	035	1.59	K

FACILITY NAME	ADDRESS	STREET	KEY MAP	YEAR ACQ.	ZIP 77+	ACREAGE	COUNCIL DISTRICT
City Hall Annex Plaza	900	Bagby	493L		002	0.26	I
City Hall Plaza	901	Bagby	493L		002	0.24	I
Clark Park	9718	Clark	453B	1965	076	12.74	H
Cleveland Park	200	Jackson Hill	492M	1910	007	10.20	C
Clinton Park	200	Mississippi	495U	1950	029	35.20	I
Cloverland Park	11800	Scott	573L	1957	047	12.04	D
Cole Creek Park	7200	Drowsy Pine	411W	1958	092	6.97	A
Confederate Ship Area	801	Commerce	493L		002	0.75	H
Coolgreen Corridor (PB2)	12851	Coolgreen Street	456Y	1997	013	26.59	I
Cooper Road Park	200	Cooper Rd	413X	1969	076	3.64	H
Cottage Grove Park	2100	Arabelle	492F	1949	007	5.15	C
Crain (E.L) Park (% Lease)	9051	Triola	530J	1960	036	6.04	J
Cravens Parkway	5901	Main St	533A	1914	030	11.49	D
Crestmont Park	5200	Selinsky Rd	574J	1965	048	6.74	D
Crockett Street Greenspace	1900	Crockett St	493F	2014	007	0.12	H
Crooker/Moody Park	400	Westmont/West Canal	496H	1979	015	11.00	E
Croyden Gardens Park	8400	Millicent	454E	1952	093	2.70	H
Cullen Park (Lease)	19008	Saums/18203 Groeschke	447S	1983	084	9,269.82	A
Cullen Sculpture Garden	1000	Bissonnet	493W	1973	005	1.00	C
Cullinan (M.C.) Park (PB2)	5120	Polk	494Y	1981	023	0.75	I
Cullinan JS and LH	6700	Long Dr	534Q	1986	087	44.00	I
Cullinan/Oyster Creek (PB 3) %	12414 ½	Highway 6 S	567H	1989	498	754.83	NO
Curry Street Park	7201	Curry	454K	1986	093	6.00	H
Darien Park	7100	Darien	455J	1961	028	1.00	B
De Zavala Park	907	76th St	495S	1945	012	2.60	I
Delce (Catherine) Park	5700	Collingsworth	454Y	1973	026	2.67	B
Delmonte Park	3750	Delmonte	492N	1938	019	1.10	G
Diez Street Park	1202	Diez Street	494X	1993	023	9.37	I
Dodson Lake Park	9010	Dodson	454F	1953	093	24.45	H
Dow Elementary Park	1919	Kane	493K	1980	007	0.25	H
Dow Park	7942	Rockhill	535X	1957	061	14.04	I
Dylan Duncan Memorial Skate Park (formerly Kingwood Skate Park)	3950	Rustic Woods	297 X	2002	339	1.02	E

FACILITY NAME	ADDRESS	STREET	KEY MAP	YEAR ACQ.	ZIP 77+	ACREAGE	COUNCIL DISTRICT
East Tidwell Park	9300	Tidwell Road	455D	2005	078	14.34	B
Eastwood Park	5020	Harrisburg	494T	1916	011	10.80	H
Edgewood Park	5803	Belfort	534X	1953	033	10.97	D
Edmonds Park	6400	Hamblen	375W	1986	396	2.90	B
Elbert Park	7400	Banyan	455J		028	1.00	B
Ella Lee Park	2030	Larchmont	492T		019	0.30	G
Elliott (Mary) Park	3000	Chevy Chase	492P	1938	019	1.40	G
Elm Street Park	7600	E Elm Street	535A	2005	023	2.84	I
Emancipation Park	3018	Dowling	493U	1918	004	11.71	D
Energy Corridor Trailhead Park	560	N Eldridge Parkway	488 G	2004	079	0.79	G
Evella Park	5210	Evella	494C	1971	026	0.23	B
Fannin-Greenbriar Triangle	7898	Fannin St.	532R		054	1.00	K
Farnsworth Park	3540	Main Road	297G	1986	365	22.00	E
Finnigan Park	4900	Providence	494G	1939	020	19.07	B
Fleming Park	1901	Sunset Blvd	532D	1926	005	2.50	C
Fonde Community Center	110	Sabine Street	493K	1954	007	1.52	H
Fonde Park	2501	Munger Street	534F	1950	023	12.70	I
Forest West Park	5915	Golden Forest Dr	451F	1964	092	6.16	C
Forum Park	9900	Forum Park	529V	1996	036	6.63	J
Fox Park	500	N York St	494P		003	0.13	H
Francklow Park	1300	Seagler Rd	489R	1983	042	7.60	G
Freed Art and Nature Park (PB 2)	2406	Houston Ave	493C	2003	009	6.15	H
Freed Park	6818	Shady Villa Ln	451Y	1958	055	15.06	A
Freeway Manor Park	2241	Bronson Street	576F	1959	034	9.76	E
Freshmeadow Park	4500	Campbell Rd	450F	1962	041	9.01	A
Fulton Greenspace	2604	Fulton Street	493D	2015	009	0.26	H
Garden Villas Park	6720	South Haywood	535W	1950	061	11.55	I
Garver Greenspace	715	Lockwood Drive	494K	2008	011	1.96	H
Gleason Park	7200	Gleason	415W	1956	016	3.44	B
Glenbrook Park and Golf Course	8201	North Bayou Drive	535Q	1941	017	135.00	I
Glenshire Park	12100	Riceville School Rd	570E	1986	031	12.91	K
Glover (Elizabeth) Park	3118	Elgin	433D	2008	004	0.29	D

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Godwin Park	5101	Rutherglenn	531U	1957	096	8.17	C
Golfview Park	6201	Cherryhill	534Q	1949	087	0.76	I
Goyen (Johnny) Park	1	North Milam Street	493M	1987	002	1.66	H
Grady Park	1715	Yorktown	491Q	1952	056	4.73	G
Gragg Park Complex	2999	S Wayside	534G	1976	023	47.95	I
Graham Park	540	West 34th St	452R	1952	018	2.50	C
Grand River Park	8800 1/2	Grandriver Dr	456E	1986	078	9.96	B
Greens Bayou Park	700	Westmont Dr	496H	1956	015	3.30	E
Greenwood Park	602	Beresford	497A	1956	015	10.30	E
Gregg Street Park	605	Gregg	494J	1953	020	0.10	B
Grimes Park (Lease)	5150	Reed Rd	573D	1977	033	9.72	D
Groveland Terrace Park	3921	Herald	455X	1973	029	1.29	B
Guadalupe Plaza	2311	Runnels	494J	1986	003	6.46	H
Gulf Palms Park	11901	Palm Springs	576Q	1962	034	9.00	E
Gus Wortham Park and Golf Course	311	S Wayside Dr	494Z	1973	011	150.77	I
Gutierrez (Siro) Park	7900	Flaxman	495N	1958	029	1.40	H
Hackberry Park	7777	South Dairy Ashford	528M	2007	072	22.44	F
Haden Park	1404	Witte Rd	450W	1989	080	11.89	A
Hager (Lee) Park (% Lease)	12100	Landsdowne	571A	1958	035	9.72	K
Halbert Park	200	East 23rd St	453S	1945	008	1.30	C
Halls Bayou Park (PB2)	8000	Tidwell Road	455B	2005	040	3.49	B
Hartman Park	9311	E. Avenue P	535C	1945	012	6.31	I
Harwin Park	11305	Harwin	529C	1989	072	8.83	F
Haviland Park	11600	Haviland	570H	1989	035	17.79	K
Heights Blvd. Park	100	Heights Blvd	493A		008	13.60	C
Heiner Street Greenspace	1490	Heiner St	493P	2014	002	0.18	C
Henderson (Earl) Park	4250	Elysian	453Z	1986	009	1.40	H
Hennessy Park	1900	Lyons Ave	493H	1912	020	1.40	H
Herkimer Park	1500	Herkimer	452Z	2014	008	0.40	C
Hermann Park	6001	Fannin	533A	1914	030	445.00	D
Hermann Square	900	Smith	493L	1913	002	1.43	I
Hidalgo Park	7000	Avenue Q	495S	1927	011	11.55	I

FACILITY NAME	ADDRESS	STREET	KEY MAP	YEAR ACQ.	ZIP 77+	ACREAGE	COUNCIL DISTRICT
Highland Park	3316	DeSoto	451D	1971	091	9.71	B
Hill (E.P.) Park	4800	Gloryland	533V	1976	033	7.32	D
Hogg Bird Sanctuary Park	100	Westcott	492L	1958	007	16.47	C
Hogg Park	2211	South	493G	1920	009	0.85	H
Homewood Park	2943	Lazy Lane	492Q	1938	019	3.00	G
Houston Gardens Park	6901	Apache	454R	1950	028	7.88	B
Independence Heights Park	601	East 35th St	453N	1947	022	3.10	H
Ingrando Park	7302	Keller	535E	1944	012	14.87	I
Irvington Park	1000	Cavalcade	453V	1965	009	6.30	H
Japhet Creek Park	4700	Clinton Drive	494K	2008	020	4.76	B
Japonica Park	6600	Japonica	534H	1941	087	0.37	I
Jasper "Smokey" Frank	13400	River Trail Drive	415A	1999	050	19.98	ETJ
Jaycee Park	1300	Seamist	452W	1957	008	7.53	C
Jenkins (Margaret) Park (formerly Scottcrest Park)	10700	Rosehaven	573F	1978	051	19.00	D
Jester (T.C.) Parkway	4201	TC Jester, West	451M	1950	018	100.00	C
Johnson (R.L. and Cora) (formerly Carverdale) Park	9801	Tanner	450A	1978	041	10.58	A
Jones (Randall P.) Park (formerly Summer Street Park)	1600	Summer St	493F	1971	007	0.34	H
Jones (Walter) Park	8000	Coastway Lane	575T	1963	075	21.50	D
Jones Plaza	600	Louisiana	493L	1964	002	1.41	I
Jordan, Barbara Family Park (formerly Wipprecht Park)	4807	Lee St	494C	1971	020	0.69	B
Keith-Wiess Park	12300	Aldine-Westfield	413M	1979	093	499.46	B
Kellogg Street Greenspace	0	Kellogg	535A	2009	012	1.10	I
Kendall Community Center	609	N. Eldridge Parkway	488G	2011	079	0.08	G
Kerr Park	4620	Arlington	453J	1959	022	6.20	H
Keyes (Nellie) Park	801	Lester	492G	1944	007	0.50	C
King Estates Park	4801	East Orem	573R	1975	048	2.56	D
Kingspoint Park	9100	Kingspoint Road	576W	2005	075	10.00	D
Kingwood Community Center Park	4102	Rustic Woods Drive	297X	2009	345	2.52	E
Kingwood Park	2603	Bens Branch Drive	337 F	2004	339	4.28	E
Kirkwood Greenspace	0	Kirkwood Drive	529S	2015	099	1.44	F

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Kirby Park	900	Kirby	492L		019	0.40	G
Knox Park	229	S. Heights	493J		007	0.35	H
Lake Forest Park	9200	Mesa Dr	455C	1956	078	9.32	B
Lake Houston Wilderness Park	22031	Baptist Encampment Road	257P	2006	357	4,786.60	E
Lakewood Park	8811	Feland	455G	1960	028	9.20	B
Lamar Park	1400	Hyde Park Blvd	493N		006	0.40	C
Langwood Park	3975	Bolin	451K	1958	092	10.40	A
Lansdale Park	8201	Roos	530K	1960	036	8.40	J
Law Park	6100	Vasser St	534Y	1961	033	313.57	D
Lawrence Park	725	Lawrence	492D	1960	007	4.40	C
Lee (James W.) Park	9025	Pitner	450L	1959	080	5.89	A
Leroy (Moses) Park	3100	Trulley	493V	1969	004	0.55	D
Levy Park	3801	Eastside	492X	1942	098	5.60	C
Ley Plaza Park	1900	White Oak Dr	493B	1924	009	1.00	H
Lincoln Park	979	Grenshaw	412Q	1973	007	8.60	B
Linear Park	100	Sabine St	493L		002	6.00	CI
Linkwood Park	3699	Norris	532P	1953	025	6.00	K
Little Thicket Park	1831	West 23rd St	452T	1957	008	10.70	C
Live Oak Park	2000	Brentwood	492R	1942	019	0.60	C
Love Park	1000	West 12th St	452Z	1941	008	7.74	C
MacGregor Park	5225	Calhoun	534E	1930	021	82.79	D
MacGregor Parkway	2200	MacGregor	533G	1930	021	100.00	D
MacGregor Way Park	5799	Almeda Rd	533B	1930	021	1.07	D
Madison (Cyrill) Park	7401	Tierwester	533Q	1966	021	1.23	D
Malone (Zurrie M.) Park	2901	Nettleton St	493Z	1973	004	0.69	D
Mandell Park	1501	Richmond Ave.	492Z	2003	006	1.24	C
Mangum Manor Park	5235	Saxon	451L	1956	092	6.82	C
Marian Park	11101	South Gessner	530X	1997	071	27.48	K
Marron (Tony) Park	808	N. York	494P	1987	003	30.72	H
Mason Park	541	S 75th St	535A	1928	023	108.08	I
Maxey Park	601	Maxey Rd	496C	1968	013	41.16	I
Maxie (Beulah) Park	2625	Monticello	572L	1968	045	1.10	K

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Mayfair Park	6000	Arthington	571X	1977	053	1.00	K
McCullough Park	901	East 40th St	453N	1929	022	1.30	H
McReynolds Mid Sch Park (Lease)	5905	Larimer	494L	1973	020	4.11	H
Meadowcreek Village Park	5333	Berry Creek	536S	1955	017	10.06	E
Melrose Park	1000	Canino Road	413T	1986	076	92.44	H
Memorial Park	6501	Memorial Dr	492K	1925	007	1,503.68	CG
Memorial West Pocket Park	13922	Memorial Drive	489 E	2004	079	0.72	G
Memorial-Silver Triangle	1901	Memorial Way	493K		007	1.10	H
Meyer (Rebecca) Park	3200	Reba	492T	1938	019	1.80	G
Meyerland Park	5151	Jason	531Q	1955	096	6.77	C
Milby Park	2001	Central	535G	1937	017	65.88	I
Milroy Park	1205	Yale	452Z	1925	008	2.15	C
Milton Park (Lease)	6110	Jensen Dr	454N	1971	026	0.94	H
Minchen (Simon) Park	4900	W Fuqua	571V	1980	045	3.30	K
Moffitt (Agnes) Park	10645	Hammerly	449R	1968	043	39.90	A
Montie Beach Park	915	Northwood	453X	1937	009	23.00	H
Moody Park	3725	Fulton	453Y	1925	009	34.90	H
Nacol Park	4418	Bingle	451E	1959	092	1.50	A
Naeem Choudhri (Jetall) Park	6415	Taggart St	492F	2013	007	0.50	C
Nelson (George T.) Park	3820	Yellowstone	533L	1951	021	6.03	D
Nieto (Santos and Esther) Park	500	Port	495A	1951	020	2.00	H
North Houston Ave. Triangles	3200	Houston Ave	493C		009	0.50	H
Northline Park	6902	Nordling	413W	1959	076	13.63	H
Norview Greenspace	134	Norview	425H	2016	002	1.67	H
Oak Forest Park	2100	Judiway	452N	1951	018	5.80	C
Oak Meadow Park	500	Ahrens	536J	1952	017	5.13	E
Oakbrook Greenspace	5353	De Soto Street	451C	2016	091	6.36	A
Old City Hall Clock Plaza	301	Travis St	493L	1995	002	0.01	I
Old N. MacGregor Spaceway	2500	N MacGregor Way	533B		004	0.68	D
Olympia Park	3600	Olympia	492P		019	0.30	G
Our Park	2604	Alabama	493Y	1982	004	0.66	D
Park at Palm Center	5400	Griggs Road	534K	2004	021	2.17	D

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Park Drive Park	4600	Park Dr	494T		023	2.60	I
Park Place Park	8600	Detroit	535Q	1923	017	0.89	I
Parkwood Park	3400	North Parkwood Drive	533G	1927	021	2.00	D
Peggy Park	4101	Almeda	493X	1925	004	9.22	D
Peggy's Point Plaza Park	4240	Main St	493X	1964	002	0.44	D
Pelham Park	6731	Fountaine Street	454M	1950	028	3.00	B
Pershing Park	5500	Pershing St	534S	1948	033	0.40	D
Pine Valley Park	2431	Pine Valley	492Q		019	0.40	G
Pleasanton Manor Park	8501	Guinevere	495K	1961	029	4.75	B
Poppy Avenue Greenspace	0	Poppy Avenue	451E	2007	092	0.29	C
Post Oak Village Park	13800	Lockway Dr	571L	1983	045	0.43	K
Proctor Plaza Park	803	W Temple	453X	1925	009	2.77	H
Rasmus (Walter J., Sr.) Park	3721	Jeanetta	490X	1960	063	8.70	J
Ray (Marguerite) Park	8401	Elrod	535V	1948	017	4.85	I
Reed (Harry) Park	7500	Jensen	454J	1979	093	1.88	H
Reeves (Gail) Park	8800	Mullins	531N	1961	096	8.03	C
Reveille Park	7700	Oak Vista	535S	1949	087	20.04	I
River Oaks Park	3600	Locke Lane	492T	1938	027	5.10	G
Riverside Park	2600	Calumet St	533B	1927	004	4.14	D
Robinson (J., Sr.) Park	1422	Ledwicke	495L	1954	029	4.79	B
Rodriguez (Sylvan) Park	1201	Clear Lake City Blvd.	617G	1991	062	111.46	E
Root Memorial Square Park	1400	Clay	493Q	1925	002	1.43	I
Rosewood Park	8200	Darien	455E	1956	028	5.72	B
Rosslyn Park	6500	Pinemont	451F	1974	092	0.53	C
Sagemont Park	11507	Hughes	576Y	1972	089	8.30	D
Sam Houston Park	1000	Bagby	493L	1899	002	19.70	I
Samuel Spaceway	12936	Samuel Ln	496M	1957	015	0.55	E
San Jacinto Park	100	Hamblen Rd	335M		338	8.92	E
Sand Canyon Park	13900	Sand Canyon Drive	528P	1989	083	23.50	NO
Scales (Zollie) Park	3501	Corder St	533P	1960	021	14.30	D
Scenic Woods Park	7449	Lakewood	415W	1959	016	5.16	B
Schnur Park	12227	Cullen Blvd	573M	1983	048	39.00	D

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Schwartz Park	8203	Vogue	451N	1956	055	14.10	A
Schweppe Park	1801	El Paseo St	532R	1982	054	2.79	D
Selena Quintanilla Perez/Denver Harbor Park	6402	Market St	494H	1945	020	17.20	H
Sesquicentennial Park	400	Texas Ave	493L	1988	002	4.00	I
Sesquicentennial Park Fish Plaza	500	Texas Ave	493L		002	1.17	I
Settegast Park	3000	Garrow	494N	1911	003	4.10	H
Shady Lane Park	10220	Shady Lane	414W	1958	093	12.40	B
Sharp (Jerry) Park	3234	Chaffin	534R	1962	087	0.50	I
Sharpstown Green Park	6300	Sharpview	531J	1985	074	0.25	J
Sharpstown Park and Golf Course	6600	Harbor Town	530F	1978	036	149.27	J
Shepherd Park	4725	Brinkman	452G	1964	018	7.89	C
Shiffick (Peggy H.) Park	700	Bomar	493N	1991	006	0.08	C
Sims Bayou Park	9500	Martin Luther King Jr Blvd	574E	1958	033	9.96	D
Sleepy Hollow Park	3400	Sleepy Hollow	492P		019	0.20	G
Smith (R. E. "Bob") Park	1300	Smith Street	493Q	1969	002	0.08	I
Smith Greenspace	7612	E. Elm Street	535B	2009	012	0.18	I
Songwood Park	548	Westshire	496E	1963	013	6.75	I
South Main Estates Park	12556	Zavalla Rd	570R	1976	085	4.93	K
Southcrest Park	5842	Southmund	534T	1950	033	6.21	D
Spencer Middleton Clements Park	5100	Memorial Dr	492L	1931	007	1.46	C
Spotts Park	401	S. Heights Blvd	493J	1960	007	16.24	H
Spurlock Park	6700	Park Lane	534C	1928	023	3.44	I
Spurlock Parkway	1300	N. MacGregor Way	534D		023	10.00	I
Squatty Lyons Park	1701	Chamberlin	413U	1986	093	19.79	H
St. Lo Park	7335	St. Lo Road	534S	1948	033	1.20	D
Stewart Park	6700	Reed Road	534Y	1981	087	4.71	I
Stonecrest Parkway	2701	East TC Jester	452N	1956	018	4.66	C
Strickland Park	12900	Tammarack Dr	456Z	1984	015	6.10	I
Stuart (Robert C.) Park	7250	Bellfort	534V	2009	087	27.14	I
Stude Park	1031	Stude	493B	1915	009	42.40	H
Studemont Spaceway	800	Studemont	493E		007	0.52	H
Stuebner-Airline Park	9201	Veteran Memorial Dr	412K	1987	088	27.44	B

FACILITY NAME	ADDRESS	STREET	KEY MAP	YEAR ACQ.	ZIP 77+	ACREAGE	COUNCIL DISTRICT
Sue Barnett-43rd Triangle	750	43rd St	452L		018	1.23	C
Sunflower Park	5000	Sunflower Street	533Z	2004	033	1.50	D
Sunnyside Park	3502	Bellfort	533X	1953	051	206.01	D
Swiney Park	2812	Cline	494J	1973	020	2.50	B
Sylvan Dells Park	1973	N MacGregor Way	534D	2010	023	0.38	I
Tanglewilde Park	9631	Windswept	490W	1966	063	2.51	F
Tanglewood Park	5801	Woodway Dr	491K	1960	057	4.60	G
Taub Greenspace	719	Lockwood Drive	494K	2008	011	2.94	H
Taylor (E.R. and Ann) Park	1850	Reed Road	572D	1986	051	25.71	D
Taylor (Hobart) Park	8100	Kenton	455P	1959	028	15.21	B
The Park on San Felipe	1702	S. Post Oak Lane	491Q	2009	056	0.10	G
Tidwell Park	9720	Spaulding	454D	1962	016	85.23	B
Timbergrove Manor Park	1400	W TC Jester Blvd	452Y	1982	008	11.00	C
Townwood Park	3403	Simsbrook	572P	1966	045	26.81	K
Tranquillity Park	400	Rusk	493L	1979	002	4.30	I
Trinity Gardens Park	4903	Bennington	454Q	1950	028	5.10	B
Trotter (J.T.) Park	7809	Little York Rd	415T	1982	016	26.77	B
Tuffly Park	3200	Russell	494B	1958	026	11.32	B
Turner (Sylvester) Park (Lease)	2800	W Little York Rd	411Z	1983	091	26.01	A
Tuttle (Cliff) Park (Padilla Skate Park)	6200	Lyons	494H	1941	020	3.40	H
Uvalde Park	1020	Uvalde	497E	1956	015	1.03	E
Vassar Spaceway	1720	Vassar	492Z	1937	006	0.50	C
Verde Forest Park	8800	Brock Park Blvd.	456A	2000	078	5.00	B
Veterans Memorial Park	1800	Tidwell	453D	1986	093	21.54	H
Victoria Gardens Park	4900	Werner	453E	1952	022	1.87	H
Wagner Greenspace	1406	Wagner	493E	2015	007	0.60	C
Waldemar Park	11700	Waldemar	489S	1987	077	3.95	G
Wanita Triangle	6600	Wanita	492F		007	0.50	C
Warren Park	4301	Topping	454C	1951	093	6.00	H
Watonga Parkway	4420	Watonga Blvd	451H	1953	092	30.00	C
Wayside at Griggs Greenspace	3727	Wayside Drive	534L	2008	023	0.55	I
West 11th Street Park	2600	West 11th Street	492B	2007	008	20.21	C

FACILITY NAME	ADDRESS	STREET	KEY MAP	YEAR ACQ.	ZIP 77+	ACREAGE	COUNCIL DISTRICT
West 26th Street Greenspace	437	West 26th Street	452V	2014	008	0.15	C
West Dallas Greenspace	1706	W Dallas	493K	2008	19	0.60	C
West End Park	1418	Patterson St	492H	1976	007	0.49	C
West Gray Adaptive Recreation Center	1475	West Gray	492R	2006	019	3.06	C
West Mount Houston Park	10300	N Houston Rosslyn Rd	411J	1988	088	50.22	A
West Tidwell Trailhead	4700	W. Tidwell	451 C/D	2013	091	1.43	A
West Webster Street Park	1501	West Webster Street	493P	2005	019	1.14	C
Westbury Park	5635	Willowbend	531W	1959	096	5.94	K
Westheimer Greenspace	424	Westheimer	493S	2015	006	0.24	C
Westwood Park	4045	Lemac	532S	1953	025	5.88	K
White (J.P.) Park	12501	Market St	496L	1956	015	2.70	E
White Oak Parkway	1513	White Oak Dr	493B		009	23.20	H
Whiting Tract (PB 4)	8200	Williamcrest Ln	530X	1982	071	2.50	K
Wiess Park	100	N Post Oak Lane	491H	1941	024	8.84	G
Wildheather Park	14900	Whiteheather	572S	1978	053	12.15	K
Wiley Park (Lease)	1414	Gillette	493P	1968	019	1.00	C
Williams Park	15000	McConn Street	617M	1995	598	3.92	E
Willow Park (Lease)	10425	Cliffwood Dr	531Z	1957	096	7.63	K
Willow Waterhole Greenway	5300	Gasmer	571B	2005	035	60.00	K
Wilson Memorial Park	100	Gilpin	576G	1962	034	29.00	E
Windsor Village Park	1441	Croquet Ln	571P	1957	085	8.99	K
Winzer Park	7300	Carver Rd	412S	1978	088	12.03	B
Woodland Park	212	Parkview	493C	1914	009	19.67	H
Woodruff Park	8800	Woodruff	535G	1965	012	0.20	I
Wortham Island Reserve	4300	Tulsa Rd	451M	1983	092	2.75	C
Wright-Bembry (23rd St) Park	850	West 23rd Street	452U	1961	008	1.08	C
Young (Karl) Park	7800	Stella Link	532J	1953	025	5.50	C

ATTACHMENT
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INTERLOCAL AGREEMENT FOR BAYOU GREENWAYS 2020

BETWEEN

THE CITY OF HOUSTON, TEXAS

AND

THE HOUSTON PARKS BOARD LGC, INC.

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B	Project Scope, Schedule and Eligible Project Costs Matrix
C	Eminent Domain Procedures
D	Request for Disbursement Form

INTERLOCAL AGREEMENT FOR BAYOU GREENWAYS 2020

THE STATE OF TEXAS §
§
COUNTY OF HARRIS §

THIS INTERLOCAL AGREEMENT FOR BAYOU GREENWAYS 2020 is made on the Countersignature Date between the **CITY OF HOUSTON, TEXAS** (the "**City**"), a Texas home-rule city, and the **HOUSTON PARKS BOARD LGC, INC.** ("**HPBLGC**"), a nonprofit local government corporation, organized and existing under the laws of the State of Texas, acting by and through its manager, the Houston Parks Board, Inc. ("**HPB**") a local 501(c)(3) non-profit corporation organized under the laws of the state of Texas.

The parties agree as follows:

ARTICLE I
FINDINGS AND DEFINITIONS

Section 1.1. **Findings**

A. On November 6, 2012, the voters of the City approved a $166 million parks bond proposition ("**Proposition B**") of which $100 million is designated to support the portion of the Bayou Greenways Initiative (a regional plan for interconnected parks, trails and green spaces) within City limits ("**Bayou Greenways 2020**"). Bayou Greenways 2020 (sometimes referred to in this Agreement as the "**Project**") is a public/private project with the purpose of creating an integrated system of connected linear parks with walking, running and bicycle trails along the nine (9) major bayous within the City limits. The Bayou Greenways 2020 Project will add parkland, trails and natural areas along the major bayous to enhance, protect and preserve water quality, natural habitat, native wildlife, and promote the health and welfare of the citizens of Houston and its surrounding areas by linking the City's existing stretches of linear parks, trails and larger traditional parks with new greenways.

B. Implementation of the Project will make a highly visible and tangible contribution to the City's economic health, environmental health, and the physical and mental health of its residents, 1.3 million of which live within 1.5 miles of one or more of the nine (9) major bayous within the City limits, as shown on **EXHIBIT A** attached hereto.

C. Upon completion of the Project, all Bayou Greenways within the City limits will be open to the public for multi-modal fitness and transportation, including walking, running, cycling and other fitness and recreational activities. The Project is estimated to reach completion within seven years. The estimated cost to complete the Project within the City limits is $205,000,000.

D. HPBLGC is a Texas nonprofit local government corporation created by the City to provide support for the City's park system. HPB is a Texas 501(c)(3) nonprofit corporation that works on behalf of the City and the City's Houston Parks and Recreation Department ("**HPARD**") to create, improve, protect, and advocate for parkland in the greater Houston area, and to acquire new parkland and park capital improvements throughout the City and its extra-territorial jurisdiction. HPB has a management agreement with HPBLGC to acquire, manage, develop and improve parks properties on behalf of HPBLGC and contract for the design, development, improvement, construction and installation of parks and open spaces approved by the Director of the Houston Parks and Recreation Department.

E. Consistent with the Election Ordinance, which provided that "it is the intention of the City Council to allocate $100,000,000 of the proceeds of any public improvement bonds or obligations issued and authorized under Proposition B to fund the project known as the Bayou Greenways Initiative," the City shall, as set forth herein, take all necessary steps to commit $100,000,000 in bond proceeds to the Project (the "**Public Commitment**"), with the understanding that the remaining $105,000,000 (the "**Private Commitment**") will be secured by HPB and its partners through private philanthropy and other sources, including the application and receipt of federal, state or other governmental funding, and including multi-year pledges and grants (collectively, "**Private Contributions**"), resulting in at least/minimum of a 1:1 public-private funding ratio for the Project.

F. Of the total amount of the Private Commitment, HPB has already obtained cash and commitments in the amount of $20,900,000 and herein reaffirms their commitment to continue their private fundraising campaign for the remainder of the Private Commitment through collaboration with other local non-profits, other governmental agencies, and private individuals and entities.

Section 1.2. **Determinations**

The City and HPBLGC find that the findings set forth in Section 1.1 are determined to be true and correct for all purposes.

Section 1.3. **Definitions**

All terms used in this Agreement shall have the meanings given herein, unless otherwise specified.

"**Agreement**" means this Interlocal Agreement for Bayou Greenways 2020, together with all amendments hereto, and all revised and supplemented versions of **EXHIBIT B** hereto approved by the Directors of HPARD and Finance as contemplated in Section 2.1.A.

"**Annual Public Commitment**" means each annual commitment made after the Countersignature Date of this Agreement, as part of a series of seven (7) annual commitments made by the City, each of which will be in the amount of the estimated cost of the annual project scope as set forth in HPBLGC's annual Public Commitment Request, which seven annual commitments comprise the total Public Commitment of $100,000,000, and each of which annual commitments are to be funded out of the BG2020 Funding Program.

"**Bayou Greenways**" means the linear greenspaces and all-weather trails along at least one side of the nine (9) major bayous in the City limits, as shown in **EXHIBIT A** attached hereto, including those existing as of the Countersignature Date plus the Greenway Segments to be constructed pursuant to this Agreement, and excluding but connecting to trail systems already established in public parks along the 9 major bayous as of the Countersignature Date.

"**BG2020 Funding Program**" means those certain financing mechanisms that total $100,000,000 over the Term of this Agreement, to be created by the City, the funds of which are irrevocably dedicated solely to the Project and which may not be used for any other purpose, the full amount of which shall be designated by the City for the Project at the time of the funding program's creation.

"**Countersignature Date**" means the date of countersignature of this Agreement by the City Controller of the City.

"**Director**" means the Director of HPARD, the General Services Department ("GSD"), and/or the Finance Department, as indicated in the context in which it appears in this Agreement, or such person as he or she shall designate to administer this Agreement.

"**Election Ordinance**" means Ordinance No. 2012-0714, passed by the City Council of the City on August 15, 2012, ordering the regular election at which Proposition B would be presented.

"**Eligible Project Costs**" means those costs associated with the Project to which the Public Commitment shall be applied, consisting of construction (including but not limited to landscaping materials and installation), including construction management fees, and signage and additional amenities, and cost recovery (not to exceed $200,000.00 annually for the next 7 years) payable to GSD to manage the Project on behalf of the City, all as further described in **EXHIBIT B** hereto, as such exhibit is updated, modified and/or supplement from time to time as contemplated in this Agreement.

"**Expenditures**" means the funds expended from each Commitment.

"**Finance**" means the City's Finance Department.

"**GSD**" means the City's General Services Department.

"**Greenway Segment**" is defined in Section 2.1.A.

"**Initial Private Contribution**" is defined in Section 3.1.A.

"**MWSBEs**" means MBEs, WBEs and/or SBEs, as those acronyms are defined in Chapter 15, Article V, of the City's Code of Ordinances.

"**Private Commitment**" is defined in Section 1.1.E.

"**Private Contribution**" is defined in Section 1.1.E.

"**Project**" is defined in Section 1.1.A.

"**Proposition B**" is defined in Section 1.1.

"**Public Commitment**" is defined in Section 1.1.E.

"**Public Commitment Request**" means HPBLGC's annual written request and supporting documentation described in Section 3.2.

"**Request for Disbursement**" means HPBLGC's request for funds to be disbursed out of an Annual Public Commitment, substantially in the form attached hereto as **EXHIBIT D**, as such form may be modified or replaced from time to time during the Term by mutual agreement of HPB and GSD.

"**Term**" means the period of time described in Article IV, during which this Agreement is in effect.

ARTICLE II
DUTIES OF HPBLGC

Section 2.1. **Scope of Work: Project Construction**

A. HPBLGC shall manage the overall Project through its manager, HPB, as overseen on behalf of the City by a GSD Project manager. HPB and HPBLGC shall provide HPARD and GSD with monthly status reports and monthly meetings. The Project shall include the construction of the integrated pathways and associated amenities such as landscaping and benches along the bayous, to be implemented in one or more segments of each of the Bayou Greenways (each, a "**Greenway Segment**"), under multiple construction contracts for each Bayou Greenway. HPBLGC from time to time, in consultation with the Director of HPARD, shall determine the particular Greenway Segments and scheduling of the Project to be implemented under the construction contracts contemplated by this Agreement. As of the Countersignature Date, such Greenway Segments currently anticipated are listed in **EXHIBIT B** to this Agreement, as the same may be revised and supplemented from time to time by HPBLGC as implementation of the Project progresses, subject to approval of the Director. The Director of HPARD may make revisions to the Project alignment based on the 30% design set at his or her discretion or by mutual agreement of the Parties. The revised and supplemented **EXHIBIT B** as approved by the Director shall be deemed to be effective for all purposes and shall be deemed to be **EXHIBIT B** of this Agreement. HPBLGC, acting through its manager, HPB, shall provide professional construction management services and construction of each Greenway Segment's improvements in accordance with such **EXHIBIT B**.

B. The Director of GSD, HPBLGC and the City Attorney shall mutually agree on a standard form of construction contract prior to commencement of any construction. As each construction contract is finalized, the Director of HPARD reserves the right to review and comment on the contracts between HPBLGC and its construction contractors.

Section 2.2. **Insurance; Bonds**

A. HPBLGC shall require that each construction contractor for the Project provide the following insurance: (1) Workers' compensation covering the contractor in the amount required by law; (2) Commercial General Liability Insurance including broad form coverage, contractual liability, bodily and personal injury, and completed operations for bodily and property damage (minimum limits of $1,000,000 per occurrence, with a minimum aggregate limit of $2,000,000); and (3) Comprehensive Automobile Liability Insurance, including owned and non-owned, as well as hired, vehicles used for the Project (limits of $1,000,000 combined single limit for each single occurrence). All insurance policies must require on their face, or by endorsement, that the insurance carrier waives any rights of subrogation against the City. Each contractor shall give 30 days' written notice to HPBLGC and the City before its policies are canceled or not renewed. Each contractor shall name HPBLGC and the City as "Specific Additional Insured" on the Commercial General Liability and Comprehensive Automobile Liability policies.

B. Prior to beginning construction, HPBLGC shall require each contractor to provide the City with copies of bonds covering faithful performance of this Agreement and payment of obligations arising under it as required pursuant to Chapter 2253 of the Texas Government Code. Each contractor shall name the City as dual obligee on such bonds.

Section 2.3. **Minority, Women and Small Business Enterprises**

A. It is the City's policy to ensure that MWSBEs have the full opportunity to compete for and participate in City contracts. The objectives of Chapter 15, Articles II and V, of the City of Houston Code of Ordinances, relating to City-wide percentage goals for contracting with MWSBEs, are incorporated into this Agreement.

B. HPBLGC shall comply and shall require its construction contractors to comply with such Chapter 15 requirements in connection with construction subcontracts. The City's policy does not require HPBLGC to in fact meet or exceed this goal, but it does require HPBLGC to objectively demonstrate that it has made good faith efforts to do so. To this end, HPBLGC's contractors shall maintain records showing:

(i) subcontracts with MWSBEs, and
(ii) specific efforts to identify and award subcontracts and supply agreements to MWSBEs.

HPBLGC shall submit periodic reports of its efforts under this Section to the Director of the Office of Business Opportunity for the City in the form and at the times he or she prescribes.

C. The agreements between HPBLGC and its construction contractors and any subcontractor agreements must expressly require compliance with such Chapter 15 requirements.

Section 2.4. **Scope of Work: Land Acquisition and Design**

A. HPBLGC shall attempt, at its sole cost and expense, to acquire all of the real property necessary to construct the Project either by purchase, dedication or donation, either in fee simple or through appropriate easements, including but not limited to conservation easements pursuant to the State of Texas Landowner's Bill of Rights as prepared by the Office of the Attorney General of Texas.

(i) For each Greenway Segment in the Project, HPBLGC shall develop conceptual illustrative plans for such Greenway Segment, including proposed general routes or alignments for trails, subject to the approval of the Director of HPARD, and HPBLGC's acquisition of real property necessary for such Greenway Segment shall conform to such approved conceptual plans. Title to all such real property shall be taken in the name of the City, either directly or by transfer from HPBLGC or HPB to the City, in each case free and clear of liens and otherwise complying with the standards of HPARD for acquisition of parklands, which includes a survey and a Phase 1 and Phase 2, if needed, as property must have a Residential Clearance.

(ii) In acquiring real property for the Project, City hereby designates HPBLGC, acting through its manager HPB, and their respective consultants, agents and as a designated, non-exclusive land and right-of-way acquisition agents of the City for the Project. If good-faith efforts by HPBLGC to acquire one or more parcels of real property needed for the Project through voluntary transactions are unsuccessful, and the Director of HPARD deems the parcel(s) essential for the connectivity and completion of Bayou Greenways 2020, HPBLGC may request the Director of HPARD to recommend, by action of City Council, for the acquisition of such real property through the exercise of the City's power of eminent domain in accordance with the procedures set forth in **EXHIBIT C** attached hereto. All such requests shall be made in writing to the Director and

include a current title commitment and appraisal report for the needed real property.

B. HPBLGC shall provide the City all goods and services necessary to design the Project in accordance with **EXHIBIT B**, as revised and supplemented from time to time. HPBLGC shall engage one or more design professionals for the design of the Project in accordance with the Professional Services Procurement Act, Government Code Chapter 2254. HPBLGC shall prepare and submit preliminary alignment and initial scope after surveys have been completed, as well as all 30%, 50%, and 95% Final plans and drawings to the Director of HPARD for review and approval, which the Director will not unreasonably withhold. The Project is not exempt from professional licensing requirements under Section 1001.053 of the Texas Occupations Code.

C. The parties intend that the costs of all Project costs for land acquisition and design shall be covered by proceeds of the Private Commitment.

ARTICLE III
DUTIES OF CITY

Section 3.1. **Annual Appropriations of Public Commitment.**

A. HPBLGC has obtained cash and pledges or other commitments in the amount of $20,900,000 ("**Initial Private Contribution**") toward the total amount of the Private Commitment and hereby reaffirms their commitment to raise an additional $84,100,000 in additional Private Contributions for a total contribution of $105,000,000 over the Term of this Agreement, as amended.

B. Consistent with the findings herein, the City hereby commits to take all necessary steps to make available to HPBLGC over the Term of this Agreement, as amended, the Public Commitment in the amount of $100,000,000. The Public Commitment shall be used to pay Eligible Project Costs in an amount equaling, in the aggregate, $100,000,000, from which the City will pay a total project management fee in an amount of 4% of the Public Commitment, payable incrementally with the disbursements made under Section 3.3 of this Agreement, for the services rendered by HPBLGC, acting through its manager HPB, under this Agreement.

C. In order to accomplish this Project, the City shall establish the BG2020 Funding Program and intends to appropriate the initial Annual Public Commitment no later than August 31, 2013, and to appropriate Annual Public Commitments as of the same day of each of the next six (6) consecutive City fiscal years thereafter until its $100,000,000 Public Commitment for the Project is complete. However, the City has appropriated no funds for any obligation under this agreement and shall have no obligation to pay money hereunder until and unless City Council approves an appropriation therefor.

Section 3.2. **Public Commitment Requests.**

A. Prior to the Countersignature Date, HPBLGC has provided to the Directors of Finance and HPARD an overall Project scope and schedule with estimated Project costs for City fiscal years 2014 through 2020 in the form of **EXHIBIT B** attached hereto, listing by Greenway Segment the estimated Eligible Project Costs for such proposed scope of work, plus a more detailed annual scope of work and estimated Project costs for City's Fiscal Year 2014 beginning on July 1, 2013. Based on the Initial Private Contribution of HPBLGC, HPBLGC has applied for an initial Annual Public Commitment in the amount of $11,400,000 to be made available to HPBLGC to assist HPBLGC in the initial phase of the Project, including paying for Eligible Project Costs necessary to initiate the work on the Project. The initial Annual Public Commitment is a part of and is included in the total Public Commitment. The Director of Finance and the Director of HPARD have approved such documentation, confirmed that the

Initial Private Contribution has been raised and are thus eligible for matching, and the Director of Finance shall bring the initial Annual Public Commitment in the amount of $11,400,000 to City Council for consideration no later than August 31, 2013.

B. No later than the last day of February in each calendar year during the Term of this Agreement, HPBLGC shall provide to the Directors of HPARD and Finance (i) an updated version of the overall Project scope, schedule and estimated Project costs for the remainder of the Term of this Agreement substantially in the form of **EXHIBIT B**; (ii) a more detailed annual scope of work to be undertaken by HPBLGC in the upcoming City fiscal year, listing by Greenway Segment the estimated Eligible Project Costs for such proposed scope of work; and (iii) a Public Commitment Request containing all the information required in Section 3.2.C below; to which the Directors will respond within thirty (30) days after receipt.

C. Each Public Commitment Request must include the following Project information:

(i) a statement of the percentage of the prior Commitment that the Expenditures made and to be made in the then current City fiscal year constitute, which must equal at least 60% of such prior Commitment;

(ii) a statement of the aggregate amount of all Expenditures to date from all prior public Commitments and the aggregate amount of all Project costs paid to date from the Private Commitment; and

(iii) certification from HPBLGC that HPBLGC has raised Private Contributions sufficient to establish a one-to-one match for the next Annual Public Commitment, and which certification shall set forth the amount of such Private Contributions that is available in cash on hand and the amount that is made up of pledges and commitments.

D. The Directors of HPARD and Finance shall review the Public Commitment Request, including all of the items required in Section 3.2.C above, and the Directors shall have the right to review HPBLGC's donor records at the offices of HPBLGC. For clarification, Private Contributions raised in one City fiscal year that exceed the required 1:1 match with the Annual Public Commitment in that fiscal year may be carried forward and counted toward HPBLGC's 1:1 match for subsequent fiscal years' Annual Public Commitments. Upon the Directors' approval of the updated **EXHIBIT B**, the detailed annual scope, schedule and cost estimate for the upcoming City fiscal year, and the Public Commitment Request and supporting materials, which approval shall not be unreasonably withheld, the Directors shall certify to the City that HPBLGC is eligible for the Annual Public Commitment requested by HPBLGC to continue or complete the Project.

E. Upon the Directors' certification to the City that HPBLGC is eligible for the appropriation of the requested Annual Public Commitment for the Project, the Director of Finance shall include the estimated Annual Public Commitments as shown in the updated **EXHIBIT B** in the City's proposed Capital Improvement Plan for the upcoming City fiscal year to be presented to City Council for approval by June 30 in the then-current City fiscal year. Each Annual Public Commitment shall also include the cost recovery (not to exceed $200,000 annually for the next 7 years) payable to GSD in connection with the Project for the upcoming City fiscal year. The City shall thereupon take all necessary steps to make available the next Annual Public Commitment from the BG2020 Funding Program, and the Director of Finance shall bring the City's appropriation of the next Annual Public Commitment to the City Council for consideration no later than August 31 of the new City fiscal year.

F. The Parties acknowledge that the City Council has the sole authority to appropriate or not to appropriate Public Commitment funds The Public Commitment specified in Section 3.1 constitutes

HPBLGC's total compensation for its services under this Agreement. HPB recognizes that, under its Charter, the City may not obligate itself by contract to pay more money than the amount the City Council appropriates, and further recognizes that effective as of the Countersignature Date, the City Council has included in the Capital Improvement Plan for City fiscal year 2014 only the initial Annual Public Commitment of $11,400,000 to pay Eligible Project Costs under this Agreement. The City agrees and commits that following the creation of the BG2020 Funding Program, the Director of Finance will take to City Council for consideration the appropriation, no later than August 31, 2013, of such initial Annual Public Commitment associated with this Agreement.

Section 3.3. **Disbursements of Annual Public Commitments for Eligible Project Costs.**

A. Upon appropriation of an Annual Public Commitment, the City shall disburse funds therefrom to HPBLGC as set forth below:

(i) With respect to each construction contract for all or part of a Greenway Segment, HPBLGC will submit to the Directors of Finance and GSD a Request for Disbursement for an initial draw for use as a rolling fund during construction under such contract, as follows. Upon receipt of the qualified low bid for the construction of a Greenway Segment or portion thereof as listed in the annual scope of work for such City fiscal year, as previously approved by the Director pursuant to Section 3.2.D, HPBLGC will submit to the Director a Request for Disbursement in an amount sufficient to pre-fund (i) 20% of the qualified low bid, (ii) 10% contingency, plus (iii) 4% of (i) and (ii) for HPB's project management fee, as a rolling fund for start-up costs and other Eligible Project Costs during construction of such Greenway Segment.

(ii) On a monthly basis after such initial Request for Disbursement under such construction contract, HPBLGC will submit to the Directors of Finance and GSD a Request for Disbursement for reimbursement of Eligible Project Costs during the preceding month. The first such Request for Disbursement for reimbursements shall include a complete copy of the final executed construction contract, performance bonds and contractor's proof of insurance for construction work for the Greenway Segment or portion thereof covered in such approved annual scope of work. Each such Request for Disbursement for reimbursement shall be accompanied by supporting documentation consisting of paid invoices, including paid invoices for HPBLGC's 4% management fee and the corresponding proof of payments.

(iii) In each month, HPBLGC shall submit all Requests for Disbursements for construction contracts to the Directors of Finance and GSD in a single package, with a cover sheet that states (x) the amount of each Request for Disbursement, identified by contract and Greenway Segment, (y) the total amount of all Requests for Disbursements submitted in such package for such month, and (z) compares such total amount for such month to the total amount estimated for such month on the approved annual scope of work for such City fiscal year.

B. Upon the approval by the Directors of Finance and GSD of each Request for Disbursement and supporting documentation as required herein, the Director of GSD shall direct the Controller to make payments to HPBLGC at its address for notices within thirty (30) days of the Directors' receipt of the package of Requests for Disbursement and all required supporting documentation. If for any reason the Director of GSD disputes any items in any Request for Disbursement that HPBLGC submits, including lack of supporting documentation, the Director shall (i) direct the Controller to pay all undisputed amounts and (ii) promptly notify HPBLGC of the dispute and

request remedial action. After the dispute is settled, HPBLGC shall have the right to resubmit a Request for Disbursement and supporting documentation for the previously disputed amount as provided for in this Section 3.3, included in the combined package of monthly Requests for Disbursements next submitted by HPBLGC following the date the dispute is settled. For clarification, it is the intent of the parties that only one package of Requests for Disbursements shall be submitted by HPBLGC in any one month, and the disbursement to be made by the Controller when authorized by the Director of GSD shall be made in a single check issued to HPBLGC within 30 days of submittal of such package.

C. The City is exempt from payment of Federal Excise and Transportation Tax and Texas Limited Sales and Use Tax. HPBLGC's invoices to the City must not contain assessments of any of these taxes. Upon request by HPBLGC, the City Attorney will furnish the City's exemption certificate and federal tax identification number to HPBLGC.

Section 3.4. **Maintenance**

The City shall maintain the Bayou Greenways, including both the portions of the Bayou Greenways in existence as of the Countersignature Date and each Greenway Segment as construction thereof is completed by HPBLGC. The parties hereto commit to negotiate in good faith and enter into a binding Maintenance Agreement no later than December 31, 2013, (i) establishing mutually agreeable maintenance standards for the completed Bayou Greenways as contemplated in this Agreement; (ii) identifying a long term (no more than 30 years) revenue source that is not subject to annual appropriations for funding such maintenance to the agreed standards; and (iii) requiring the implementation of such long term solution no later than July 1, 2014. For the interim period between the Countersignature Date and ending on the effective date of the Maintenance Agreement, the City shall maintain the existing Bayou Greenways and completed Greenway Segments to standards equivalent to trails in Mason Park.

Section 3.5. **Eminent Domain**

If good-faith efforts by HPBLGC to obtain all of the real property necessary for the Project by purchase, dedication, donation or otherwise are unsuccessful, then upon the recommendation of the Director of HPARD pursuant to Section 2.4.A(ii) above and upon City Council's approval, then in accordance with the procedures set forth in **EXHIBIT D** attached hereto, the City will exercise the authority granted to it by the Constitution and laws of the State of Texas, including Chapters 251 and 273 of the Texas Local Government Code, Sec. 402.031 of the Texas Government Code and Chapter 21 of the Texas Property Code, to acquire the real property needed for the completion of the Project by the exercise of the power of eminent domain. All costs of eminent domain, including appraisals and costs of litigation, including but not limited to reasonable fees of professional consultants, expert witnesses and litigation counsel, shall be paid by HPBLGC from the Private Commitment.

ARTICLE IV
TERM AND TERMINATION

Section 4.1. **Agreement Term**

This Agreement is effective on the Countersignature Date and expires upon the Director's acceptance of the Project and the City's final payment to HPBLGC, unless sooner terminated under this Agreement.

Section 4.2. **Termination**

A. Either party may terminate this Agreement, without cause, by 365 days' written notice to the other party. After termination under this provision, neither party shall have any further obligation under this Agreement, except as follows: HPBLGC shall return to the City any funds that the City has paid to HPBLGC and that HPBLGC has not expended in accordance with this Agreement or encumbered to pay its obligations under a contract existing at the time of such termination for the completion of the Project.

B. Either party may terminate its performance under this Agreement if the other party defaults and fails to cure the default after receiving notice of it. Default occurs if a party fails to perform one or more of its material duties under this Agreement. If a default occurs, the injured party shall deliver a written notice to the defaulting party describing the default and the proposed termination date. The date must be at least 90 days after receipt of such notice. The injured party, at its sole option, may extend the proposed termination date to a later date. If the defaulting party cures the default before the proposed termination date, the proposed termination is ineffective. If the defaulting party does not cure the default before the proposed termination date, the injured party may terminate its performance under this Agreement on the termination date. The Director of Finance shall act on behalf of the City to notify HPBLGC of a default and to effect termination.

C. After any such 90-day period described in Sections 4.2.A or B above, the parties will cooperate in good faith to carry out the orderly transition of the Project from HPBLGC to the City or to such successor to HPBLGC as Project sponsor as the City may designate. In connection with such termination and transition, HPBLGC shall transfer all of its rights, title and interests to the City or such successor all contracts and materials relating to the Project, including but not limited to (i) all parcels of land acquired by HPBLGC for any Greenway Segment, (ii) all plans, specifications and construction drawings for the Project, and (iii) all construction contracts and bids for construction contracts for the Project. City shall be responsible for reviewing and funding, on the terms of this Agreement, all Requests for Disbursements submitted by HPBLGC with respect to work on the Project through the last day of any such 90-day period.

ARTICLE V
MISCELLANEOUS PROVISIONS

Section 5.1. **Responsibilities of the Parties**

The parties agree that except for City's designation of HPBLGC as its agent for acquisition of right of way in connection with eminent domain and except by operation of law relating to HPBLGC being a local government corporation created by the City for the purpose of assisting the City in certain of its governmental functions, neither party is an agent, servant, or employee of the other party and that each party is responsible for its individual acts and deeds as well as the acts and deeds of its contractors, employees, representatives, and agents.

Section 5.2. **Force Majeure**

Neither party shall be held liable for any loss or damage due to delay or failure in performance of any part of this Agreement from any cause beyond its control and without its fault or negligence, such causes may include acts of God, acts of civil or military authority, government regulations (except those promulgated by the party seeking the benefit of this section), embargoes, epidemics, war, terrorist acts, riots, insurrections, fires, explosions, earthquakes, nuclear accidents, floods, strikes, power blackouts, other major environmental disturbances or unusually severe weather conditions.

Section 5.3. **Severability**

If any part of this Agreement is for any reason found to be unenforceable, all other parts remain enforceable unless the result materially prejudices either party.

Section 5.4. **Entire Agreement**

This Agreement merges the prior negotiations and understandings of the parties and embodies the entire agreement of the parties. No other agreements, assurances, conditions, covenants (express or implied), or other terms of any kind, exist between the parties regarding this Agreement.

Section 5.5. **Written Amendment**

Unless otherwise specified elsewhere in this Agreement, this Agreement may be amended only by written instrument executed on behalf of the City (by authority of an ordinance adopted by the City Council) and HPB. The Director is only authorized to perform the functions specifically delegated to him or her in this Agreement.

Section 5.6. **Applicable Laws**

This Agreement is subject to the laws of the State of Texas, the City Charter and Ordinances, the laws of the federal government of the United States, and all rules and regulations of any regulatory body or officer having jurisdiction. Venue for any litigation relating to this Agreement is Harris County, Texas.

Section 5.7. **Notices**

Except for HPBLGC's submittal of monthly packages of Requests for Disbursements to the Director of Finance as contemplated in Section 3.3 of this Agreement, all notices to either party to this Agreement must be in writing and must be delivered by hand, facsimile, United States registered or certified mail, return receipt requested, United States Express Mail, Federal Express, Airborne Express, UPS or any other national overnight express delivery service. The notice must be addressed to the party to whom the notice is given at its address set out below or other address the receiving party has designated previously by giving written notice of its changed address to the other party. Postage or delivery charges must be paid by the party giving the notice.

City:		**HPBLGC:**
City of Houston Director, Houston Parks and Recreation Department [redacted]		Houston Parks Board LGC, Inc. Attention: Executive Director [redacted]

Section 5.8. **Captions**

Captions contained in this Agreement are for reference only, and, therefore, have no effect in construing this Agreement. The captions are not restrictive of the subject matter of any section in this Agreement.

Section 5.9. **Non-Waiver**

If either party fails to require the other to perform a term of this Agreement, that failure does not prevent the party from later enforcing that term and all other terms. If either party waives the other's breach of a term, that waiver does not waive a later breach of this Agreement. An approval by the Director, or by any other employee or agent of the City, of any part of HPBLGC's performance does not waive compliance with this Agreement or establish a standard of performance other than that required by this Agreement and by law.

Section 5.10. **Enforcement; Audit Rights.**

The City Attorney or his or her designee may enforce all legal rights and obligations under this Agreement without further authorization of the City. HPBLGC shall make available to the City Attorney, at HPBLGC's offices, at a time mutually agreed upon by HPBLGC and the City Attorney, all documents and records pertaining to this Agreement that the City Attorney requests to assist in determining HPBLGC's compliance with this Agreement, with the exception of those documents made confidential by federal or State law or regulation.

Audit Rights. HPBLGC shall establish and maintain an accounting system that enables the City Controller or his designee ("City Controller") to readily identify HPBLGC's assets, expenses, costs of goods, and use of funds. This should include cost centers/cost objects that allow summarizing on the Bayou Greenways 2020 Project cost in the aggregate and by function/cost center, and/or cost object. The City Controller and its authorized representatives shall have the right to audit, to examine, and to make copies of or extracts from all financial and related records (in whatever form they may be kept, whether written, electronic, or other) relating to or pertaining to this Agreement kept by or under the control of HPBLGC, including, but not limited to those kept by HPBLGC, its employees, agents, assignees, successors, and subcontractors. Such records shall include, but not be limited to, external auditors reports and audited financial statements, detailed accounting records that support the audited financial statements, written policies and procedures; subcontract files (including proposals of successful and unsuccessful bidders, bid recaps, etc.); all paid vouchers including those for out-of-pocket expenses; other reimbursement supported by invoices; ledgers; cancelled checks; deposit slips; bank statements; journals; original estimates; estimating work sheets; contract amendments and change order files; back-charge logs and supporting documentation; insurance documents; payroll documents; timesheets; memoranda; and correspondence.

Records Retention. HPBLGC shall, at all times during the term of this Agreement and for a period of 5 years after the completion of this Agreement, maintain such records, together with such supporting or underlying documents and materials. This should also include cost centers/cost objects that allow summarizing on the Bayou Greenways 2020 Project cost in the aggregate and by function/cost center, and/or cost object. HPBLGC shall at any time requested by the City Controller, whether during or after completion of this Agreement, and at HPBLGC's own expense, make such records available for inspection and audit (including copies and extracts of records as required) by the City Controller. Such records shall be made available to the City Controller during normal business hours at HPBLGC's office or place of business and (subject to a 14 day written notice/without prior notice). In the event that no such location is available, then the financial records, together with the supporting or underlying documents and records, shall be made available for audit at a time and location agreed to by the City Controller.

HPBLGC shall ensure the City has these rights with HPBLGC's employees, agents, assigns, successors, and subcontractors, and the obligations of these rights shall be explicitly included in any subcontracts or agreements formed between the HPBLGC and any subcontractors to the extent that those subcontracts or agreements relate to fulfillment of the HPBLGC's obligations to the City.

Costs of Audit. Costs of any audits conducted under the authority of this right to audit and not addressed elsewhere will be borne by the City unless the following exemption criteria are met:

If the audit identifies overpricing or overcharges (of any nature) by HPBLGC to the City in excess of three percent (3.0%) of the total contract billings HPBLGC shall reimburse the City for the total costs of the audit.

If the City Controller's audit discovers substantive findings related to fraud, misrepresentation, or non-performance, the City may recoup the costs of the audit work from HPBLGC. Any adjustments and/or payments that must be made as a result of any such audit or inspection of HPBLGC's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of the City Controller's findings to HPBLGC.

Section 5.11. **Ambiguities**

If any term of this Agreement is ambiguous, it shall not be construed for or against any party on the basis that the party did or did not write it.

Section 5.12. **Survival**

HPBLGC shall remain obligated to the City under all clauses of this Agreement that expressly or by their nature extend beyond the expiration or termination of this Agreement, including but not limited to, the indemnity provisions.

Section 5.13. **Parties in Interest**

This Agreement does not bestow any rights upon any third party, but binds and benefits the City and HPBLGC only.

Section 5.14. **Successors and Assigns**

This Agreement binds and benefits the parties and their legal successors and permitted assigns; however, this provision does not alter the restrictions on assignment and disposal of assets set out in the following paragraph. This Agreement does not create any personal liability on the part of any official, officer, director, employee or agent of the City, HPBLGC, or HPBLGC's manager, HPB.

Section 5.15. **Business Structure and Assignments**

HPBLGC shall not assign this Agreement at law or otherwise or dispose of all or substantially all of its assets without the Director's prior written consent. Nothing in this clause, however, prevents the assignment of accounts receivable or the creation of a security interest as described in §9.406 of the Texas Business & Commerce Code. In the case of such an assignment, HPBLGC shall immediately furnish the City with proof of the assignment and the name, telephone number, and address of the Assignee and a clear identification of the fees to be paid to the Assignee. Other than the right of HPBLGC to carry out its obligations hereunder through its manager HPB, HPBLGC shall not delegate any portion of its performance under this Agreement without the prior written consent of the City Attorney and the Directors of Finance and HPARD, such consent not to be unreasonably withheld or delayed provided that the City is not deprived of any rights or protections.

Section 5.16. **Remedies Cumulative**

Unless otherwise specified elsewhere in this Agreement, the rights and remedies contained in this Agreement are not exclusive, but are cumulative of all rights and remedies which exist now or in the future. Neither party may terminate its duties under this Agreement except in accordance with its provisions.

[*Remainder of this Page Intentionally Left Blank*]

The parties have executed this Agreement in multiple copies, each of which is an original.

HPBLGC:
HOUSTON PARKS BOARD LGC, INC.

By: Roksan Okan-Vick
Name: Roksan Okan-Vick
Title: Executive Director
Tax ID No.: [redacted]

ATTEST/SEAL (if a corporation):
WITNESS (if not a corporation):

By: Becky Porteous
Name: Becky Porteous
Title: Finance Manager

CITY:
CITY OF HOUSTON, TEXAS
Signed by:

Mayor Madeleine D. Parker

ATTEST/SEAL:

City Secretary

APPROVED:

Director, Houston Parks and Recreation Department

APPROVED:

Director, Finance Department

APPROVED:

Director, General Services Department

COUNTERSIGNED BY:

City Controller Jennifer Rich

DATE COUNTERSIGNED:
7-3-13

APPROVED AS TO FORM:

Sr. Assistant City Attorney
[redacted]

CSTINSON\005021\00003\981939.5

EXHIBIT A

MAP OF BAYOU GREENWAYS 2020

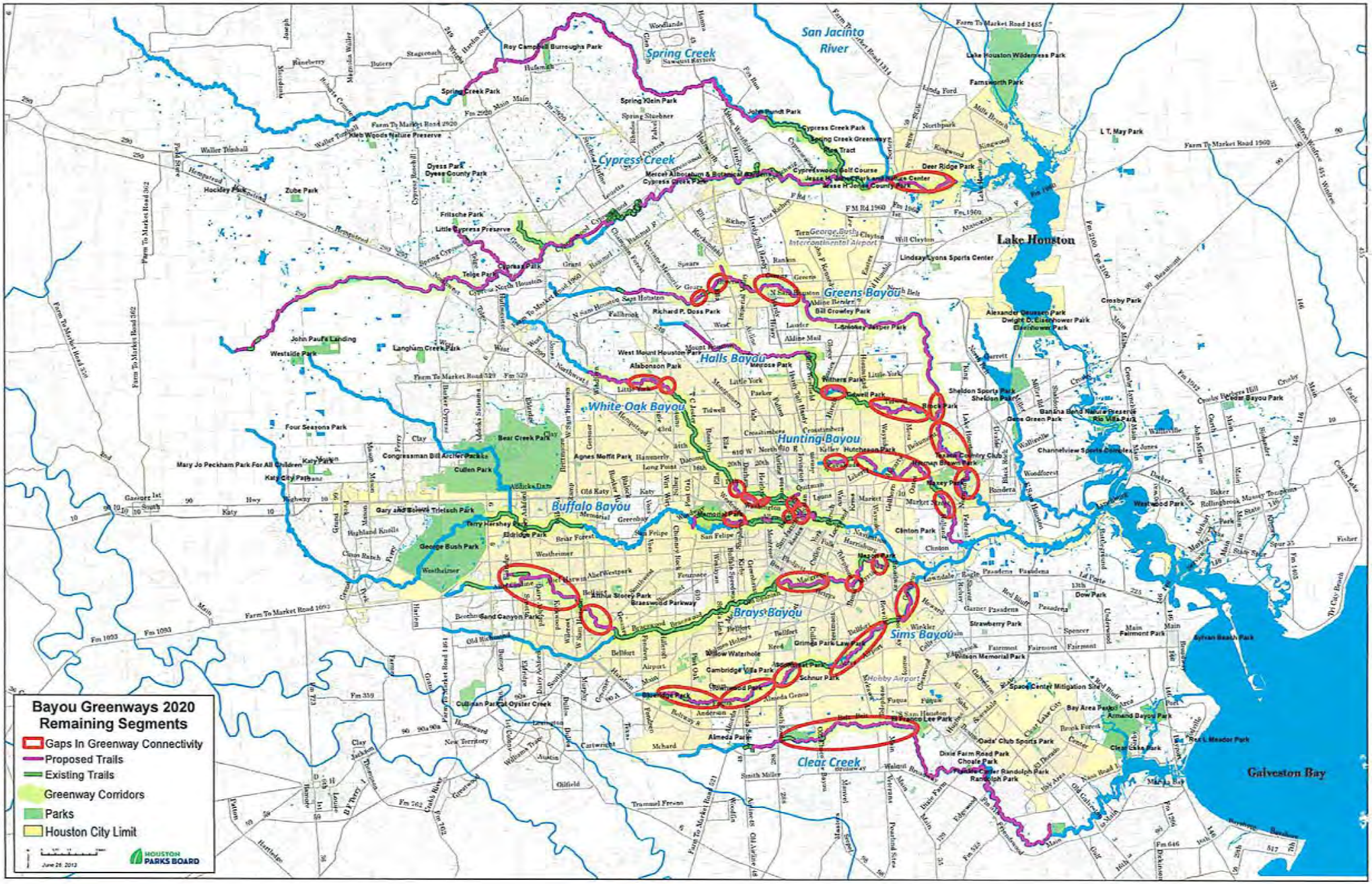
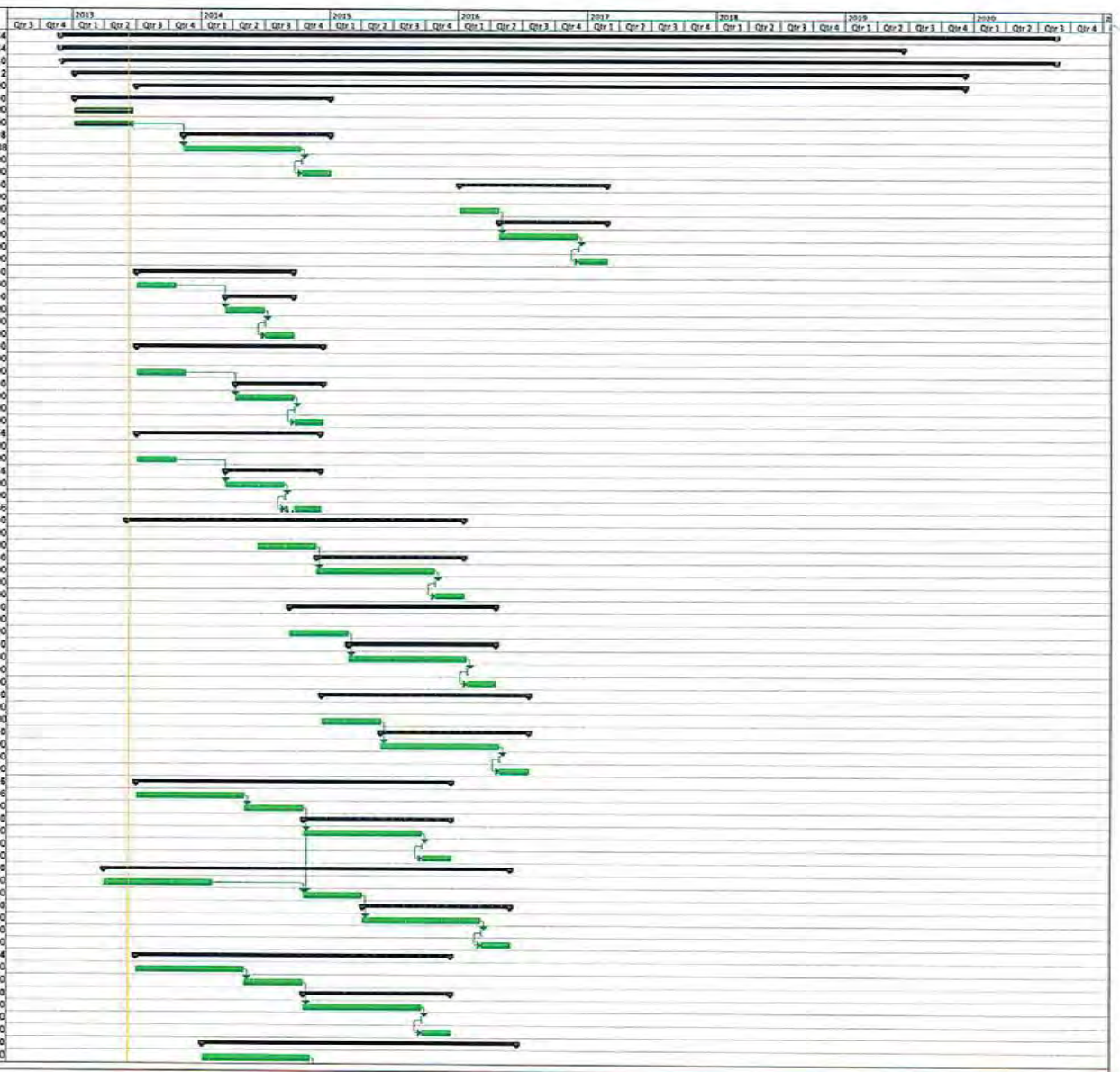

Bayou Greenways 2020
Remaining Segments
Gaps In Greenway Connectivity
Proposed Trails
Existing Trails
Greenway Corridors
Parks
Houston City Limit
June 26, 2013
HOUSTON PARKS BOARD
Spring Creek
San Jacinto River
Cypress Creek
Greens Bayou
Halls Bayou
White Oak Bayou
Hunting Bayou
Buffalo Bayou
Brays Bayou
Sims Bayou
Clear Creek
Lake Houston
Galveston Bay
Roy Campbell Burroughs Park
Spring Creek Park
Spring Klein Park
John Pundt Park
Cypress Creek Park
Spring Creek Greenway
Deer Ridge Park
Lake Houston Wilderness Park
Farnsworth Park
L.T. May Park
Mercer Arboretum & Botanical Gardens
Cypresswood Golf Course
Jesse H. Jones Nature Center
Jesse H. Jones County Park
Dyess Park
Dyess County Park
Hockley Park
Zube Park
Fritsche Park
Little Cypress Preserve
Cypress Park
Telge Park
George Bush Intercontinental Airport
Lindsay Lyons Sports Center
Richard P. Doss Park
Bill Crowley Park
Alexander Deussen Park
Dwight D. Eisenhower Park
Crosby Park
John Paul's Landing
Westside Park
Langham Creek Park
West Mount Houston Park
Alabonson Park
Melrose Park
Rithers Park
Sheldon Sports Park
Sheldon Park
Cedar Bayou Park
Banana Bend Nature Preserve
Rio Vista Park
Four Seasons Park
Bear Creek Park
Congressman Bill Archer Park
Cullen Park
Mary Jo Peckham Park For All Children
Katy Park
Katy City Park
Agnes Moffit Park
Hutchesson Park
Channelview Sports Complex
Westwood Park
Gary and Bonnie Trielsch Park
Terry Hershey Park
Eldridge Park
George Bush Park
Clinton Park
Mason Park
Arthur Storey Park
Braeswood Parkway
Sand Canyon Park
Grimes Park Law Park
Wilson Memorial Park
Strawberry Park
Fairmont Park
Sylvan Beach Park
Willow Waterhole
Gambrige Villa Park
Schnur Park
Space Center Mitigation Site
Bay Area Park
Armand Bayou Park
Cullinan Park at Oyster Creek
Almeda Park
Pasadena Lee Park
Oada' Club Sports Park
Dixie Farm Road Park
Choate Park
Randolph Park
Clear Lake Park
Bob L. Meador Park

EXHIBIT B

PROJECT SCOPE, SCHEDULE AND ELIGIBLE COSTS MATRIX

ID	Task Name	Project ID	Cost
1	**Bayou Greenways 2020**		**$215,255,101.44**
2	**Other Project Expenses**		**$8,999,901.44**
26	**Greenway Segments**		**$206,255,206.40**
27	**Brays Bayou**		**$30,308,357.12**
28	Greenway Land Acquisitions		$4,300,000.00
33	**TIGER Project 6 (OST to MLK)**	BR-TR-007	**$3,390,712.00**
34	Land Acquisition		$945,000.00
35	Design		$229,078.00
36	**Construction**		**$2,216,634.08**
37	Trail Construction		$2,116,634.08
38	Trail Acceptance		$0.00
39	Signage and Additional Amenities		$100,000.00
40	**Trail under Telephone Road Bridge**	BR-TR-006	**$440,000.00**
41	Land Acquisition		$0.00
42	Design		$70,000.00
43	**Construction**		**$370,000.00**
44	Trail Construction		$330,000.00
45	Trail Acceptance		$0.00
46	Signage and Additional Amenities		$40,000.00
47	**Mason Park Bridge**	BR-BR-001	**$2,040,000.00**
48	Design		$340,000.00
49	**Construction**		**$1,700,000.00**
50	Bridge Construction		$1,620,000.00
51	Bridge Acceptance		$0.00
52	Signage and Additional Amenities		$80,000.00
53	**Wheeler to MacGregor Park (includes Pedestrian Bridge across Brays Bayou)**	BR-BR-002	**$2,550,000.00**
54	Land Acquisition		$0.00
55	Design		$430,000.00
56	**Construction**		**$2,120,000.00**
57	Bridge and Trail Construction		$2,000,000.00
58	Bridge and Trail Acceptance		$0.00
59	Signage and Additional Amenities		$120,000.00
60	**MacGregor Park (short piece between MLK and Calhoun)**	BR-TR-010	**$445,555.56**
61	Land Acquisition		$0.00
62	Design		$60,000.00
63	**Construction**		**$385,555.56**
64	Trail Construction		$325,000.00
65	Trail Acceptance		$0.00
66	Signage and Additional Amenities		$60,555.56
67	**MacGregor Park to Scott**	BR-TR-011	**$1,240,000.00**
68	Land Acquisition		$0.00
69	Design		$170,000.00
70	**Construction**		**$1,070,000.00**
71	Trail Construction		$770,000.00
72	Trail Acceptance		$0.00
73	Signage and Additional Amenities		$300,000.00
74	**Scott to Columbia Tap**	BR-TR-012	**$1,366,000.00**
75	Land Acquisition		$0.00
76	Design		$190,000.00
77	**Construction**		**$1,176,000.00**
78	Trail Construction		$836,000.00
79	Trail Acceptance		$0.00
80	Signage and Additional Amenities		$340,000.00
81	**Columbia Tap to Almeda**	BR-TR-013	**$803,000.00**
82	Land Acquisition		$0.00
83	Design		$110,000.00
84	**Construction**		**$693,000.00**
85	Trail Construction		$473,000.00
86	Trail Acceptance		$0.00
87	Signage and Additional Amenities		$220,000.00
88	**Braeburn Glen to 59**	BR-TR-026	**$1,584,760.96**
89	Land Acquisition		$1,044,760.96
90	Design		$60,000.00
91	**Construction**		**$480,000.00**
92	Trail Construction		$380,000.00
93	Trail Acceptance		$0.00
94	Signage and Additional Amenities		$100,000.00
95	**US 59 to BW8**	BR-TR-027	**$3,930,000.00**
96	Land Acquisition		$0.00
97	Design		$600,000.00
98	**Construction**		**$3,330,000.00**
99	Trail Construction		$2,750,000.00
100	Trail Acceptance		$0.00
101	Signage and Additional Amenities		$580,000.00
102	**Arthur Storey Park to Dairy Ashford**	BR-TR-028	**$5,573,328.64**
103	Land Acquisition		$633,329.00
104	Design		$800,000.00
105	**Construction**		**$4,140,000.00**
106	Trail Construction		$3,740,000.00
107	Trail Acceptance		$0.00
108	Signage and Additional Amenities		$400,000.00
109	**Westpark Connection (along North Fork of Brays Bayou)**	BR-TR-029	**$620,000.00**
110	Land Acquisition		$0.00



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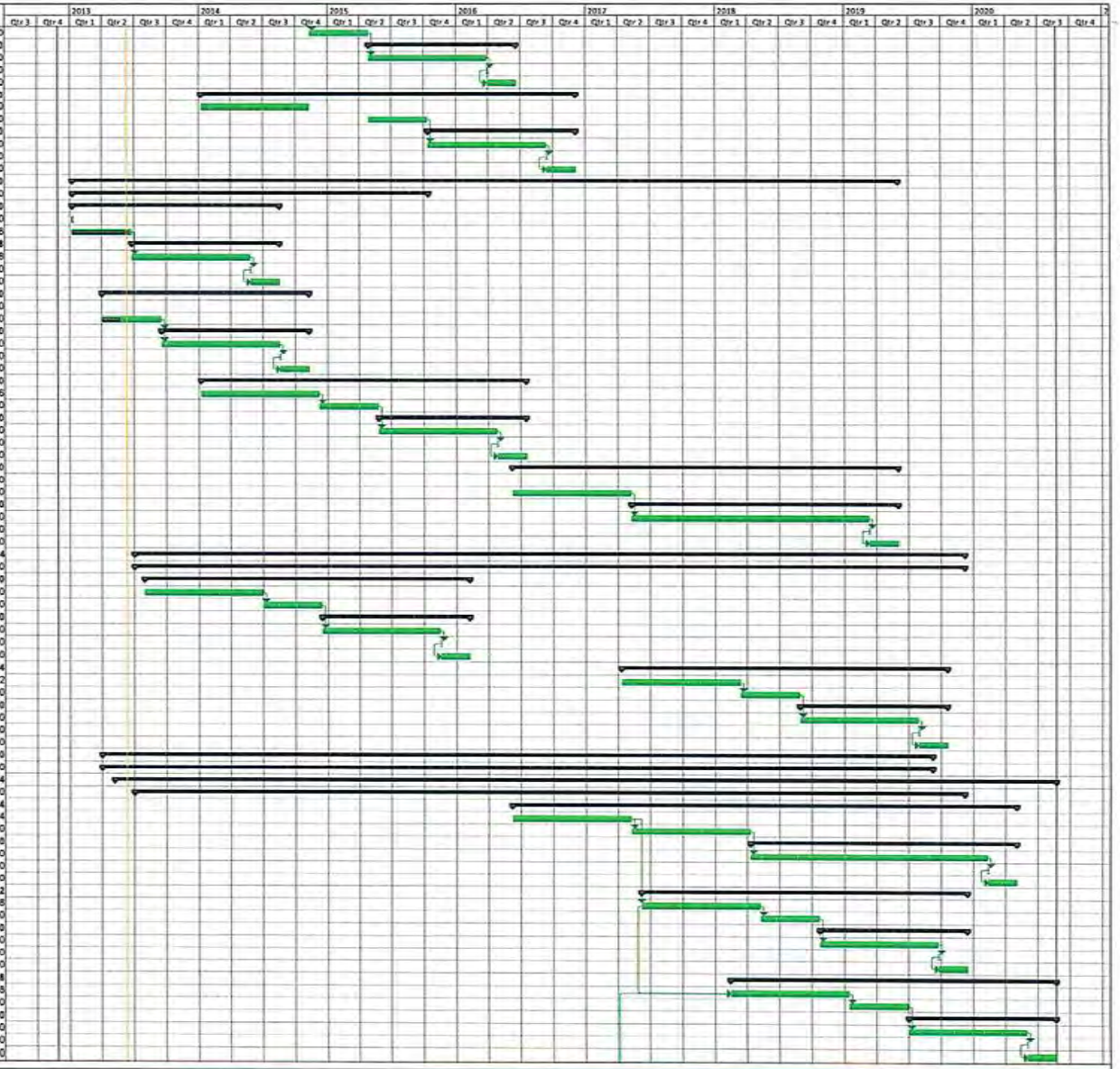
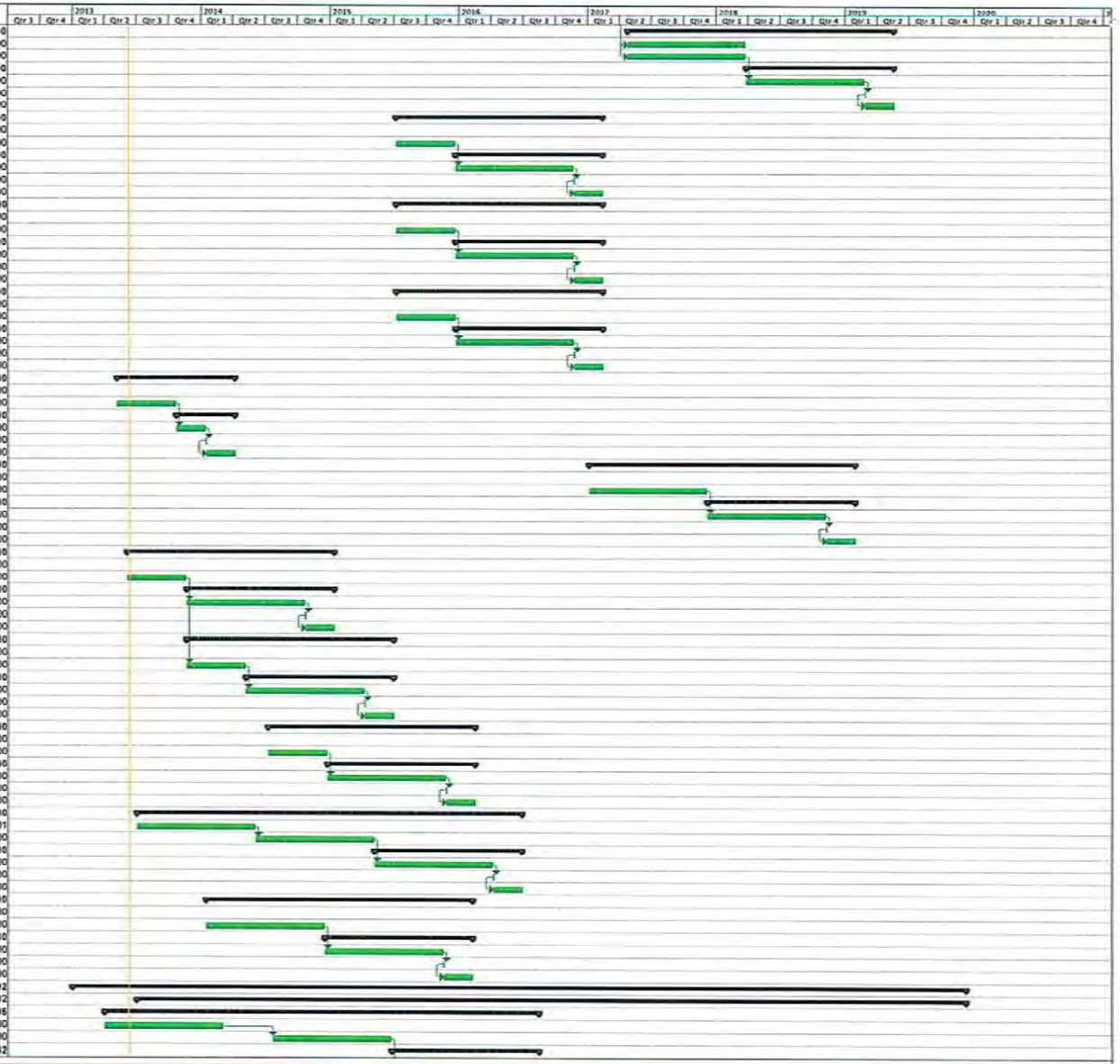
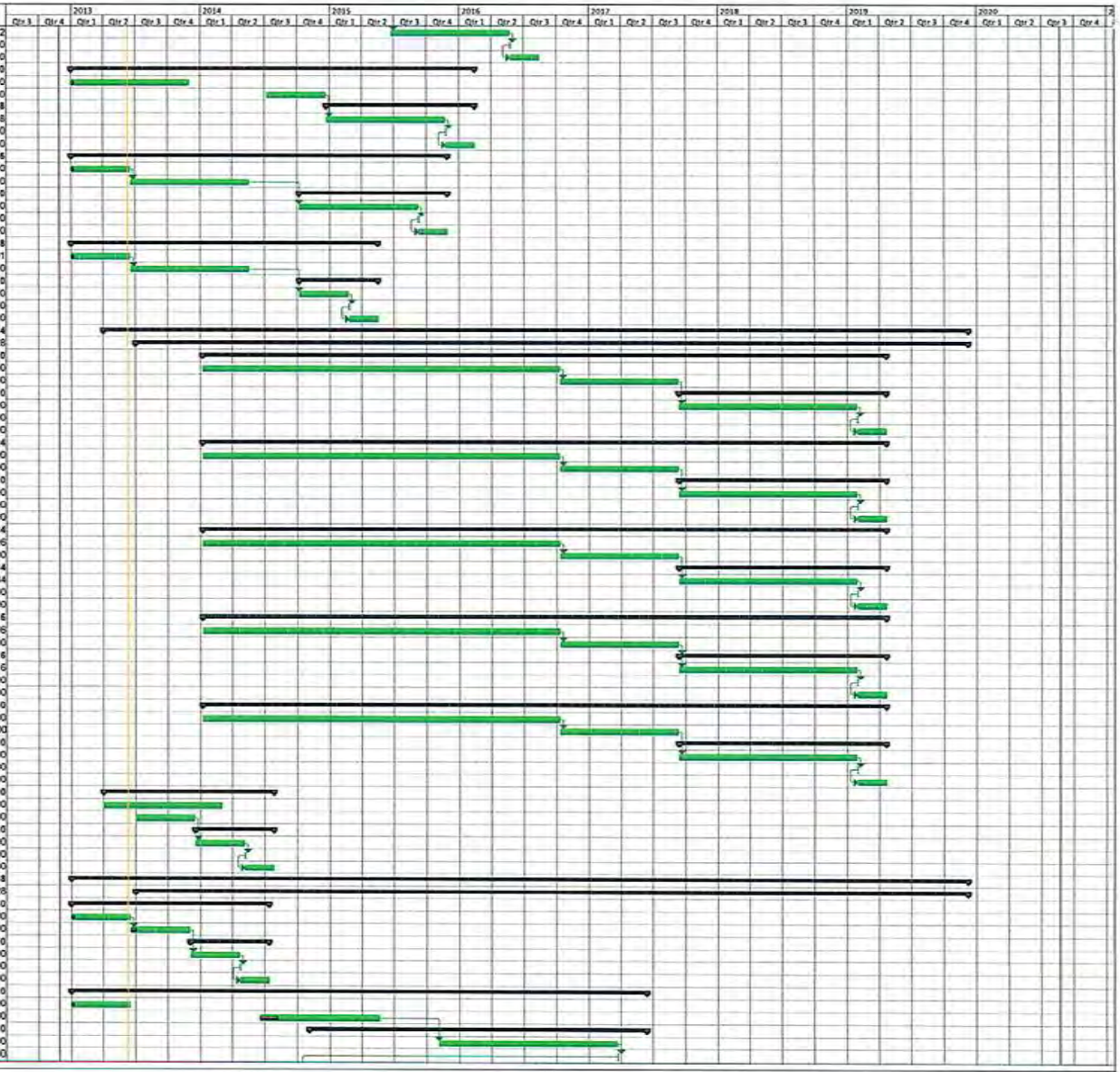
ID	Task Name	Project ID	Cost
111	Design		$60,000.00
112	**Construction**		**$560,000.00**
113	Trail Construction		$480,000.00
114	Trail Acceptance		$0.00
115	Signage and Additional Amenities		$80,000.00
116	**Dairy Ashford to Eldridge Detention Basins**	**BR-TR-030**	**$2,025,000.00**
117	Land Acquisition		$0.00
118	Design		$325,000.00
119	**Construction**		**$1,700,000.00**
120	Trail Construction		$1,540,000.00
121	Trail Acceptance		$0.00
122	Signage and Additional Amenities		$160,000.00
123	**Buffalo Bayou**		**$13,219,430.40**
124	Greenway Land Acquisitions		$0.00
127	**TIGER Project 4 (Travis to Smith)**	**BU-TR-005**	**$4,607,430.40**
128	Land Acquisition		$0.00
129	Design		$843,842.08
130	**Construction**		**$3,763,588.48**
131	Trail Construction		$3,343,588.48
132	Trail Acceptance		$0.00
133	Signage and Additional Amenities		$420,000.00
134	**TIGER Project 5 (East End)**		**$0.00**
135	Land Acquisition		$0.00
136	Design		$0.00
137	**Construction**		**$0.00**
138	Trail Construction		$0.00
139	Trail Acceptance		$0.00
140	Signage and Additional Amenities		$0.00
141	**Near Downtown (Under 59 to Fannin)**	**BU-TR-004**	**$3,752,000.00**
142	Land Acquisition		$1,747,000.16
143	Design		$205,000.00
144	**Construction**		**$1,800,000.00**
145	Trail Construction		$1,650,000.00
146	Trail Acceptance		$0.00
147	Signage and Additional Amenities		$150,000.00
148	**Shepherd to Memorial Park**	**BU-TR-006**	**$4,860,000.00**
149	Land Acquisition		$0.00
150	Design		$700,000.00
151	**Construction**		**$4,160,000.00**
152	Trail Construction		$3,960,000.00
153	Trail Acceptance		$0.00
154	Signage and Additional Amenities		$200,000.00
155	**Clear Creek**		**$11,287,854.44**
156	Greenway Land Acquisitions		$1,400,000.00
158	**El Franco Lee Park to West of Pearland Parkway**	**CL-TR-006**	**$1,792,145.00**
159	Land Acquisition		$82,145.00
160	Design		$250,000.00
161	**Construction**		**$1,460,000.00**
162	Trail Construction		$1,320,000.00
163	Trail Acceptance		$0.00
164	Signage and Additional Amenities		$140,000.00
165	**West of Pearland Parkway to Tom Bass Park (Cullen Blvd)**	**CL-TR-007**	**$8,094,909.44**
166	Land Acquisition		$1,314,909.12
167	Design		$1,100,000.00
168	**Construction**		**$5,680,000.00**
169	Trail Construction		$5,280,000.00
170	Trail Acceptance		$0.00
171	Signage and Additional Amenities		$400,000.00
172	**Cypress Creek**		**$0.00**
173	Greenway Land Acquisitions		$0.00
175	**Greens Bayou**		**$28,412,032.64**
176	Greenway Land Acquisitions		$1,600,000.00
178	**Bell Foster Park and Coolgreen Corridor**	**GR-TR-001**	**$3,498,095.04**
179	Land Acquisition		$683,095.04
180	Design		$475,000.00
181	**Construction**		**$2,340,000.00**
182	Trail Construction		$2,200,000.00
183	Trail Acceptance		$0.00
184	Signage and Additional Amenities		$140,000.00
185	**Coolgreen Corridor to Highway 90**	**GR-TR-002**	**$4,717,854.72**
186	Land Acquisition		$302,854.78
187	Design		$715,000.00
188	**Construction**		**$3,700,000.00**
189	Trail Construction		$3,300,000.00
190	Trail Acceptance		$0.00
191	Signage and Additional Amenities		$400,000.00
192	**Highway 90 to Brock Park**	**GR-TR-003**	**$2,447,026.88**
193	Land Acquisition		$307,026.98
194	Design		$270,000.00
195	**Construction**		**$1,870,000.00**
196	Trail Construction		$1,720,000.00
197	Trail Acceptance		$0.00
198	Signage and Additional Amenities		$150,000.00



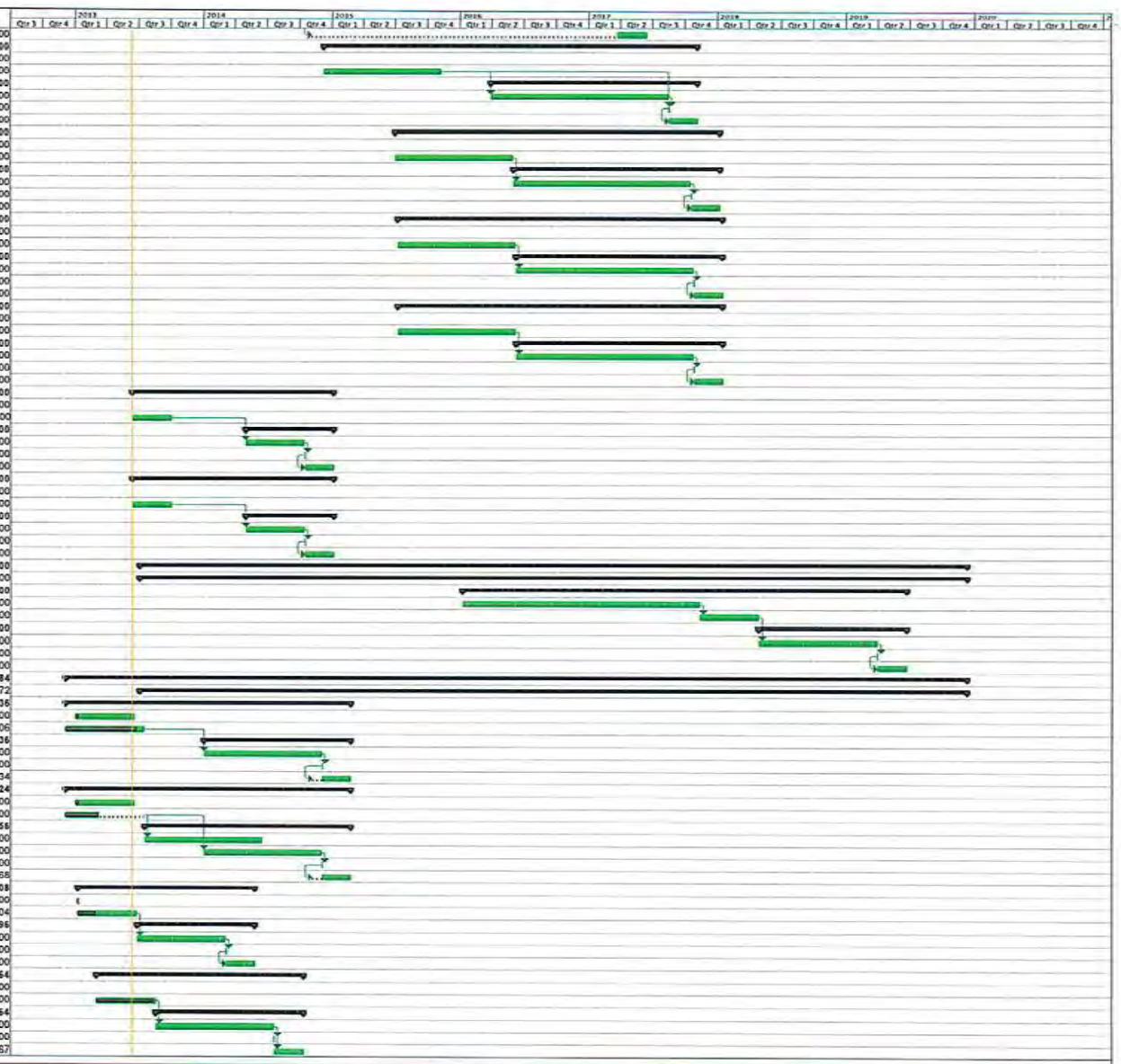
ID	Task Name	Project ID	Cost
199	**Brock Park to Mount Houston**	GR-TR-004	$3,132,000.00
200	Land Acquisition		$302,000.00
201	Design		$400,000.00
202	**Construction**		$2,430,000.00
203	Trail Construction		$2,270,000.00
204	Trail Acceptance		$0.00
205	Signage and Additional Amenities		$160,000.00
206	**Beltway 8 to Aldine Westfield**	GR-TR-005	$3,560,000.00
207	Land Acquisition		$0.00
208	Design		$560,000.00
209	**Construction**		$3,000,000.00
210	Trail Construction		$2,750,000.00
211	Trail Acceptance		$0.00
212	Signage and Additional Amenities		$250,000.00
213	**Aldine Westfield to Magee**	GR-TR-006	$1,115,000.00
214	Land Acquisition		$0.00
215	Design		$300,000.00
216	**Construction**		$815,000.00
217	Trail Construction		$715,000.00
218	Trail Acceptance		$0.00
219	Signage and Additional Amenities		$100,000.00
220	**Hardy Toll Road to Bradfield Park**	GR-TR-008	$1,052,000.00
221	Land Acquisition		$0.00
222	Design		$165,000.00
223	**Construction**		$887,000.00
224	Trail Construction		$787,000.00
225	Trail Acceptance		$0.00
226	Signage and Additional Amenities		$100,000.00
227	**Bradfield Park to Imperial Valley**	GR-TR-009	$470,000.00
228	Land Acquisition		$0.00
229	Design		$80,000.00
230	**Construction**		$390,000.00
231	Trail Construction		$350,000.00
232	Trail Acceptance		$0.00
233	Signage and Additional Amenities		$40,000.00
234	**Wussow Park to Glen Forest Detention Basin**	GR-TR-010	$320,000.00
235	Land Acquisition		$0.00
236	Design		$50,000.00
237	**Construction**		$270,000.00
238	Trail Construction		$230,000.00
239	Trail Acceptance		$0.00
240	Signage and Additional Amenities		$40,000.00
241	**I-45 to HCFCD Unit P145-00-00**	GR-TR-011	$550,000.00
242	Land Acquisition		$0.00
243	Design		$95,000.00
244	**Construction**		$455,000.00
245	Trail Construction		$415,000.00
246	Trail Acceptance		$0.00
247	Signage and Additional Amenities		$40,000.00
248	**Connection to Rankin from Greens Bayou along HCFCD Unit P145-00-00**	GR-TR-012	$615,000.00
249	Land Acquisition		$0.00
250	Design		$100,000.00
251	**Construction**		$515,000.00
252	Trail Construction		$455,000.00
253	Trail Acceptance		$0.00
254	Signage and Additional Amenities		$60,000.00
255	**HCFCD Unit P145-00-00 to Northborough Dr.**	GR-TR-013	$2,690,000.00
256	Land Acquisition		$0.00
257	Design		$470,000.00
258	**Construction**		$2,220,000.00
259	Trail Construction		$2,200,000.00
260	Trail Acceptance		$0.00
261	Signage and Additional Amenities		$20,000.00
262	**Northborough Dr. to Gears Rd.**	GR-TR-014	$2,075,056.00
263	Land Acquisition		$140,056.01
264	Design		$300,000.00
265	**Construction**		$1,635,000.00
266	Trail Construction		$1,485,000.00
267	Trail Acceptance		$0.00
268	Signage and Additional Amenities		$150,000.00
269	**Greens Rd to Beltway 8**	GR-TR-016	$570,000.00
270	Land Acquisition		$0.00
271	Design		$90,000.00
272	**Construction**		$480,000.00
273	Trail Construction		$440,000.00
274	Trail Acceptance		$0.00
275	Signage and Additional Amenities		$40,000.00
276	**Halls Bayou**		$18,935,793.92
277	Greenway Land Acquisitions		$4,100,000.32
279	**Confluence with Greens Bayou (Brock Park) to Mesa**	HA-TR-001	$5,924,232.96
280	Land Acquisition		$54,233.00
281	Design		$1,000,000.00
282	**Construction**		$4,870,000.32



ID	Task Name	Project ID	Cost
283	Trail Construction		$4,730,000.32
284	Trail Acceptance		$0.00
285	Signage and Additional Amenities		$140,000.00
286	**Mesa Transit Center to Tidwell**	HA-TR-002	**$4,494,329.60**
287	Land Acquisition		$29,330.00
288	Design		$750,000.00
289	**Construction**		**$3,714,999.68**
290	Trail Construction		$3,574,999.68
291	Trail Acceptance		$0.00
292	Signage and Additional Amenities		$140,000.00
293	**Tidwell to Bretshire**	HA-TR-003	**$2,152,072.96**
294	Land Acquisition		$97,073.00
295	Design		$345,000.00
296	**Construction**		**$1,710,000.00**
297	Trail Construction		$1,650,000.00
298	Trail Acceptance		$0.00
299	Signage and Additional Amenities		$60,000.00
300	**Hirsh Road to U.S. 59**	HA-TR-004	**$2,265,158.08**
301	Land Acquisition		$125,158.01
302	Design		$350,000.00
303	**Construction**		**$1,790,000.00**
304	Trail Construction		$1,650,000.00
305	Trail Acceptance		$0.00
306	Signage and Additional Amenities		$140,000.00
307	**Hunting Bayou**		**$24,887,664.64**
308	Greenway Land Acquisitions		$10,900,001.28
310	**H102-00-00 (formerly Ship Channel) to Herman Brown Park**	HU-TR-001	**$3,272,000.00**
311	Land Acquisition		$392,000.00
312	Design		$460,000.00
313	**Construction**		**$2,420,000.00**
314	Trail Construction		$2,200,000.00
315	Trail Acceptance		$0.00
316	Signage and Additional Amenities		$220,000.00
317	**Herman Brown Park to Amoor Street (u/s of McCarty)**	HU-TR-002	**$4,065,663.04**
318	Land Acquisition		$535,663.00
319	Design		$560,000.00
320	**Construction**		**$2,970,000.00**
321	Trail Construction		$2,750,000.00
322	Trail Acceptance		$0.00
323	Signage and Additional Amenities		$220,000.00
324	**Amoor Street to Liberty Road**	HU-TR-003	**$2,479,999.84**
325	Land Acquisition		$499,999.96
326	Design		$320,000.00
327	**Construction**		**$1,659,999.84**
328	Trail Construction		$1,539,999.84
329	Trail Acceptance		$0.00
330	Signage and Additional Amenities		$120,000.00
331	**Liberty Road to Kelley Street**	HU-TR-004	**$2,430,000.16**
332	Land Acquisition		$499,999.96
333	Design		$300,000.00
334	**Construction**		**$1,630,000.16**
335	Trail Construction		$1,430,000.16
336	Trail Acceptance		$0.00
337	Signage and Additional Amenities		$200,000.00
338	**Kelley Street to Hutcheson Park**	HU-TR-005	**$705,000.00**
339	Land Acquisition		$0.00
340	Design		$115,000.00
341	**Construction**		**$590,000.00**
342	Trail Construction		$550,000.00
343	Trail Acceptance		$0.00
344	Signage and Additional Amenities		$40,000.00
345	**Hutcheson Park to Broyles Street**	HU-TR-006	**$1,035,000.00**
346	Land Acquisition		$0.00
347	Design		$165,000.00
348	**Construction**		**$870,000.00**
349	Trail Construction		$770,000.00
350	Trail Acceptance		$0.00
351	Signage and Additional Amenities		$100,000.00
352	**Sims Bayou**		**$42,638,996.48**
353	Greenway Land Acquisitions		$21,000,001.28
355	**Milby Park to I-45**	SI-TR-001	**$3,550,000.00**
356	Land Acquisition		$160,000.00
357	Design		$500,000.00
358	**Construction**		**$2,890,000.00**
359	Trail Construction		$2,750,000.00
360	Trail Acceptance		$0.00
361	Signage and Additional Amenities		$140,000.00
362	**I-45 to Martin Luther King Blvd**	SI-TR-002	**$3,935,000.00**
363	Land Acquisition		$0.00
364	Design		$635,000.00
365	**Construction**		**$3,300,000.00**
366	Trail Construction		$3,300,000.00
367	Trail Acceptance		$0.00



ID	Task Name	Project ID	Cost
368	Signage and Additional Amenities		$0.00
369	**Martin Luther King Blvd to west of Cullen along Airport**	SI-TR-003	**$2,090,000.00**
370	Land Acquisition		$0.00
371	Design		$350,000.00
372	**Construction**		**$1,740,000.00**
373	Trail Construction		$1,540,000.00
374	Trail Acceptance		$0.00
375	Signage and Additional Amenities		$200,000.00
376	**West of Cullen Blvd, to State Highway 288**	SI-TR-004	**$2,010,000.00**
377	Land Acquisition		$0.00
378	Design		$270,000.00
379	**Construction**		**$1,740,000.00**
380	Trail Construction		$1,540,000.00
381	Trail Acceptance		$0.00
382	Signage and Additional Amenities		$200,000.00
383	**State Highway 288to Buffalo Speedway**	SI-TR-005	**$4,540,000.00**
384	Land Acquisition		$0.00
385	Design		$620,000.00
386	**Construction**		**$3,920,000.00**
387	Trail Construction		$3,520,000.00
388	Trail Acceptance		$0.00
389	Signage and Additional Amenities		$400,000.00
390	**Buffalo Speedway to South Post Oak**	SI-TR-006	**$2,775,000.00**
391	Land Acquisition		$0.00
392	Design		$375,000.00
393	**Construction**		**$2,400,000.00**
394	Trail Construction		$2,200,000.00
395	Trail Acceptance		$0.00
396	Signage and Additional Amenities		$200,000.00
397	**South Post Oak to Croquet Street**	SI-TR-007	**$819,000.00**
398	Land Acquisition		$0.00
399	Design		$115,000.00
400	**Construction**		**$704,000.00**
401	Trail Construction		$644,000.00
402	Trail Acceptance		$0.00
403	Signage and Additional Amenities		$60,000.00
404	**Croquet Street to Hillcroft Ave.**	SI-TR-008	**$1,920,000.00**
405	Land Acquisition		$0.00
406	Design		$285,000.00
407	**Construction**		**$1,635,000.00**
408	Trail Construction		$1,295,000.00
409	Trail Acceptance		$0.00
410	Signage and Additional Amenities		$340,000.00
411	**Spring Creek**		**$4,095,000.00**
412	Greenway Land Acquisitions		$400,000.00
414	**59 Park n Ride to Woodland Hills**	SP-TR-001	**$3,695,000.00**
415	Land Acquisition		$565,000.00
416	Design		$500,000.00
417	**Construction**		**$2,610,000.00**
418	Trail Construction		$2,310,000.00
419	Trail Acceptance		$0.00
420	Signage and Additional Amenities		$300,000.00
421	**White Oak Bayou**		**$32,470,883.84**
422	Greenway Land Acquisitions		$14,099,998.72
424	**TIGER Project 1 (Antoine to Alabonson Road)**	WO-TR-015	**$1,592,787.36**
425	Land Acquisition		$0.00
426	Design		$260,378.06
427	**Construction**		**$1,332,409.36**
428	Trail Construction		$1,199,076.00
429	Trail Acceptance		$0.00
430	Signage and Additional Amenities		$133,333.36
431	**TIGER Project 2 (MKT West (Bridge) to West 11th)**	WO-TR-012	**$5,432,490.24**
432	Land Acquisition		$0.00
433	Design		$379,000.00
434	**Construction**		**$5,053,490.58**
435	Bridge Construction		$1,200,000.00
436	Trail Construction		$3,586,824.00
437	Trail Acceptance		$0.00
438	Signage and Additional Amenities		$266,666.68
439	**TIGER Project 3 (Various projects North of Downtown)**	WO-TR-001	**$2,570,998.08**
440	Land Acquisition		$0.00
441	Design		$437,205.04
442	**Construction**		**$2,133,792.96**
443	Trail Construction		$1,933,793.00
444	Trail Acceptance		$0.00
445	Signage and Additional Amenities		$200,000.00
446	**Stude Park to MKT Connection**	WO-TR-005	**$951,666.64**
447	Land Acquisition		$0.00
448	Design		$50,000.00
449	**Construction**		**$901,666.64**
450	Trail Construction		$800,000.00
451	Trail Acceptance		$0.00
452	Signage and Additional Amenities		$101,666.67



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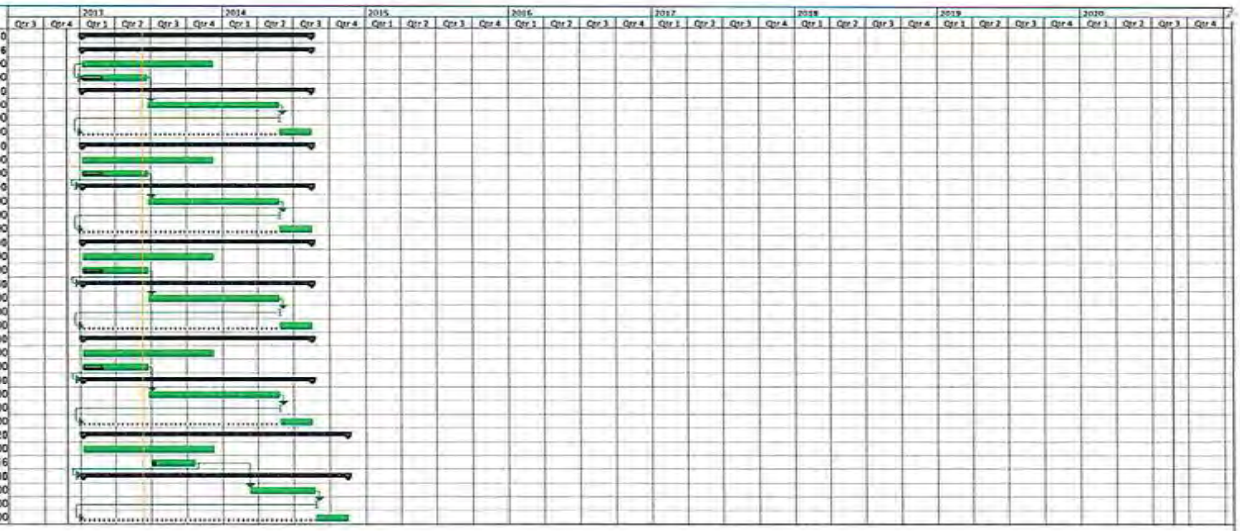
ID	Task Name	Project ID	Cost
453	**Studemont to MKT West**		**$3,957,980.80**
454	**MKT Trail Bridge (at Studemont) to Heights Blvd.**	**WO-TR-007**	**$916,480.96**
455	Land Acquisition		$17,981.00
456	Design		$148,500.00
457	Construction		$750,000.00
458	Trail Construction		$750,000.00
459	Trail Acceptance		$0.00
460	Signage and Additional Amenities		$0.00
461	**Heights Blvd. to Bonner Street**	**WO-TR-008**	**$957,000.00**
462	Land Acquisition		$0.00
463	Design		$92,000.00
464	Construction		$865,000.00
465	Trail Construction		$865,000.00
466	Trail Acceptance		$0.00
467	Signage and Additional Amenities		$0.00
468	**Bonner Street to Shepherd Blvd.**	**WO-TR-010**	**$1,148,000.00**
469	Land Acquisition		$0.00
470	Design		$91,000.00
471	Construction		$1,057,000.00
472	Trail Construction		$1,057,000.00
473	Trail Acceptance		$0.00
474	Signage and Additional Amenities		$0.00
475	**Shepherd Blvd. to MKT Trail (West of Shepherd)**	**WO-TR-011**	**$936,500.00**
476	Land Acquisition		$0.00
477	Design		$86,500.00
478	Construction		$850,000.00
479	Trail Construction		$850,000.00
480	Trail Acceptance		$0.00
481	Signage and Additional Amenities		$0.00
482	**Alabonson Road to Hollister Road**	**WO-TR-017**	**$3,864,963.20**
483	Land Acquisition		$0.00
484	Design		$464,963.16
485	Construction		$3,400,000.00
486	Trail Construction		$3,275,000.00
487	Trail Acceptance		$0.00
488	Signage and Additional Amenities		$125,000.00



	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Totals
Land (Greenway)	0	9,000,000	9,000,000	9,000,000	9,000,000	9,000,000	9,000,000	3,900,000	57,900,000
Land (ROW)	1,400,000	3,100,000	2,000,000	2,000,000	1,800,000	1,400,000	0	0	11,700,000
Design and Construction Management	1,600,000	3,700,000	5,700,000	2,800,000	2,200,000	2,600,000	1,100,000	0	19,700,000
Construction (TIGER, Grants, and Others)	1,240,000	7,610,000	2,850,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	16,700,000
Construction (City)	0	11,400,000	18,700,000	26,200,000	11,300,000	10,600,000	18,700,000	4,100,000	100,000,000
Totals	4,240,000	34,810,000	38,250,000	41,000,000	25,300,000	24,600,000	29,800,000	9,000,000	206,000,000
HPB Project Expenses									900,000
Grand Total									215,000,000

EXHIBIT C

EMINENT DOMAIN PROCEDURES

A. Upon City's receipt of the Director's recommendation for the exercise of eminent domain pursuant to Section 2.4.A (ii) of this Agreement, and subject to approval by action of the City Council, the City will commence eminent domain proceedings as follows, using HPBLGC as its designated land and right-of-way acquisition agent, pursuant to the State of Texas Landowner's Bill of Rights as prepared by the Office of the Attorney General of Texas.

B. HPBLGC, as City's designated land and right-of-way acquisition agent, will adhere to will be responsible for the payment of all costs and expenses attendant to any proceedings in eminent domain, including but not limited to the amount of the final offer to the landowner, filing fees, special commissioners' fees, appraisal costs, title costs, amount of the special commissioners' award, amount of any final judgment plus any interest thereon, and any other necessary fees and expenses, but excluding City staff time, office supplies and other City administrative costs or expenses related to this Agreement.

C. HPBLGC, in its capacity as City's designated land and right-of-way acquisition agent, shall have the right: (i) to select and, at no cost to City, to retain special counsel, subject to the prior approval of the City Attorney which approval shall not be unreasonably withheld, for the acquisition of such real property through eminent domain or under threat of eminent domain; and (ii) to manage and supervise such special counsel's legal services in connection with such acquisition of real property for the Project. All offers to purchase real property and all pleadings filed by such special counsel in eminent domain cases and proceedings shall be made or filed in the name of the City, and title to such real property acquired through eminent domain or under threat of condemnation shall be taken in the name of the City.

D. HPBLGC shall have the right, upon notice to the Director and the City Attorney, to terminate any particular proceeding in eminent domain filed pursuant to this Agreement. In the event that the City dismisses any proceeding in eminent domain, whether at the request of HPBLGC or due to the failure of HPBLGC to provide all the necessary funds for the proceedings, or if such a proceeding is dismissed for any reason by a court, and, as a result the City is held liable for any of the costs incurred by the landowner and enumerated in Section 21.019 of the Texas Property Code, then such costs shall be paid by HPBLGC within thirty (30) days of receipt of notice from the City of the amount due.

EXHIBIT D

REQUEST FOR DISBURSEMENT FORM

Greenway Segment(s):

_____

_____

Work to be completed:

_____

_____

A. TOTAL COST

1. Qualified low bid: $ _____
2. Contingency: 10% x A.1: $ _____
3. Management: 4% x A.1+A.2: $ _____
4. Total Cost, this Segment: $ _____

B. INITIAL CAPITAL DRAW REQUEST

1. Total Cost (same as A.4): $ _____
2. Initial Request: 20% x B.1: $ _____

C. ADDITIONAL REIMBURSEMENT REQUEST

1. Total Cost (same as A.4): $ _____
2. All Prior Requests, this Segment: $ _____
3. Remaining Balance (C.1-C.2): $ (_____)
4. Current Request: $ (_____)
5. Management: 4% x C.4: $ a _____
6. Total Current Request: $ _____

YES	NO	Executed Construction Contract submitted/attached
YES	NO	Copy of bonds submitted/attached
YES	NO	Proof of Insurance submitted/attached
YES	NO	Copy of approved contractor pay form submitted/attached

ADDITIONAL INFORMATION

_____

_____

Date: _____ __, 201_:

HOUSTON PARKS BOARD LGC, INC.
By: Houston Parks Board, Inc.
As Its Manager

By: _____
Name: _____
Title: _____

ATTACHMENT
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BAYOU GREENWAYS 2020 ECONOMIC DEVELOPMENT AGREEMENT 2013-0949

This BAYOU GREENWAYS 2020 ECONOMIC DEVELOPMENT AGREEMENT (this "**Agreement**") by and among CITY OF HOUSTON, TEXAS, a Texas home rule municipality located in Harris, Fort Bend and Montgomery Counties, Texas (the "**City**"); and the HOUSTON PARKS BOARD, INC., a Texas nonprofit corporation, tax-exempt under Section 501(c)(3) of the Internal Revenue Code, as amended ("**HPB**"), is entered into as of the date the City Controller countersigns this Agreement (the "**Effective Date**"). Each of the City and HPB is individually referred to herein sometimes as a "**Party**," and they are collectively referred to herein sometimes as the "**Parties**."

RECITALS

WHEREAS, on November 6, 2012, the voters of the City approved a $166 million parks bond proposition ("**Proposition B**") of which $100 million is designated to support the portion of the Bayou Greenways Initiative (a regional plan for interconnected parks, trails and green spaces) within the corporate City limits only referred to as the Bayou Greenways 2020 Project and which project constitutes, or will constitute after implementation of land acquisitions, approximately four thousand (4,000) acres of land (the **"Project"**). The Project is a public/private project with the purpose of creating an integrated system of connected linear parks with walking, running and bicycle trails along the nine (9) major bayous within the City limits as shown on **Exhibit A** attached hereto (the linear park system along each such major bayou being referred to herein as a **"Bayou Greenway"**), consisting of greenway segments existing as of the Effective Date of this Agreement plus additional greenway segments acquired, designed and constructed by HPB, acting as Houston Parks Board Local Government Corporation's ("**HPBLGC**") manager, pursuant to the Interlocal Agreement, defined below, and the terms of this Agreement. The Project will add park land, trails and natural areas along the major bayous to enhance, protect and preserve water quality, natural habitat, native wildlife, and promote the health and welfare of the citizens of Houston and its surrounding areas by linking the City's existing stretches of linear parks, trails and larger traditional parks with new greenways; and

WHEREAS, upon completion of the Project, all Bayou Greenways within the City limits will be open to the public for fitness and multi-modal transportation. The Project is estimated to reach substantial completion on or about the year 2020. The estimated cost to complete the Project within the City limits is $205,000,000; and

WHEREAS, the HPBLGC is a Texas nonprofit local government corporation created on behalf of the City to provide support for the City's park system. HPB works with the City and the City's Parks and Recreation Department ("**HPARD**") to create, improve, protect, and advocate for parkland in the greater Houston area, and to acquire new parkland and park capital improvements throughout the City and its extra-territorial jurisdiction. HPB has a management agreement with HPBLGC to acquire, manage, develop and improve parks properties on behalf of HPBLGC and to contract for the design, development, improvement, construction and installation of parks and open spaces approved by the Director of HPARD; and

WHEREAS, consistent with the election ordinance for Proposition B, which provided that "it is the intention of the City Council to allocate $100,000,000 of the proceeds of any public

improvement bonds or obligations issued and authorized under Proposition B to fund the project known as the Bayou Greenways Initiative," the City agreed in that certain Interlocal Agreement between the City and HPBLGC (and HPB acting as its manager) approved by City Council on June 26, 2013 (the "**Interlocal Agreement**") to take all necessary steps to commit $100,000,000 in bond proceeds to the Project, with the understanding that the remaining $105,000,000 necessary for the Project will be secured by HPBLGC, acting through its manager, HPB and HPB's partners through private philanthropy and other sources, including the application and receipt of federal, state or other governmental funding, and including multi-year pledges and grants, resulting in at least (or a minimum of) a one-to-one public-private funding ratio for the Project; and

WHEREAS, the "**Angel Donor**" (as defined herein), has offered to make a grant of $50,000,000 to HPB, provided that the City and HPB execute a viable long-term maintenance agreement for the Project, including a long-term revenue source for maintenance of the Project; and

WHEREAS, the City and HPBLGC entered into the Interlocal Agreement setting forth obligations during the development phase of the Project; and as contemplated in and required by Section 3.4 of the Interlocal Agreement, the City and HPB have negotiated in good faith and desire to reach this Agreement setting forth their respective rights and obligations for maintenance of the Project, specifically the standard of maintenance and the revenue source to ensure the long-term maintenance of the Project; and

WHEREAS, the City and Harris County Flood Control District (**"HCFCD"**) entered into an Interlocal Agreement effective December 31, 1997, as amended (the **"HCFCD Agreement"**), whereby the City is authorized to maintain and the City represents that HPB may maintain improvements and appurtenances on HCFCD property within the Project, pursuant to the HCFCD Agreement; and

WHEREAS, the Project is expected to directly contribute to the economic development of the entire City, and most specifically to a geographic area extending one-quarter mile on each side of the center line of the bayous, as generally depicted in **Exhibit B**, and referred to as the "**Economic Impact Area**." The City has evaluated the Incremental Property Tax Revenue (defined herein) estimated to be generated within the Economic Impact Area during the Term of the Agreement, which is projected to exceed the Annual 380 Grant (as defined herein) amounts; and

WHEREAS, implementation and continuing operation and maintenance of the Project will make a highly visible and tangible contribution to the City's quality of life and economic development, by attracting new business and retaining current business, and providing transportation and connectivity to and between business centers in the City, and particularly the Economic Impact Area; and

WHEREAS, the City recognizes that the Project will attract tourism and commerce to the City, and particularly the Economic Impact Area, that otherwise would not occur, resulting in a positive economic impact and that the Project will bring to the City development and diversification of the economy, elimination of unemployment and underemployment,

development and expansion of transportation and commerce, and attraction of new businesses; and

WHEREAS, the City has established a program in accordance with Article III, Chapter 52-a of the Texas Constitution and Chapter 380 of the Texas Local Government Code ("**Chapter 380**") under which the City has the authority to use public funds for the public purposes of promoting local economic development and stimulating business and commercial activity within the City; and

WHEREAS, the City has concluded and hereby finds that this Agreement promotes economic development in the City of Houston and, as such, meets the requirements under Chapter 380 and the City's established economic development program, and, further, is in the best interests of the Parties; and

WHEREAS, to ensure that the benefits the City provides under this Agreement are utilized in a manner consistent with Chapter 380 and other law, HPB has agreed to comply with certain conditions for receiving those benefits, including performance conditions relating to long-term Project maintenance to ensure the Project's longevity and economic viability;

NOW, THEREFORE, for and in consideration of the promises and the mutual agreements set forth herein, the Parties hereby agree as follows:

ARTICLE I
GENERAL TERMS

A. Incorporation of Recitals. The recitals to this Agreement are hereby incorporated for all purposes.

B. Definitions and Terms. The terms defined in this Agreement shall have the meanings set forth herein, and the following terms have the following meanings:

"Ad Valorem Tax" is defined as the City ad valorem tax on the value of the real property located within the Economic Impact Area as certified by Harris County Appraisal District. Ad Valorem Tax generated by tax parcels located partially within such impact area and partially outside such impact area shall be calculated as if the entire tax parcel were located within the Economic Impact Area if the center of the tax parcel is located within the Economic Impact Area.

"Angel Donor" means a non-profit corporation that (i) has agreed to contribute (subject to the satisfaction of certain conditions that may be required by such entity as a condition to the contribution) no less than $50,000,000 in the aggregate towards the development, land acquisition, construction, maintenance or repair of the Project, and (ii) has been disclosed to the City by HPB on or before July 1, 2014. Upon receipt of written notice by HPB to the City pursuant to the foregoing, such entity designated by HPB shall constitute the "Angel Donor" under this Agreement and be entitled to the rights of the Angel Donor hereunder.

"Annual 380 Contribution" is the sum to be deposited by the City into the Maintenance Fund each year during the Term of this Agreement, in the annual amount equal to (i) the Base Maintenance Fee for such year, plus (ii) the Coverage Ratio Amount.

"Annual 380 Grant" is the sum to be disbursed by the City to HPB from the Maintenance Fund, in two annual disbursements in accordance with Section IV.E below in each year during the Term of this Agreement, in the aggregate annual amount equal to the Annual 380 Contribution.

"Base Maintenance Fee" means the annual fee to cover all costs of the HPB Maintenance Work for the Project in accordance with the Maintenance Manual, subject to Section IV.D.

"Base Property Tax" means the amount of Ad Valorem Tax levied and collected by the City, based on the total taxable value of the Economic Impact Area as of January 1, 2012, excluding Tax Abatements.

"Coverage Ratio Amount" means an annual amount equal to 20% of each year's Base Maintenance Fee, as the same is adjusted pursuant to Section IV.D.

"Director" means the Director of the HPARD.

"Economic Impact Area" is defined in the recital above.

"Escalator Index" shall mean the 12-month Employment Cost Index ("**ECI**") for total compensation for private industry workers for the Houston-Baytown—Huntsville, TX combined statistical area, not seasonally adjusted, as published quarterly by the United States Bureau of Labor Statistics, Office of Compensation Levels and Trends for the 12-month period ending in December of the previous calendar year. If the ECI shall cease to be published or is replaced by another index, or if the basis on which the ECI is calculated is materially modified, from time to time during the Term, the Standards Committee shall select a substitute index as the Escalator Index that is calculated on a basis that is most similar to the ECI and is otherwise applicable to the major components of HPB's annual budget for the fiscal year in which such publication ceases or modification is made. In such event the actual dollar amount of the Base Maintenance Fee for such fiscal year shall serve as the base for future calculations of the Escalator Index for purposes of Section IV.D of this Agreement.

"HPB Maintenance Work" means the work of maintaining the Project, which work in all events shall at a minimum meet the standards delineated in the Maintenance Manual, subject to Section III.D.4.

"Incremental Property Tax Revenue" means an amount equal to the Ad Valorem Tax levied and collected by the City derived from the Economic Impact Area in any given year, excluding Tax Abatements, above the Base Property Tax.

"Maintenance Manual" means the Maintenance Standards Manual attached hereto as **Exhibit C**, as the same may be amended from time to time by the Standards Committee.

"Maximum Capital Replacements Reserve Cap" is an amount equal to the Ten-Year CIP cumulative total, at the time in question.

"Tax Abatements" means any abatement or rebate (pursuant to tax abatement agreements, economic development agreements or otherwise, and including but not limited to commitments to and participation in Tax Increment Reinvestment Zones) during each year of the Term of the Agreement which is applicable to any property located within the Economic Impact Area.

"Ten-Year CIP" means HPB's rolling ten-year plan identifying any major maintenance (as opposed to ordinary or routine maintenance included in the Maintenance Manual), capital repairs or replacements it expects will be needed during such ten-year period after the then-current fiscal year, together with projections of costs therefore and of anticipated balances in the Capital Replacements Reserve for such items, and describing any future Project replacements or repairs it plans to construct during such ten-year period, which Ten-Year CIP must be approved by at least five (5) of the seven (7) members of the Standards Committee.

C. Singular and Plural. Words used herein in the singular, where the context so permits, also include the plural and vice versa. The definitions of words in the singular herein also apply to such words when used in the plural where the context so permits and vice versa.

ARTICLE II
STANDARDS COMMITTEE

A. Creation of Committee. Within six (6) months of the Effective Date of this Agreement, the Parties shall appoint a 7-member Standards Committee consisting of two (2) representatives of HPB (or its permitted successor or assign), two (2) representatives of the City as appointed by the Mayor, two (2) representatives of the Angel Donor, and a seventh (7th) committee member selected by the other six committee members. The Standards Committee shall also include a representative appointed by HCFCD, HPBLGC, and a representative appointed by HPARD, each of whom who shall serve in an ex-officio, non-voting advisory role to the Standards Committee. The jointly selected seventh committee member shall be an individual who (i) has knowledge and expertise in the efficient and cost effective operation and maintenance of parks and green space, and (ii) is an independent, neutral party with respect to all Parties, the Angel Donor, or the other committee members, i.e., one who has no contractual, financial, fiduciary or other business or family relationship to any of such entities or individuals. Such seventh committee member shall serve for a term of three (3) years, each such term ending on the anniversary of the Effective Date of this Agreement; provided, however, (i) there shall be no maximum number of terms that such seventh committee member may serve if reappointed in accordance with this provision at the end of a term; and (ii) that during any such term, the seventh committee member shall withdraw, or the Standards Committee shall replace such member, if such member enters into a relationship with, and loses his or her independent, neutral status with respect to, any Party, the Angel Donor, or other committee members.

B. Committee Functions and Powers. The Standards Committee shall meet at a location in the City of Houston at least quarterly each calendar year. The Standards Committee shall have the following powers:

(1) Approval of amendments to the Maintenance Manual; provided that any amendments to the Maintenance Manual that would lower the maintenance standards therein or materially reduce the scope of the maintenance, repair or replacement of any portion of the Project would require consent of five (5) of the seven (7) members of the Standards Committee;

(2) Approval of any (i) future development of improvements and hardscape in any segment in the Project, and (ii) future property acquisitions into the Project other than those properties described by the Interlocal Agreement; *provided, however*, each of the City, HPB and the Angel Donor must also approve any such future developments or acquisitions; and

(3) To perform all functions expressly assigned to the Standards Committee in this Agreement.

ARTICLE III
HPB COMMITMENTS

A. Maintenance Agreement. HPB shall maintain the Project in accordance with the Maintenance Manual, subject to Section III.D.4 and Article V. In order to maintain the Project, HPB may negotiate with potential contractors in good faith and enter into a maintenance agreement or agreements for the Project no later than June 30, 2014 (the **"Maintenance Agreement"**), which shall require that such maintenance be performed in accordance with the Maintenance Manual. HPB shall provide the Standards Committee with the opportunity to review and provide comments to the Maintenance Agreement(s). Notwithstanding the above, at its option HPB may request (without relieving it of its obligations under this Agreement, including, but not limited to, being primarily responsible for the maintenance of the Project) HPBLGC to negotiate and enter into the Maintenance Agreement in place of HPB. The Parties agree that (i) the City is the owner of the hardscape and improvements contained in the Project, (ii) HPB does not own or operate the hardscape and improvements in the Project, and (iii) HPB's obligations with respect to the Project under this Agreement are solely limited to the responsibilities set forth herein.

B. Contracting. HPB shall have the right to contract and/or delegate all or any part of its rights and obligations under this Agreement or the Maintenance Agreement, but in all events shall remain primarily responsible for the maintenance of the Project and all obligations under this Agreement, subject to Article V herein, as HPB deems necessary or desirable for the efficient and cost-effective performance of such rights and obligations, as follows:

1. HPARD Maintenance. HPB agrees that HPARD is the preferred maintenance contractor for the performance of the HPB Maintenance Work. HPB and the City will enter into a Maintenance Agreement setting forth their respective rights and responsibilities by December 31, 2013 (the "**HPARD Maintenance Agreement**"). The HPARD Maintenance Agreement will provide accountability measures and determinations associated with the costs to complete the HPB Maintenance Work covered by the HPARD Maintenance Agreement, compliance with standards set forth in the Maintenance Manual, and remedies if the work or these standards are not being met. The remedies will include terminating the HPARD Maintenance Agreement and

contracting with an alternate party to perform the work after an appropriate notice and cure process to be provided for in the Maintenance Agreement.

2. Non-HPARD Maintenance. For any of the HBP Maintenance Work not covered by the HPARD Maintenance Agreement or not performed satisfactorily by HPARD as determined by the HPARD Maintenance Agreement, HPB shall have the right to contract and/or delegate all or any part of its rights and obligations under this Agreement as HPB deems necessary or desirable for the efficient and cost-effective performance of such rights and obligations under this Agreement. In the event any such contractor fails to perform, and fails to cure such failure to perform, in accordance with the terms of their Maintenance Agreement, HPB shall have the right to terminate such contractor.

3. Cure Periods. Notwithstanding anything herein to the contrary, neither the HPARD Maintenance Agreement nor any other Maintenance Agreement shall provide for a cure period longer than ninety (90) calendar days (or an extension thereof other than as a result of Force Majeure) with respect to a default in connection with performance of any of the maintenance, repair or replacement of the Project as provided for in such agreement without the consent of the Angel Donor, such consent not to be unreasonably withheld.

C. Maintenance of HPB Entity Status. HPB will at all times maintain its status as a Texas non-profit corporation in good standing in the State of Texas and exempt from federal income tax pursuant to Section 501(c)(3) of the Internal Revenue Code, as amended. HPB shall at all times maintain its fiscal year beginning July 1.

D. Accounts. No later than the first business day of July, 2014, HPB shall establish and thereafter maintain at all times during the Term a project operating account (the **"Project Operating Account"**), and accounts for a maintenance reserve (the **"Maintenance Reserve"**) and for a capital replacements reserve (the **"Capital Replacements Reserve"**), for use exclusively in connection with the Project, and HPB shall maintain complete records providing accounting for such accounts. HPB shall not borrow from any one of such accounts to cover a shortfall in any other of such accounts except as expressly provided in this Agreement; provided, however, that the foregoing shall not apply to (i) scheduled transfers from the Capital Replacements Reserve account to the Project Operating Account as expressly planned for in HPB's annual budget and Ten-Year CIP, and (ii) transfers from the Maintenance Reserve to the Project Operating Account as provided in Section III.D.2 below. HPB shall have the right to establish and maintain any additional accounts that it deems necessary or appropriate for the management of its financial affairs in connection with the Project, provided, however, that no funds from any payment of Annual 380 Grant shall be held in such additional accounts.

1. Project Operating Account. Each payment of the Annual 380 Grant shall be deposited by HPB in the Project Operating Account, and contemporaneously therewith, or as soon as reasonably practicable, HPB shall transfer the Coverage Ratio Amount of such payment into the Maintenance Reserve. The remaining Base Maintenance Fee portion of the Annual 380 Grant shall be retained in the Project Operating Account and used by HPB for costs of maintenance substantially as set forth in its approved annual budget for such fiscal year, as supplemented by transfers from the Maintenance Reserve for uses permitted under Section

III.D.2. below. HPB may transfer funds in the Project Operating Account to the Capital Replacements Reserve.

2. Maintenance Reserve. HPB shall have the right to expend funds held in the Maintenance Reserve only to cover costs for unexpected and unbudgeted HPB Maintenance Work resulting from: (i) extraordinary expenses resulting from events of Force Majeure, such as silt removal following a flood event; and (ii) casualties or other unanticipated and extraordinary damages other than wear and tear (for example, severe vandalism or illegal dumping) not covered by insurance, including insurance deductibles. Within sixty (60) days after the end of each fiscal year, HPB shall determine whether any surplus funds remain in the Maintenance Reserve from the prior fiscal year's Coverage Ratio Amount (the "**Maintenance Reserve Surplus**"). HPB shall transfer the Maintenance Reserve Surplus to the Capital Replacements Reserve within fifteen (15) business days.

3. Capital Replacements Reserve. The projected and estimated needs of the Capital Replacements Reserve are set forth in **Exhibit D-2 – Capital Replacements Reserve.** HPB shall have the right to expend funds held in the Capital Replacements Reserve to perform major maintenance (as opposed to ordinary or routine maintenance included in the Maintenance manual), capital repairs or replacements as necessary with respect to any portion of the Project improvements or fixtures (i) which are no longer economically feasible to continue to repair, (ii) which are near or have exceeded their useful life as determined by industry standards, or (iii) whose capital repair or replacement are necessary to ensure that the Project is in substantially the same condition as it was upon final completion in approximately 2020, subject to normal wear and tear. HPB shall not be in default if accumulated funds are insufficient to cover projected or actual costs of such capital repairs and replacements, and HPB shall have no duty to raise other funds for the Capital Replacements Reserve. In any given year, if the flow of funds from the Maintenance Reserve results in the Capital Replacements Reserve account balance exceeding the Maximum Capital Replacements Reserve Cap, HPB shall refund the excess amount (the **"Capital Replacements Reserve Surplus")** to the City. HPB shall determine by October 31 of each fiscal year, beginning in 2015, whether a Capital Replacements Reserve Surplus exists, and if such surplus does exist, will refund the Capital Replacements Reserve Surplus to the City by December 31 of that year. Notwithstanding the above, the City may waive its right to the Capital Replacements Reserve Surplus in any given year or may provide for alternative sources of funds for the Capital Replace Reserve, which alternative funds shall not be applied to the Maximum Capital Replacements Reserve Cap. In no event shall the funds in the Capital Replacements Reserve be used for the construction of any improvements or fixtures which are not part of the original Project as of final completion (other than improvements or fixtures which are intended to act as substitutes for existing improvements or fixtures) without the consent of five (5) of the seven (7) members of the Standards Committee.

4. HPB's Options If Insufficient Funding. If the Annual 380 Grant in any year of the Term is insufficient to cover the HPB Maintenance Work for the Project, or HPB's funds in the Capital Replacements Reserve are insufficient to cover the cost of capital repairs or replacements of existing Project improvements or fixtures, then upon request by HPB, the City shall have the right, but not the duty, to pay HPB additional sums to cover the increased cost of such HPB Maintenance Work or such capital repairs and replacements. If the City in such event does not pay HPB the requested additional sums, then HPB may recommend to the Standards

Committee an adjustment of the Maintenance Manual commensurate with the available funds. If the Standards Committee determines not to make the requested adjustment, then HPB shall have the right to (i) reduce the scope of the HPB Maintenance Work to levels that can be covered by the Annual 380 Grant subject to Angel Donor's consent which shall not be unreasonably withheld, and/or, (ii) shut down the improvements or fixtures of the Project or, only if reasonably necessary to protect public health and safety, to ask the City to close areas of the Project, where such capital repairs or replacements are needed so long as such capital repairs and replacements are insufficiently funded.

E. Reporting Requirements.

1. Prospective: Annual Budget; Capital Replacements Plan for Project. No later than March 15 of each calendar year during the Term, HPB shall deliver to the City and Angel Donor (i) a copy of HPB's proposed annual budget for the HPB Maintenance Work for the next succeeding year, and (ii) a copy of HPB's Ten-Year CIP.

2. Retrospective: Reconciliation of Prior Year's Budget. No later than October 31, 2015, and by such date in each fiscal year thereafter during the Term, HPB shall deliver to the City (i) an annual year-end report for the Project for the prior fiscal year, and (ii) HPB's audited financials for the Project. The year-end Project report shall include (i) a separate schedule reflecting reconciliation of the annual budget for the Project provided by HPB prior to the beginning of such fiscal year against actual financial results for the Project for such fiscal year, and (ii) a separate schedule showing whether a Capital Replacements Reserve Surplus existed for the reporting period.

F. Business Opportunity. HPB shall comply and shall require its contractors to comply with the City's Minority and Women Business Enterprise ("**MWBE**") programs as set out in Chapter 15, Article V of the City of Houston Code of Ordinances. The City's policy does not require HPB to in fact meet or exceed this goal, but it does require HPB to objectively demonstrate that it has made good faith efforts to do so. To this end, HPB's contractors shall maintain records showing: (i) subcontracts with MWBEs, and (ii) specific efforts to identify and award subcontracts and supply agreements to MWBEs. HPB shall submit period reports of its efforts under this Section to the Director of the Office of Business Opportunity for the City in the form and at the times he or she prescribes. The agreements between HPB and its contractors and any subcontractor must expressly require compliance with such Chapter 15 requirements.

G. Deposit of Annual 380 Grants. In accordance with Section III.D., HPB shall deposit the Annual 380 Grant in the following accounts: Project Operating Account, Maintenance Reserve account, and Capital Replacements Reserve account.

ARTICLE IV
CITY COMMITMENTS

A. Maintenance Fund. The City hereby covenants and agrees upon the Effective Date of this Agreement to create a special fund to be known as the Maintenance Fund (the "**Maintenance Fund**") solely for the benefit of HPB for the purpose of depositing each year's

Annual 380 Contribution in the Maintenance Fund and disbursing each year's Annual 380 Grant to HPB to maintain the Project as described in the Maintenance Manual.

B. Annual 380 Contributions. The City agrees to deposit the Annual 380 Contribution at least annually, from any lawfully available source of funds, into the Maintenance Fund. The Parties acknowledge and agree that in no event will the City be required to deposit more than the Annual 380 Contribution into the Maintenance Fund.

C. Segregated, Unencumbered Fund. The Maintenance Fund shall always remain unencumbered by the City and segregated from all other funds of the City. Such funds are held in trust by the City for HPB to be used in accordance with the terms hereof as long as HPB is not in default pursuant to the terms of this Agreement beyond any cure period. To the fullest extent permitted by law, the City agrees that: (i) it will not pledge or apply the Maintenance Fund to any other purpose or payment of any obligation of the City except for the obligations arising under this Agreement; (ii) it will not commingle the Maintenance Fund with any other funds of the City, other than investments done through a common fund; (iii) it will not take any action or omit to take any action that will affect the continued existence of the Maintenance Fund or the availability for deposit therein of the Annual 380 Contribution; and (iv) it will direct the investment of the Maintenance Fund in accordance with Texas law applicable to investment of funds by municipalities. The Maintenance Fund shall be used only to pay the City's obligations to HPB under the terms of this Agreement.

D. Adjustment of Base Maintenance Fee.

1. Annual Increase. The Base Maintenance Fee shall be increased annually in fiscal year end 2021 and each year thereafter based on increases in the Escalator Index. The Coverage Ratio Amount shall be calculated annually based on the adjusted Base Maintenance Fee, and the sum of such adjusted Base Maintenance Fee plus such recalculated Coverage Ratio Amount shall be the adjusted Annual 380 Grant for such year. For fiscal years ending in 2015 through 2020, the Base Maintenance Fee shall be the amounts shown in **Exhibit D-1—Phase In Schedule,** shown in fiscal year 2013 dollars and requiring the application of the Escalator Index. For fiscal year end 2021, it is estimated that the costs of the HPB Maintenance Work for the Project (projected to be substantially completed in fiscal year 2020) will be $9,400,000 in fiscal year 2013 dollars, provided that such amount will be adjusted annually based on increases in the Escalator Index to establish that Base Maintenance Fee that will be increased commencing 2021 in accordance with the first sentence of this Section IV.D.1.

2. Fiscal Year 2020/21 Evaluation. No later than December 2020, the Parties agree to evaluate the projected costs of the HPB Maintenance Work for the Project for the fiscal year ending on June 30, 2021, based on a review of the available fiscal year end 2019 and 2020 budgets and reconciliations provided by HPB pursuant to the reporting requirements in Section III.E. The City agrees that its designee for this purpose is the City's Chief Development Officer, or if such title does not exist, the Mayor's designee within the Mayor's Office (the "**City's Designee**"). In the event the HPB and the City's Designee determine that the initial estimate of $9,400,000 in fiscal year 2013 dollars (as adjusted pursuant to Section IV.D.1) is not accurate for the HPB Maintenance Work for the Project for fiscal year end June 30, 2021, then HPB and the City's Designee may adjust, up or down, the Base Maintenance Fee for fiscal year end 2021 (and

as a result all future fiscal years during the term) to more accurately reflect the cost of the Base Maintenance Fee. Any adjustment must be approved by five (5) of the seven (7) members of the Standards Committee and, if such adjustment would result in an increase in the Base Maintenance Fee for the fiscal year ending June 30, 2021 by more than twenty percent (20%), the amount in excess of twenty-percent would require City Council approval.

3. HCFCD Contributions. Notwithstanding the above, to the extent HPB receives contributions from HCFCD (either in cash or continuation of HCFCD's current maintenance services on greenway segments on HCFCD property) in a given year for maintenance of the Project, the Base Maintenance Fee in that year shall be reduced by the HCFCD contribution amount. The Coverage Ratio Amount, however, shall be calculated without regard to such HCFCD contribution.

E. Disbursements of Annual 380 Grants. HPB will invoice the City twice a year for payments to be due on July 10 and January 10 of each year of the Term. The City shall disburse the Grant to HPB thirty days after receipt of the invoice, but in no event later than July 10 and January 10 of each year of the Term, beginning in July, 2014, subject to HPB's timely compliance with the reporting requirements in Section III.E.

F. Utilities. In addition to the Annual 380 Grant, the City shall (i) furnish, at no cost to HPB, all water, sewer and stormwater drainage services required for the Project, together with maintenance of the City's facilities providing such services, and (ii) furnish electricity and natural gas required for the Project at the City's actual cost therefor, in order to allow the Project to benefit from the City's bulk purchase rates for such utilities.

G. Events. The City shall have the exclusive right to conduct, or to book or permit charity walks, foot races, bicycle tours, or other public and private events in the Greenway segments; provided however, that the City for its own events, or the third party sponsor of any event, shall be liable, at no cost to HPB or to the Maintenance Fund, for all costs of such events, including but not limited to set up/break down, security, supplemental sanitation, and trash pick up, and for the cost of repair or replacement of any damage to Project improvements and/or landscaping arising out of such events as well as any actual costs incurred by HPB or its maintenance provider in connection with maintenance after such event. With respect to any third party event, the City shall require the third party to: (i) be a person or legal entity, (ii) provide a security deposit as reasonably determined by the City but which shall in all events take into consideration the nature of the event and the potential damage to the Project, and (iii) provide a certificate of insurance with adequate liability coverage (including damage to person or property) naming HPB as an additional insured. The City agrees that in the event that any damage from an event (whether produced by the City or a third party) occurs and the City fails to either repair the damage or provide HPB with compensation for such damages within ninety (90) days after the occurrence of such damage, the Base Maintenance Fee for the following fiscal year shall be automatically be increased to include the costs necessary for HPB to repair such damages.

H. Restrictive Covenants. The City hereby agrees that notwithstanding anything to the contrary contained in this Agreement and without limiting the express rights of the Standards Committee provided for in Article II, with respect to any portion of the real property constituting the Project in which the City currently possesses a real property interest or subsequently acquires

a real property interest, the following shall constitute covenants running with the land constituting the Project (the "**Restrictive Covenants**") and which shall require that:

1. the real property constituting the Project and each Bayou Greenway shall at all times be park land or open green space;

2. all development within the Project be constructed and operated in a manner that is compatible with and supportive of the Project;

3. all portions of the Project (including all improvements and fixtures therein) be maintained in accordance with the standards set forth the Maintenance Manual; and

4. provide for the right, but not the obligation, for enforcement of the Restrictive Covenants by HPB (or its permitted successor or assign) or the Angel Donor and no other person or entity.

The Parties hereby acknowledge and agree that the Restrictive Covenants are not established for the benefit of, and are not enforceable by, any neighboring property owner, any member of the public, or by any natural person or legal entity other than as provided above, acting jointly or severally. On or before the substantial completion of the Project, the City and HPB shall execute and record in the Real Property Records of each county in which all or any portion of the Project is located a Declaration of Restrictive Covenants evidencing the above.

I. Connected Linear Park System. The City acknowledges that it is the intent of the Parties to cause the implementation and construction of the Project to result in an interconnected linear park, trail and open green space system that extends the full length of each bayou and Bayou Greenway within the City corporate limits even though some portions of such system will not be within the boundaries of the Project. During the Term of this Agreement and except for Force Majeure or emergency situations, the City will ensure that any portions of the Bayou Greenway that are not within the boundaries of the Project, but are within the City's jurisdictional limits, will remain park land or open green space and it will not close any trails within such areas so that there will at all times during the Term be an interconnected linear park, trail and green space system along the nine (9) bayous system.

ARTICLE V
DEFAULT AND REMEDY

A. Payment Default. The City agrees that its failure to either fully fund the Maintenance Fund or to pay a disbursement when due, is an event of default (a "**Payment Default**") and that HPB shall be entitled to any and all of the remedies available in this Article or otherwise at law or equity.

B. General Events of Default. Except for a Payment Default, a Party shall be deemed in default under this Agreement (a "**Performance Default**") if such Party (i) fails to materially perform, observe or comply with any of its covenants, agreements or obligations hereunder or breaches or violates any of its representations contained in this Agreement, and (ii) fails to cure

pursuant to the provisions below. Before any such failure by any Party shall be deemed to be a Performance Default under this Agreement, the Party claiming such failure shall notify, in writing, the Party alleged to have failed to perform the alleged failure and the Third Party Beneficiaries and shall demand performance by the alleged non-performing Party.

C. Remedies Cumulative. Upon a default under this Agreement, the non-defaulting Party, in any court of competent jurisdiction, by an action or proceeding at law or in equity, may secure the specific performance (such as through writ of mandamus) of the covenants and agreements herein contained, may be awarded damages for failure of performance, or both. City expressly acknowledges that this Agreement constitutes a contract with HPB under which HPB is providing goods and services, for purposes of Section 271.152 of the Texas Local Government Code. Except as otherwise set forth herein, no action taken by a Party pursuant to the provisions of this Section or pursuant to the provisions of any other Section of this Agreement shall be deemed to constitute an election of remedies; and all remedies set forth in this Agreement shall be cumulative and non-exclusive of any other remedy either set forth herein or available to any Party at law or in equity. Each of the Parties shall have the affirmative obligation to mitigate its damages in the event of a default by the other Party. If City at any time fails to fully and timely pay a disbursement of any year's Annual 380 Grant, then HPB, in addition to its rights in Section V.D. below, shall also have the right to (i) reduce the scope and actual cost of the HPB Maintenance Work to levels that can be covered by the Annual 380 Grant actually paid in any such year, subject to Angel Donor's consent which shall not be unreasonably withheld, and/or, (ii) shut down the improvements or fixtures of the Project or, only if reasonably necessary to protect public health and safety, to ask the City to close areas of the Project. HPB agrees that the foregoing rights to reduce the scope and cost of the HPB Maintenance Work, shut down improvements/fixtures, or close areas of the Project are subject to HPB having commenced enforcement actions against the City and that it is diligently pursuing such enforcement actions.

D. Termination Rights. Either HPB or the City, as the injured Party, may terminate its performance under this Agreement (but may not terminate this Agreement) if the other Party has caused a Payment Default or a Performance Default, if the non-performing Party fails to cure such Payment Default within thirty (30) days, or to cure such Performance Default within ninety (90) days, of receiving a written termination notice from the injured Party describing the proposed termination date. In addition, HPB may terminate its performance under this Agreement during a Renewal Term (but may not terminate this Agreement) in the event the City fails to approve annual appropriation for the Annual 380 Grant in its annual budget approval process. The injured Party, at its sole option, may extend the proposed termination date to a later date. If the defaulting Party cures the Payment Default or the Performance Default before the proposed termination date, the proposed termination is ineffective. If the defaulting Party does not cure the default before the proposed termination date, the injured Party may terminate its performance under this Agreement on the termination date.

E. Transition Upon Termination. Upon the termination of this Agreement pursuant to Section V.D, the Parties will transition this Agreement and the Project from HPB to the City or to such successor to HPB as the City may designate, with the approval of either the City or a third party successor taking over the Project being subject to the consent of a majority of the Standards Committee and the Angel Donor, in each case which consent must not be unreasonably withheld; *provided, however*, that (i) in the event of a transition of HPB's

responsibilities hereunder to the City (or any City affiliate), the Angel Donor may withhold its consent in its sole and absolute discretion and (ii) in the event that HPB has exercised its right terminate this Agreement as a result of a City Payment Default, the Angel Donor may select the successor to HPB provided such person or entity has knowledge and expertise in the efficient and cost effective operation and maintenance of parks and green space. In connection with such transition, HPB shall transfer all of its rights, title and interests to the City or such successor all contracts and materials relating to the Project. All funds in the Project Operating Account, Maintenance Reserve and Capital Replacements Reserve shall be transferred to the City or such successor, as the successor operator of the Project, for use solely in connection with the Project and solely for the purposes to which such accounts are limited. HPB shall deliver to such successor operator copies of HPB's books and records for the Project for not less than two (2) full calendar years prior to the date of such transition, and copies of all service contracts then in effect.

F. Force Majeure. Notwithstanding anything in this Agreement which is or may appear to be to the contrary, if the performance of any covenant or obligation to be performed hereunder by any Party (except for a Payment Default) is delayed as a result of circumstances which are beyond the reasonable control of such Party and could not have been reasonably anticipated (which circumstances may include, but not be limited to, pending or threatened litigation, acts of God, war, acts of civil disobedience, fire, flood or other casualty, shortage of materials, adverse weather conditions [such as, by way of illustration and not limitation, severe rain storms or below freezing temperatures, or tornadoes], industry-wide labor action, strikes or similar acts [but not strikes limited to either Party's work force]) the time for such performance shall be extended by the amount of time that such delay is actually in effect ("**Force Majeure**"). The Party affected by Force Majeure shall promptly give notice to the other Party of the occurrence of the Force Majeure event and shall use commercially reasonable efforts to mitigate the impact and duration of the Force Majeure event.

ARTICLE VI
GENERAL PROVISIONS

A. Time of the essence. Time is of the essence in this Agreement. The Parties will make every reasonable effort to expedite the subject matters hereof and acknowledge that the successful performance of this Agreement requires their continued cooperation, including, but not limited to, subject to HPB's compliance with all applicable laws, expeditiously processing permits and approvals to facilitate HPB's timely procurement of all entitlements required for the Project.

B. Third Party Beneficiary. The terms of this Agreement will be binding upon, and inure to the benefit of, the Parties hereto and their permitted successors and assigns. The Parties hereby expressly acknowledge and stipulate their intent that the Angel Donor shall be a third party beneficiary of this Agreement, and shall have the right and legal standing to enforce the respective obligations of the Parties hereunder and thereunder to the full extent allowed at law or in equity; provided, however, that in no event shall Angel Donor have the right to bring suit for money damages against any Party to this Agreement in any case or cause of action in which a direct Party to this Agreement would have no right to bring suit for money damages under the terms of this Agreement.

C. Notices. Any notice sent under this Agreement (except as otherwise expressly required) shall be written and mailed or sent by electronic transmission confirmed by mailing written confirmation at substantially the same time as such electronic transmission, or personally delivered to an officer of the receiving party at the following addresses:

If to City: Chief Development Officer, Office of the Mayor
City of Houston
[redacted]

With a copy to: Director, Parks and Recreation Department
City of Houston
[redacted]

And a copy to: Section Chief, Real Estate Section
City Attorney's Office
[redacted]

If to HPB: Executive Director
HPB
[redacted]

With a copy to: Cassie B. Stinson
Boyar Miller
[redacted]

If to Angel Donor: Contact information to be added at such time as an Angel Donor is designated by HPB pursuant to the terms of this Agreement.

Notice shall be deemed to have been received on the date such notice is personally delivered or otherwise actually received by the intended recipient. Any party may change its address by written notice in accordance with this Section VI.C.

D. Amendments and Waivers. Any provision of this Agreement may be amended or waived if such amendment or waiver is in writing and is approved by the Parties. No course of dealing on the part of the Parties nor any failure or delay by the Parties with respect to exercising any right, power or privilege pursuant to this Agreement shall operate as a waiver thereof, except as otherwise provided in this Section D. Notwithstanding the above, the Parties agree that the Maintenance Manual may be revised and amended as agreed to by the Standards Committee.

E. Invalidity. In the event that any of the provisions contained in this Agreement shall be held unenforceable in any respect, such unenforceability shall not affect any other provisions of

this Agreement and, to that end, all provisions, covenants, agreements or portions of this Agreement are declared to be severable.

F. Successors and Assigns.

1. Binding on Successors; Limitations on Assignment. This Agreement binds and benefits the Parties and their permitted legal successors and assigns; *provided, however*, this provision does not alter the restrictions on assignment and disposal of assets set out below or elsewhere in this Agreement. This Agreement does not create any personal liability on the part of any officer or agent of the City or HPB. The City shall not assign this agreement whether by operation of law or otherwise. HPB shall not assign this Agreement whether by operation of law or otherwise without the Standards Committee's and the Angel Donor's prior written consent and City approval. Notwithstanding the foregoing, HPB may assign the Agreement to its wholly owned subsidiary which it controls (other than HPBLGC, a local government corporation or any other governmental entity) at its discretion and without the consent of the Standards Committee, the Angel Donor or the City. In the case of a permitted assignment by HPB in accordance with this Section VI.F.1, HPB shall immediately furnish the City with proof of the assignment and the name, telephone number, and address of the assignee and a clear identification of the fees to be paid to the assignee.

2. Transition Upon Assignment. Upon the assignment of this Agreement by HPB as expressly permitted herein, HPB shall cooperate with the assignee to accomplish the orderly transition of HPB's operations and obligations relating to the Project. All funds in the Project Operating Account, Maintenance Reserve and Capital Replacements Reserve shall be transferred to the assignee, as the successor operator of the Project, for use solely in connection with the Project and solely for the purposes to which such accounts are limited pursuant to this Agreement. HPB shall deliver to such successor operator copies of HPB's books and records for the Project for not less than two (2) full calendar years prior to the date of such assignment, and copies of all service contracts then in effect.

G. Exhibits, Titles of Articles, Sections and Subsections. The exhibits attached to this Agreement are incorporated herein and shall be considered a part of this Agreement for the purposes stated herein, except that in the event of any conflict between any of the provisions of such exhibits and the provisions of this Agreement, the provisions of this Agreement shall prevail. All titles or headings are only for the convenience of the Parties and shall not be construed to have any effect or meaning as to the agreement between the Parties hereto. Any reference herein to a section or subsection shall be considered a reference to such section or subsection of this Agreement unless otherwise stated. Any reference herein to an exhibit shall be considered a reference to the applicable exhibit attached hereto unless otherwise stated.

H. Applicable Law; Venue. This Agreement is a contract made under and shall be construed in accordance with and governed by the laws of the United States of America and the State of Texas, and any actions concerning this Agreement shall be brought in either the State Courts of Harris County, Texas or the United States District Court for the Southern District of Texas. Each Party hereby submits themselves to the exclusive jurisdiction of such courts and expressly waives any claim of non-convenience with respect to such forums.

I. Entire Agreement. This Agreement represents the final agreement between the Parties and may not be contradicted by evidence of prior, contemporaneous, or subsequent oral agreements of the Parties. There are no unwritten oral agreements between the Parties.

J. Term of Agreement; Renewal Options.

1. Initial Term. This Agreement expires thirty (30) years after the Effective Date and the City's final payment to HPB of any outstanding obligations, unless extended or sooner terminated under this Agreement.

2. Renewal Terms. HPB shall have the option to renew this Agreement on the same terms as set forth herein for two (2) consecutive renewal terms (each, a "**Renewal Term**") of twenty-five (25) years each, by giving the City written notice of renewal no less than one (1) year before the last day of the then current Term; provided that during any Renewal Term the Annual 380 Grant shall be subject to annual appropriation by City Council. The Initial Term and any Renewal Term(s) are individually and collectively referred to as the "**Term**."

3. Secondary Renewal Options. If HPB fails to timely submit its renewal notice renewing the term for one of the Renewal Terms, the Parties agree that the Angel Donor shall have the secondary right to exercise the renewal option by sending written notice of renewal to all Parties hereto during the period beginning one (1) year before and ending six (6) months before the last day of the then current Term. Such notice shall indicate a successor entity to replace HPB, as HPB's assignee, subject to the reasonable approval of City but which consent may not be withheld in the event that the proposed assignee (i) is the Angel Donor or (ii) agrees to assume in writing all of the rights and obligations of HPB under this Agreement and has knowledge and expertise in the efficient and cost effective operation and maintenance of parks and green space. If the Angel Donor timely exercises such secondary renewal option, then HPB and the Angel Donor or the Angel Donor's approved successor entity, as applicable, shall cooperate in making an orderly transition of HPB's activities in connection with the Project. On or before the last day of the then current term, HPB shall assign this Agreement and all of the Project-related contracts and assets to the Angel Donor or Angel Donor's designated successor entity, as applicable, for the continuation of the Project during the Renewal Term.

K. Enforcement; Audit Rights. The City Attorney or his or her designees, including HPBLGC, may enforce all legal rights and obligations under this Agreement without further authorization of the City. HPB shall make available to the City Attorney, at HPB's offices, at a time mutually agreed upon by HPB and the City Attorney, all documents and records pertaining to this Agreement that the City Attorney requests to assist in determining HPB's compliance with this Agreement, with the exception of those documents made confidential by federal or State law or regulation. Upon at least three (3) business days' advance notice to HPB, City and the Controller of City will have the right, directly or through its duly authorized representatives, during normal business hours and at its expense, to audit and obtain copies of HPB's books and records relating to the Project, provided, however, that HPB shall not be subject to audit more frequently than once in any City fiscal year during the Term. Any such audit shall be performed in HPB's offices at a time mutually agreed upon by HPB and the City. In connection with any such review or audit all charges for copying or duplication shall be at the expense of the reviewing or auditing entity.

L. Approval by the Parties. Whenever this Agreement requires or permits approval or consent to be hereafter given by any of the Parties, the Parties agree that such approval or consent shall not be unreasonably withheld or delayed.

M. Counterparts. This Agreement may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same agreement.

N. Interpretation. This Agreement has been jointly negotiated by the Parties and shall not be construed against a Party because that Party may have primarily assumed responsibility for the drafting of this Agreement.

O. Conflicts with Ordinances. The City and HPB agree that any City ordinance, or regulation by any other agency over which the City has control, whether heretofore or hereafter adopted, that addresses matters that are covered by this Agreement shall not be enforced by the City or the other regulatory agency with respect to the Project if contradictory to the scope of this Agreement, and that the provisions of this Agreement and the Maintenance Agreement govern the maintenance of the Project and the funding thereof.

P. Powers. The City hereby represents and warrants to HPB that the City has full constitutional and lawful right, power and authority to execute and deliver and perform the terms and obligations of this Agreement, and all of the foregoing have been or will be duly and validly authorized and approved by all necessary City proceedings, findings and actions. Accordingly, this Agreement constitutes the legal, valid and binding obligation of the City, is enforceable in accordance with its terms and provisions and does not require the consent of any other governmental authority.

[EXECUTION PAGE FOLLOWS]

IN TESTIMONY OF WHICH this instrument has been executed in multiple counterparts, each of equal dignity and effect, on behalf of HPB and the City effective as of the Effective Date defined herein.

HPB:
HOUSTON PARKS BOARD, INC.

By: _____
Name: Thomas G. Bacon
Title: Chairman
Tax ID No.: [redacted]

By: _____
Name: Roksan Okan-Vick
Title: Executive Director

ATTEST/SEAL (if a corporation):
WITNESS (if not a corporation):

By: _____
Name: Rebecca A. Porteous
Title: Finance Manager

CITY:
CITY OF HOUSTON, TEXAS

Signed by:

Mayor

ATTEST/SEAL:

City Secretary

APPROVED:

Chief Development Officer

APPROVED:

Director, Finance Department

COUNTERSIGNED BY:

City Controller

DATE COUNTERSIGNED:
10-24-13

APPROVED AS TO FORM:

Sr. Assistant City Attorney
[redacted]

EXHIBIT A

MAP OF THE PROJECT

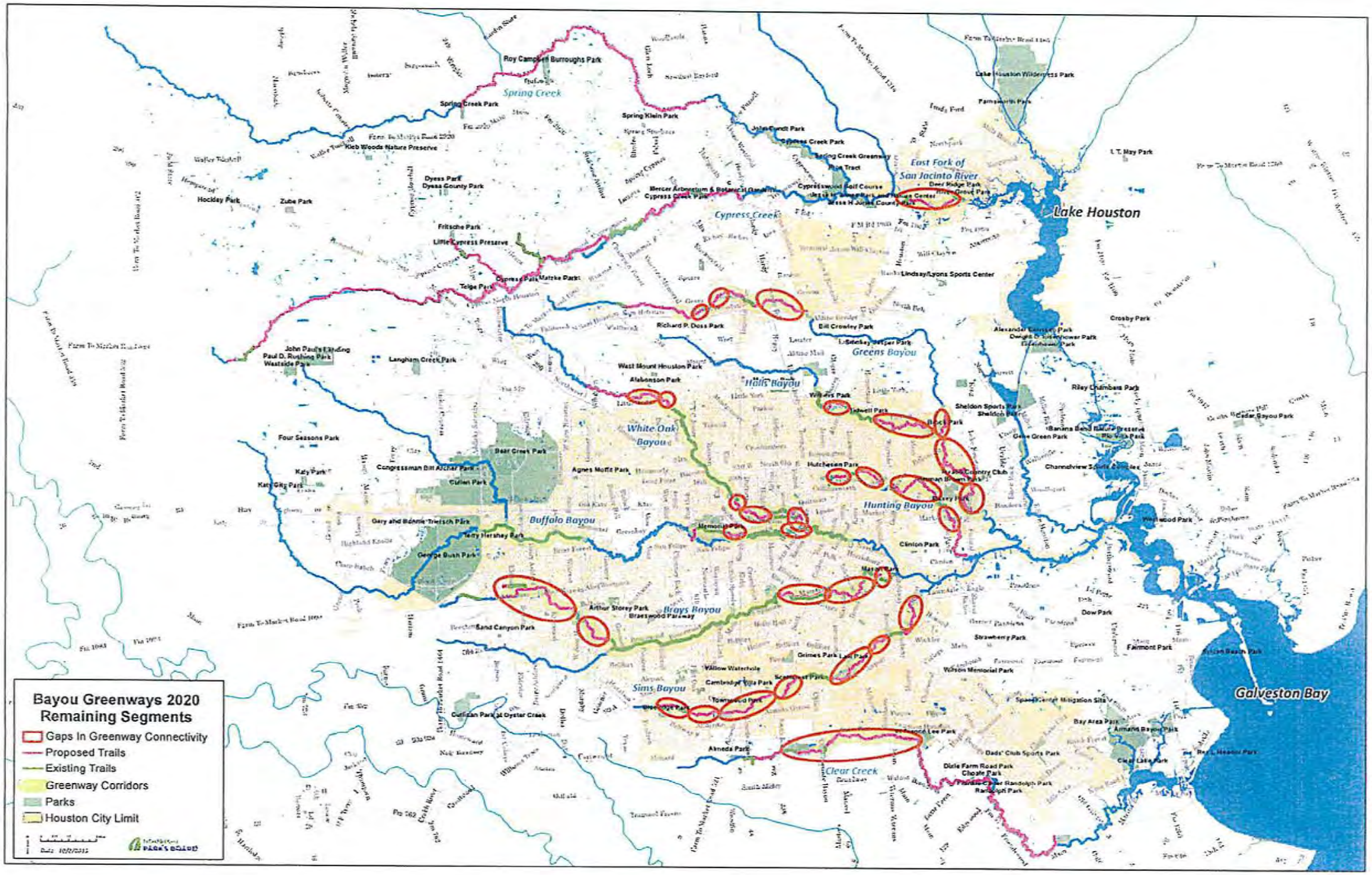
Bayou Greenways 2020
Remaining Segments
Gaps In Greenway Connectivity
Proposed Trails
Existing Trails
Greenway Corridors
Parks
Houston City Limit
Spring Creek
Cypress Creek
East Fork of San Jacinto River
Lake Houston
Greens Bayou
Halls Bayou
White Oak Bayou
Buffalo Bayou
Hunting Bayou
Brays Bayou
Sims Bayou
Clear Creek
Galveston Bay
Roy Campbell Burroughs Park
Spring Creek Park
Spring Klein Park
Kleb Woods Nature Preserve
Dyess Park
Dyess County Park
Hockley Park
Zube Park
Fritsche Park
Little Cypress Preserve
Cypress Park Matzke Park
Telge Park
Langham Creek Park
John Paul's Landing
Paul D. Rushing Park
Westside Park
Four Seasons Park
Katy Park
Katy City Park
Congressman Bill Archer Park
Bear Creek Park
Gary and Bonnie Trewitsch Park
Terry Hershey Park
George Bush Park
Sand Canyon Park
Cullen Park at Oyster Creek
Richard P. Doss Park
West Mount Houston Park
Alabonson Park
Agnes Moffit Park
Arthur Storey Park
Braeswood Parkway
Willow Waterhole
Cambridge Park
Townwood Park
Alameda Park
Lake Houston Wilderness Park
Pamsworth Park
I. T. May Park
Crosby Park
Riley Chambers Park
Cedar Bayou Park
Sheldon Sports Park
Banana Bend Nature Preserve
Channelview Sports Complex
Westwood Park
Dow Park
Fairmont Park
Strawberry Park
Watson Memorial Park
Bay Area Park
Armand Bayou Park
Dads' Club Sports Park
Dixie Farm Road Park
Choate Park
Randolph Park
Clear Lake Park
Bill Crowley Park
Lindsay/Lyons Sports Center
Deer Ridge Park
Cypresswood Golf Course
Mercer Arboretum & Botanical Garden
Cypress Creek Park
Spring Creek Greenway
Hutcheson Park
Memorial Park
Clinton Park
Mason Park
Grimes Park Lost Park
Gene Green Park
Hidden Bayou Park
Sheldon Park
Williams Park
Indwell Park
Hunting Bayou Park
Dixie Farm Road Park
Randolph Park
Speed Center Mitigation Site

EXHIBIT B

ECONOMIC IMPACT AREA

Bayou Greenways 2020

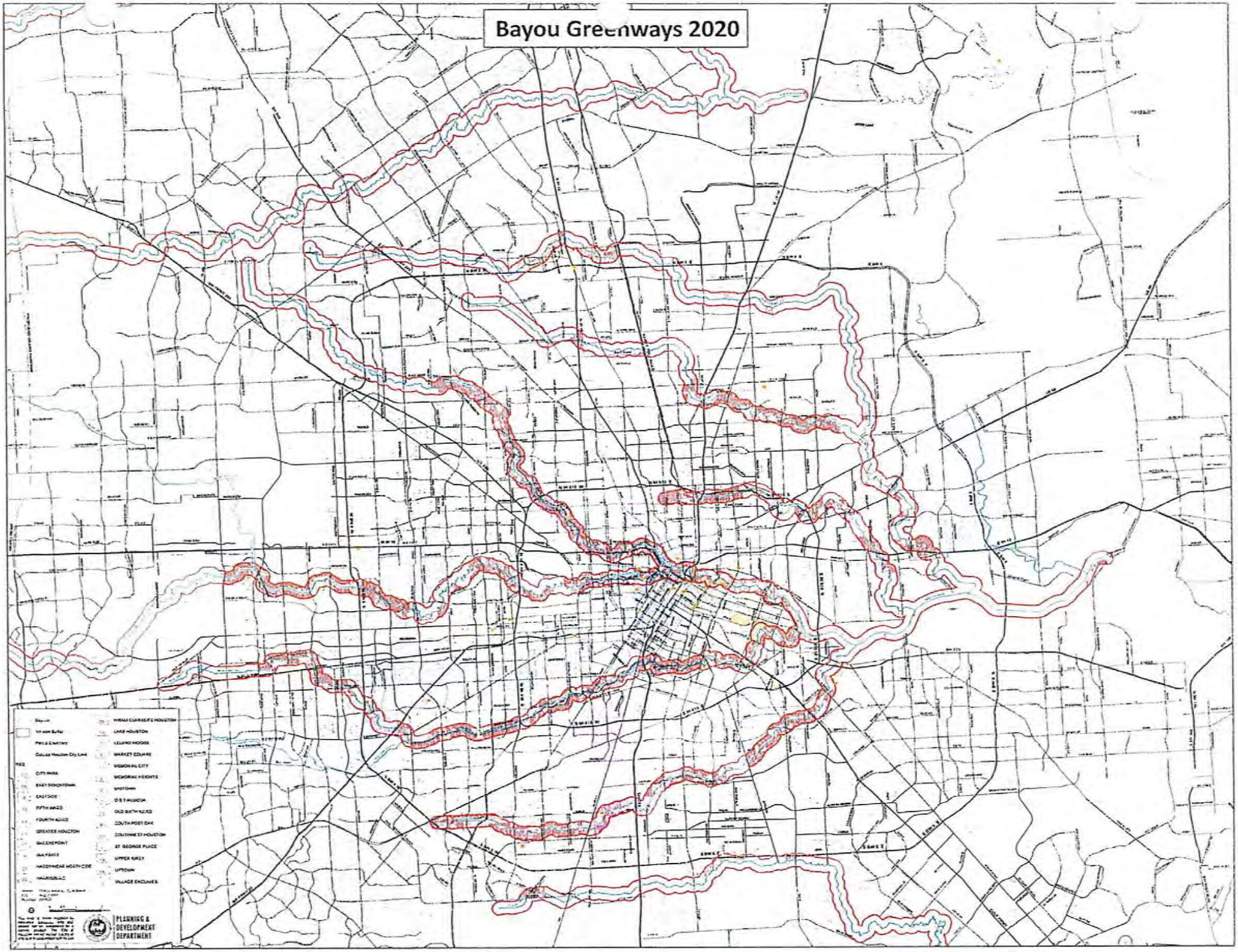

EXHIBIT C

MAINTENANCE MANUAL

BAYOU GREENWAYS 2020
MAINTENANCE STANDARDS

Prepared for:
Houston Parks Board

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INTRODUCTION

The goal of maintenance is to ensure that the bayou greenways are clean, attractive, safe and usable for visitors at all times and during all seasons. High quality maintenance is essential to protecting the long-term capital investment in the Bayou Greenways 2020 Project.

The maintenance standards in this document are based on the Operation Guidelines for Grounds Management, 2001, published by APPA, the National Recreation and Park Association and Professional Grounds Management Society. These standards have been adapted, however, in some circumstances to meet the unique maintenance needs of a park system built around the bayous. In this way, the Bayou Greenways 2020 Maintenance Standard provides for a national standard that encompasses the complexity of a park system along the water where consistent flood events are expected.

The maintenance standards in this document are for basic landscape maintenance, such as mowing, de-littering, and maintenance of meadow areas. Maintenance intensive features such as ornamental plantings, or other intensive landscape features are not accounted for in these standards. Inclusion of these elements in any future bayou greenway projects will entail development of maintenance standards for those features and will require an additional funding commitment for maintenance.

Management of the maintenance tasks associated with the Bayou Greenways 2020 project will be done through a public private partnership where public entities will continue in some capacity to maintain aspects of the system but at the agreed upon standard outlined in this document. Currently, it is envisioned that the Houston Parks Board, a 501(c)(3) non-profit organization, will receive and disburse funds for the maintenance of the Bayou Greenways 2020 project and be responsible for ensuring that the national standards outlined here will be met. To the extent practicable, the non-profit organization will also coordinate the efforts of all parties with maintenance responsibility for the Bayou Greenways 2020 Project areas including the Houston Parks and Recreation Department (HPARD), Harris County Flood Control District (HCFCD), County Precincts and any other public or private entity that currently, or in the future, may assist with maintenance of the Bayou Greenways 2020 Project. The Houston Parks Board is referred to as the "Managing Party" throughout this document.

During the first seven years of construction, the standards outlined here must be applied with recognition for delayed activity. The first seven years will entail a gradual ramp-up to the full standards outlined in Exhibit B, as areas are restored with additional vegetation and as vegetation reaches a sustainable growth. In effect, as construction and restoration are completed, the maintenance of the system will ramp up to a high point in year seven with on-going responsibilities and efficiencies created within the system.

PART I: MAINTENANCE INVENTORY

A. Geographic Reach:

The geographic areas within which the maintenance standards apply are the areas depicted in Exhibit A as the Bayou Greenways 2020 Potential Maintenance Zone. The areas which may add up to approximately 4,000 acres represent the limits of the full geographic reach which will take several years to complete as properties are acquired or otherwise included as part of the Bayou Greenways 2020 Project, and as trails are added per the Bayou Greenways 2020 Project scope identified in the June 2013 Construction Interlocal Agreement between the Houston Parks Board LGC and the City of Houston. Generally, these areas include linear parcels of greenspace outside the primary channel of the bayous with one single line of trail. The maps exclude city or county operated parks, secondary trails into city or county parks, restrooms, and other built features typically associated with a city park.

Likewise, the primary bayou channel is not included in the maintenance inventory. The maintenance of the primary channel is the responsibility of HCFCD (See Exhibit D for typical section).

B. Landscape Categories:

The geographic reach contains basic landscape categories which are in turn comprised of various landscape types. The categories are as follows:

I. Multi-use Trails: Typical Multi-use Trails are typically concrete, 10' wide with a 6' wide strip of lawn along each edge. Trails will be located on flat areas above the primary channel banks and on minimum 22' wide flood benches within slopes. Trails may also be located in limited areas on lower flood benches adjacent to the primary channel, pursuant to HCFCD approval.

II. Bayou Banks: Bayou Banks include the slopes and upper benches above the primary channel, which are generally areas adjacent to the primary channel and Multi-use Trails. Maintenance and management of the Bayou Banks is currently the primary responsibility of the HCFCD. The Managing Party will provide supplemental maintenance to enhance the standards currently followed by HCFCD.

   i. HCFCD is currently responsible for removal of debris within the Bayou Banks. The Managing Party will supplement current HCFCD efforts with additional litter removal to maintain the standard outlined in Exhibit B. Litter removal will be limited to small objects only and does not include remove of larger debris such as tires or shopping carts. The maintenance reach for removals will be limited from the top of bank to the channel edge. Debris floating along the water edge that can be reached from land with a pool skimmer or similar device will be removed.

ii. HCFCD is currently responsible for removal of dead or dying trees, downed trees, dead tree limbs, fallen tree limbs, and selective clearing of undesirable species within the Bayou Banks. The Managing Party will supplement current HCFCD efforts with clearing to maintain the standard outlined in Exhibit B.

iii. HCFCD is currently responsible for flood clean-up and removal of silt drifts and deposits within the Bayou Banks. The Managing Party will supplement current HCFCD efforts with removal of silt and flood debris to maintain the standard outlined in Exhibit B.

III. Expanded Uplands: Expanded Uplands includes areas beyond and upland of the Bayou Banks.

IV. Trailheads: Trailheads are located at intervals along the greenway to provide access and seating areas. Trailheads generally consist of a parking area, averaging 5,000 sf. and could also include additional amenities such as benches or picnic tables, a drinking fountain, an information kiosk, wayfinding signage, trash/recycling containers, and/or bike racks. Small high maintenance planting areas may be installed at select trailheads which may include shrub plantings, ornamental plantings, or planting beds. These planting beds will typically have irrigation systems.

V. Greenway edge within Existing City and County parks and detention basins: Existing City and County parks and detention basins are administered by either the city or county parks departments. Sections of the greenways will frequently be in close proximity to, or connect with city and county parks and detention basins. Maintenance of parks and basins will remain with the respective agency. Where the greenway edge meets existing City and County Parks or detention basins and is noted to be included in the maintenance area, the maintenance reach extends approximately 50' upland of the trail edge to the edge of the primary channel.

C. Landscape Types:

I. Lawns: Lawns are typically located within Trailhead areas and along the Multi-use Trails. All lawns are in highly visible areas and should thus be kept attractive and accessible.

II. Meadows: Meadows in the Bayou Greenways include two types: Bayou Banks Conservation meadows and Expanded Uplands meadows. Each meadow type will have its own maintenance needs and the degree of maintenance work will vary depending on the location. The primary maintenance goal for meadows is to maintain an attractive landscape that "looks good". Undesirable species (which include non-native and/or invasive species) are to be actively managed; however, not all non-native invasive species are to be removed. Some grass species considered non-native, such as Bermuda Grass will be tolerated as part of the species diversity

within meadows. Over seeding of flowering species will also be a component of meadow management of meadow areas.

a. Within Bayou Banks: The Bayou Banks Conservation meadows are for passive use and are hybrid in nature combining a variety of grasses and flowers. Meadows within the Bayou Banks landscape category will be less visible to the public and more prone to flooding. These two factors influence their standards of care. Because they have lower visibility within the Bayou Greenways, they will be maintained to a different standard than meadows in high profile/visibility/use areas.

b. Within Expanded Uplands: These areas have little to no slope and include the Multi-use Trails. Meadows within the Expanded Uplands will be maintained to a higher standard as they will be within the more heavily used and viewed areas of the greenways. Meadows in the Expanded Uplands may have limited secondary trails with scattered trees.

c. Meadows in both the Expanded Uplands and Bayou Banks will include various wildflower species to enhance their visual appearance. Meadow mowing schedules will largely depend on the species mix during peak flowering times to encourage seed germination, dispersal, and flowering. In this way, there is some flexibility in a mowing schedule during certain seasons to accomplish a more desired aesthetic.

d. The first seven years will entail a gradual ramp-up to the full meadow standards outlined in Exhibit B, as areas are restored with additional vegetation and as vegetation reaches a sustainable growth.

e. Undesirable Plant Species: All meadows will have some level of undesirable plant species for which long-term planning will include a measure of eradication. Several undesirable species have been identified as the target species for control and eradication efforts including: Johnson Grass, Bahia Grass, King Ranch Bluestem and Old World Bluestem varieties, as well as Guinea Grass. Control and eradication efforts within meadow areas will focus on these invasive species to maintain a visually acceptable landscape with the presence of these species limited to the percentages shown in Exhibit B.

III. <u>Woodlands:</u> Woodlands occur on the Bayou Banks and Expanded Upland areas, and typically have limited sight lines. They will have a natural forest floor with most maintenance operations focused on visible edges.

a. Undesirable Plant Species: Most woodlands will have some level of undesirable plant species for which long-term planning will include a measure of eradication.

b. Clearing: Most woodland areas will get limited use, however existing secondary trails in these areas will encourage public access. Woodland management efforts will focus on the more visible woodland edges and areas along multi-use trails where users will be present. Any cleared existing secondary trail through woodlands will require clearing of encroaching woodland plants and fallen tree limbs to maintain safe accessibility.

IV. Concrete Paving and Infrastructure: Reinforced concrete paving will be the primary hardscape surface for all Multi-use Trails and Trailheads as well as vehicle parking areas. They will be maintained to adequately meet users' needs. These paved areas will see moderate to heavy levels of use (walking, running, biking, blading, and parking).

a. Pedestrian bridges and other structural elements present along Multi-use Trails and at Trailheads will be maintained, or repaired as needed, barring any major capital replacement of this type of infrastructure.

b. Any catch basins present in paved areas will be cleared of surface debris such as leaves. Any observed blockages or accumulated debris within the drainage infrastructure shall be reported to the appropriate managing agency (HCFCD, City of Houston, or appropriate County Precinct).

V. Seating Areas: Seating Areas occur at Trailheads and regular intervals along Multi-use Trails. They should be kept attractive and maintained for greenway visitors. Site furnishings and amenities will vary depending on location and may include trash/recycling containers, benches or picnic tables, information kiosks, bike racks, and/or wayfinding or interpretive signage. All site amenities must be inspected after flood events and maintained in good working order per original design intent (i.e. sign posts to be vertical and no damaged furnishings).

VI. Secondary Trails: Secondary Trails are existing trails located within select areas of meadow and woodland landscapes. These trails are cleared dirt pathways and will require regular clearing to maintain safe access, and litter/debris removal.

PART II: MAINTENANCE TASKS AND STANDARDS

A. Basic Maintenance:

The broad categories of basic maintenance are as follows:

I. Cleaning – work having to do with the appearance and sanitary conditions such as de-littering and trash removal.

II. Horticulture – work having to do with the health of meadows, lawn, trees, and woodlands, including the following:

a. Riparian Vegetation Management: Regular vegetation management, consisting of limited removal of undesirable plants and trimming trees.
b. Re-seeding: Application of supplemental flower species or native grass seed to select meadow areas.

III. Sediment Deposits: Removal of sediment as outlined in Exhibit B.

IV. Repair – work having to do with preventative maintenance and repair such as painting, and minor repair of greenway asset components.

B. Unforeseen Maintenance Conditions:

Certain unforeseen maintenance conditions such as major accidents, environmental incidents, windstorms, fires, riots, terrorist incidents, extreme drought, hurricanes, or large storm events may result in damage to the greenway asset components requiring maintenance beyond what is routinely done and covered in this document. In such cases a Maintenance Reserve Fund is set aside to manage the impact of those unforeseen conditions.

The City of Houston and HCFCD may also perform additional maintenance within their jurisdictions depending on the severity of the disaster.

C. Vandalism:

Within the constraints of the limited times and locations that maintenance staff are present on the greenways and notice illegal activities that results in vandalism, heavy trash dumping, graffiti and other damage within the greenway, the Managing Party will notify the Houston Police Department (HPD) about those activities of which it acquires knowledge. Managing Party will not be held to a standard of no damage to the greenways. Managing Party shall coordinate its work with the HPD and, unless unusually significant in scale, abate graffiti and damage resulting from vandalism as noted in Exhibit B. For unusually destructive vandalism events, the Managing Party may use Maintenance reserve funds to restore the greenway components.

D. Flood Clean-up:

The Managing Party will not interfere with any jurisdictions' ability to respond to a natural disaster, or flood, as needed and appropriate. For example, during and immediately after floods, HCFCD and the City of Houston may enter the greenways to remove obstructions to the flow of floodwaters as they deem necessary.

After minor flood events (such as 1-year floods), the greenways will be inspected for damage, debris, and silt deposits. If required, clean-up will include debris removal, selective silt removal, cleaning of hardscapes, and cleaning/repair of site furnishing as described in Exhibit B. Flood clean-up efforts performed by the Managing Party within the Bayou Banks must be coordinated with HCFCD. Flood clean-up will need to be carried out in each of the landscape categories and efforts will depend on the specific

location, elevation and proximity to flood waters. For major flood events (such as 10-year or 100-year floods) that cause extensive damage or large silt deposits that exceed depths specified in Exhibit B, it is envisioned that additional efforts will likely be required and require the use of funds from the Maintenance Reserve Fund.

E. Erosion Control:

Erosion control is currently the responsibility of HCFCD within the Bayou Banks. Erosion issues within the Expanded Upland areas caused by events other than bayou water flows, will be the responsibility of the Managing Party. Any areas of erosion within the Expanded Uplands caused by poor drainage or other means shall be immediately repaired if determined to be a threat to public health or safety.

Any areas of erosion within the Bayou Banks shall be brought to the attention of HCFCD.

F. Environmental Controls

The Managing Party recognizes the environmental controls described below, but none of its activities are meant to conflict with or replace any jurisdiction's compliance with its on-going responsibilities under these regulations. The Managing Party's maintenance efforts will not take the place of any political jurisdiction's responsibilities under federal, state, or local law.

I. Removal of Sediment: Sediment deposited during and immediately after floods affecting the bayou greenways may not be returned to the bayou's water except in compliance with Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0004685000, or any successor permit held by either HCFCD or City ("Stormwater Permit"), and the Bacteria Implementation Plan, approved by TCEQ in 2013, in each case as amended or replaced. Sediment must be disposed of in an upland area outside of U.S. Army Corps of Engineers (USACE) jurisdictional wetlands unless a permit has been obtained to do otherwise.

II. Endangered or Nesting Species: Appropriate local, state, or federal agencies must be notified and consulted if any endangered or migratory species are identified within active maintenance areas. Appropriate action must be taken based on recommendations and guidelines of the US Fish and Wildlife Service and the Migratory Bird Treaty Act of 1918.

III. Cultural Resource Artifacts: If any potential artifact or cultural resource is encountered, work must be stopped in the area in question. Local, state, or federal agencies with jurisdiction must be contacted (including but not limited to the Texas Historical Commission) to comply with all applicable laws or regulations.

IV. Pesticides, Herbicides or Fertilizers: Application of pesticides, herbicides or fertilizer along the greenways must be in strict compliance with the HCFCD's TPDES Pesticide General Permit, the Bacteria Implementation Plan, and Applicable Laws.

V. Other Environmental Conditions: If, during maintenance or repair activities that may involve excavation, a Party has a reasonable basis to believe that it has encountered soil or groundwater that may contain regulated material that exceeds action levels under applicable laws, the land owner shall address that soil or groundwater in order to comply with applicable laws.

VI. Coordination with HCFCD: HCFCD plants and maintains natural areas along the bayous (including destructive species management) in compliance with the National Environmental Policy Act (NEPA), U.S Army Corps of Engineers (USACE), and stormwater permit compliance. Any supplemental maintenance of Landscape categories and types described within the HCFCD maintenance reach should be coordinated with HCFCD to ensure that maintenance activities are consistent with permit obligations and agency compliance. But any activity is not meant to comply or meet HCFCD's regulatory requirements, and is instead supplemental.

G. Maintenance Facilities

Each of the agencies that currently maintain the bayous and associated greenspaces (HPARD, county precincts, HCFCD, and management districts) has maintenance facilities throughout the city of Houston providing storage and mobilization points for their respective equipment. In many cases, however, these existing facilities will not provide additional usable space, adequate proximity, or access to the future greenways. Additional small temporary bayou greenway specific maintenance facilities may be added at strategic locations along the greenways to support efficient maintenance and mobilization. These facilities would provide points to start/stop, pick up additional supplies, and drop off litter and debris accumulated during the course of the work day.

PART III: EXHIBITS

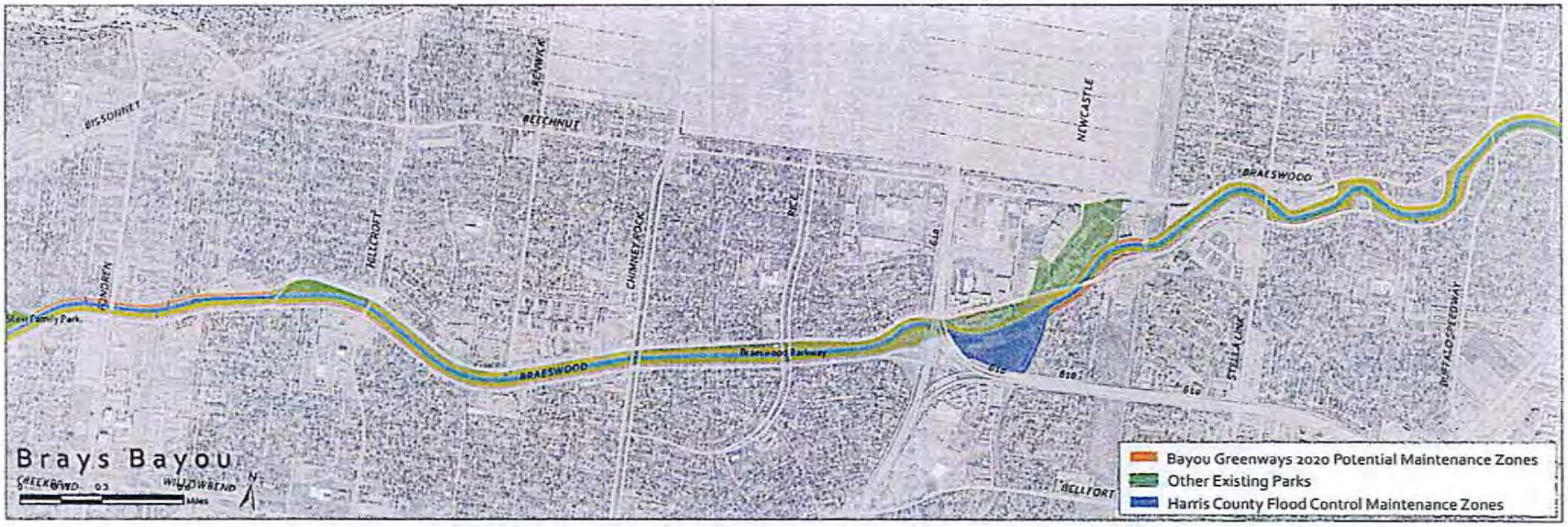
A.	Maintenance Zone Diagrams	(Exhibit A)
B.	General Maintenance Standards, Tasks, and Frequency	(Exhibit B)
C.	Landscape Category Plan Diagram	(Exhibit C)
D.	Landscape Category Typical Section	(Exhibit D)

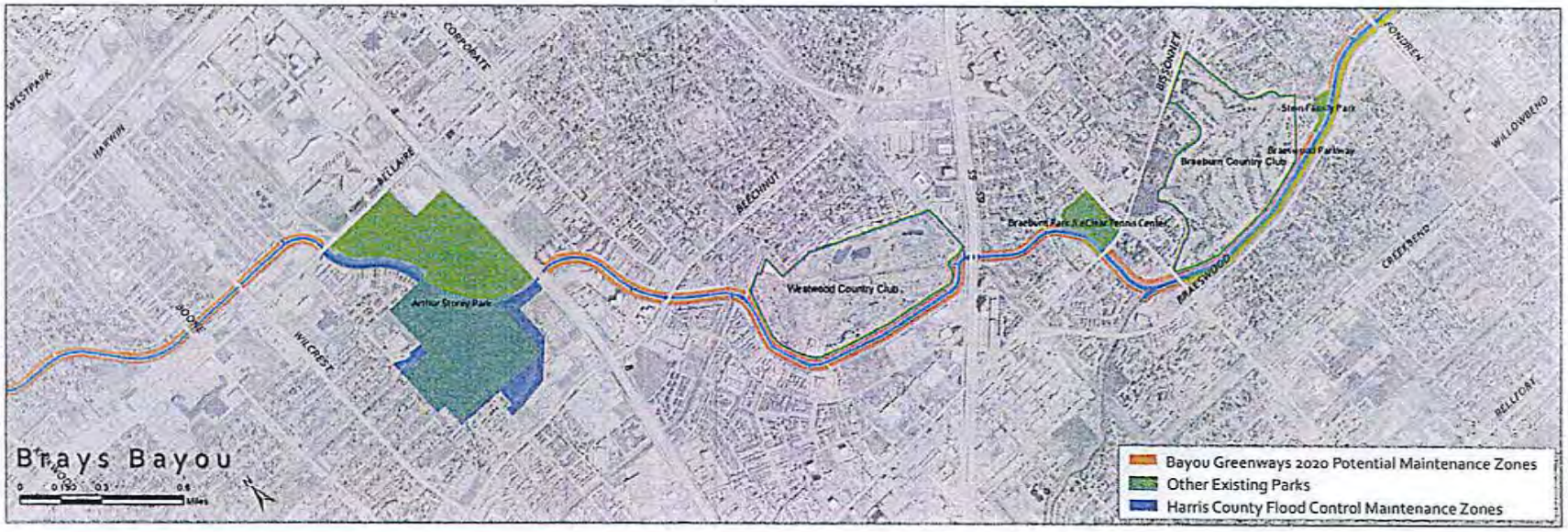
EXHIBIT A – MAINTENANCE ZONE DIAGRAMS

Please note that the areas on the following diagrams depicted as Bayou Greenways 2020 Potential Maintenance Zones represent approximately 2,900 acres. In addition, the Bayou Greenways 2020 Potential Maintenance Zones may include an additional estimated 1,000 acres that will be added along certain bayou segments over the next seven years as part of the Bayou Greenways Project in the form of nature parks (primarily meadows and woodlands). In total, the Bayou Greenways 2020 Potential Maintenance Zones subject to the standards outlined in this manual and covered under this Agreement is expected to include a total of approximately 4,000 acres.

Brays Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

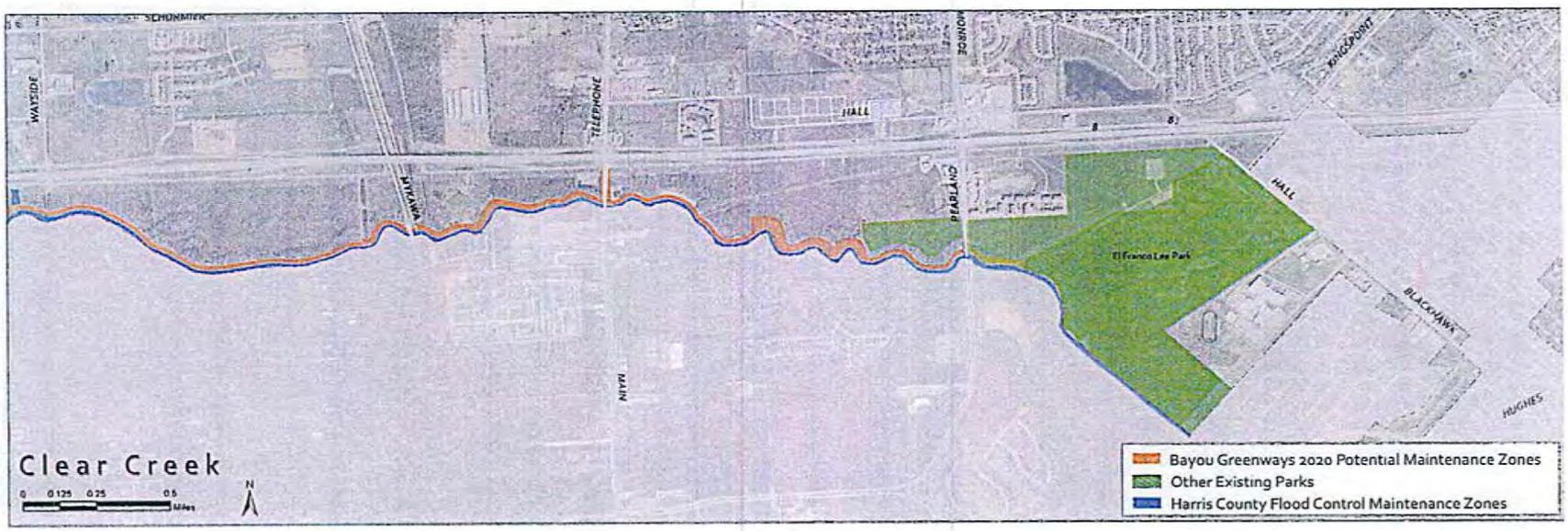
Brays Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

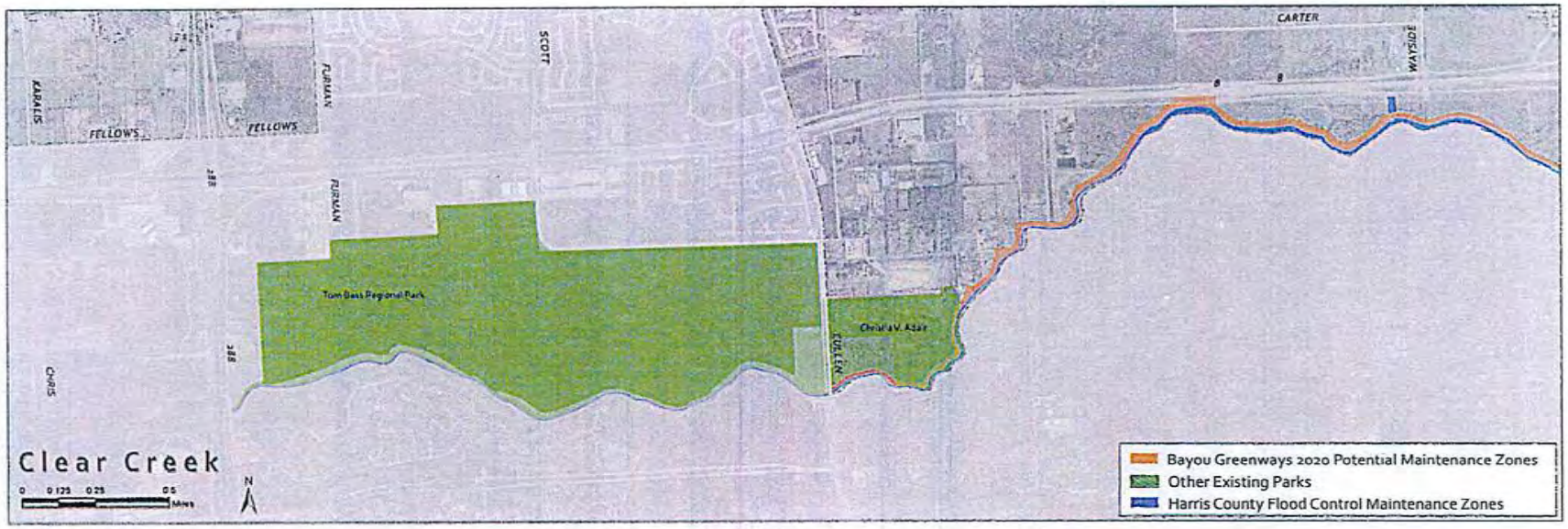

Brays Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones
BISSONNET
BEECHNUT
NEWCASTLE
BRAESWOOD
BELLFORT
Braeswood Parkway


Brays Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones
Arthur Storey Park
Westwood Country Club
Braeburn Country Club
Braeburn Park & Clear Tennis Center
Braeswood Parkway
BELLAIRE
BEECHNUT
BISSONNET
BRAESWOOD
BELLFORT
WILLOWBEND
CREEKBEND

Brays Bayou
RICHMOND
WESTPARK
ALIEF CLODINE
HARWIN
WILCREST
BOONE
KIRKWOOD
COOK
DAIRY ASHFORD
SYNOTT
ELDRIDGE
BELLAIRE
WINKLEMAN
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

Buffalo Bayou
WASHINGTON
Kiest Park
Scottie Park
Cleveland Park
Memorial Park
Hogg Bird Sanctuary
Eastwood Park
Buffalo Bayou Tandy Park
Polly Vernon Park
Fonde Community Center
Albert Thomas Plaza
Jones Hall Plaza
Coliseum Music Hall Park
City Hall Annex Plaza
Frank Houston Park
Sesquicentennial Park
Cistern Park
Allen's Landing
James Bute Park
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

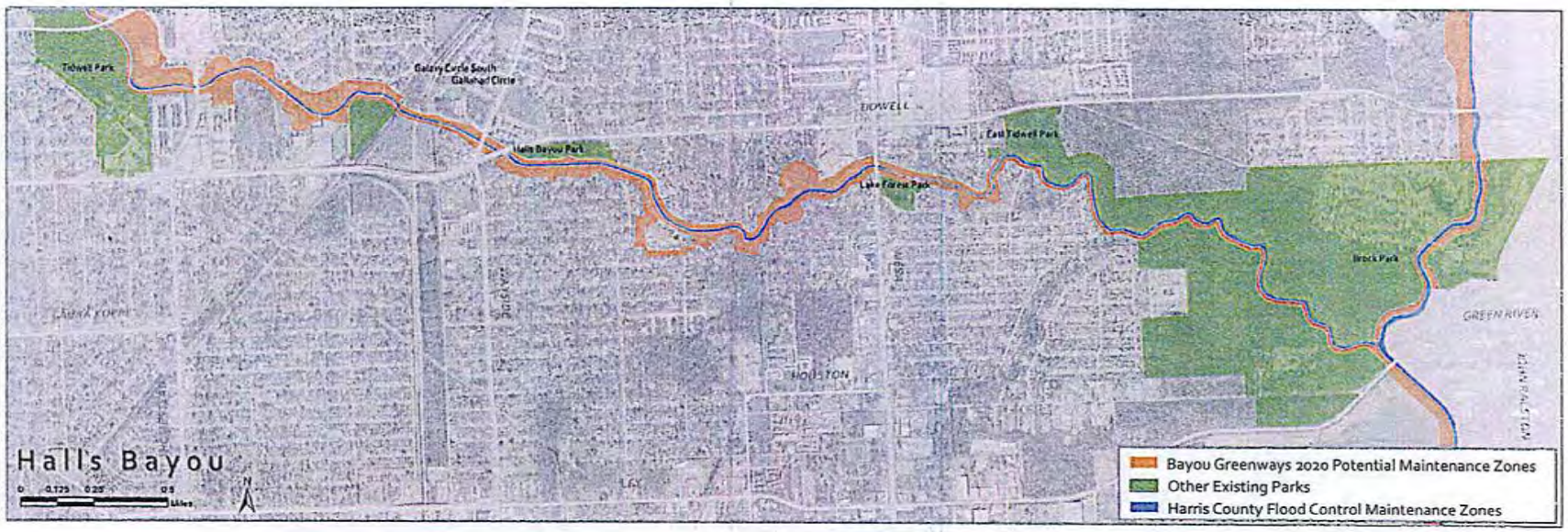

SCHUMIER
WYSIDE
TELEPHONE
MONROE
HALL
KINGSPORT
HYACINTH
PEARLAND
El Franco Lee Park
BLACKHAWK
MAIN
HUGHES
Clear Creek
0 0.125 0.25 0.5 Miles
N
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones


CARTER
WYSIDE
SCOTT
FURMAN
KARALIS
FELLOWS
FELLOWS
FURMAN
Tom Bass Regional Park
Christa V. Adair
TUCKER
CHRIS
Clear Creek
0 0.125 0.25 0.5 Miles
N
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

Greens Bayou
JOHN RALSTON
BEAUFIGNT
LAKE HOUSTON
Texaco Country Club
Strickland Park
Greenspoint Corridor
NORMANDY
Greens Bayou Park
Cloakie Moody Park
Maury Park
MAXEY
WALLISVILLE
Herman Brown Park
HOLLAND
WOODFOREST
MARKET
FEDERAL
DATES
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

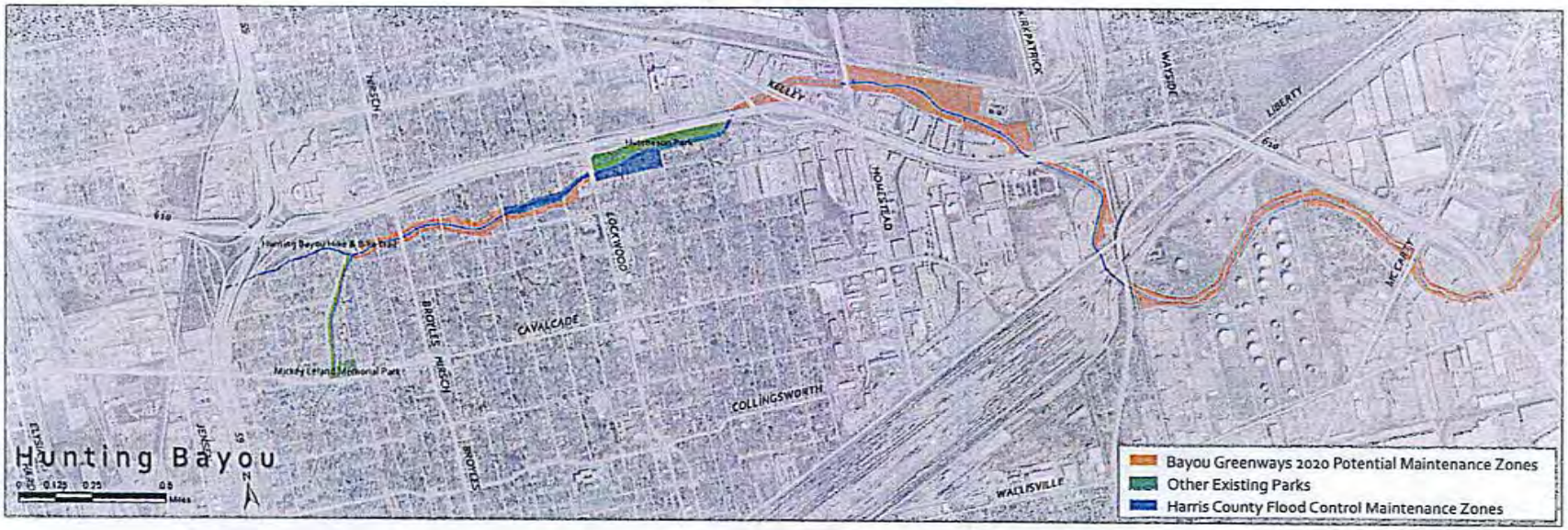
Greens Bayou
JOHN RALSTON
GARRETT
GREEN RIVER
BEAUMONT
Brock Park
LEY
TIDWELL
MADERA
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

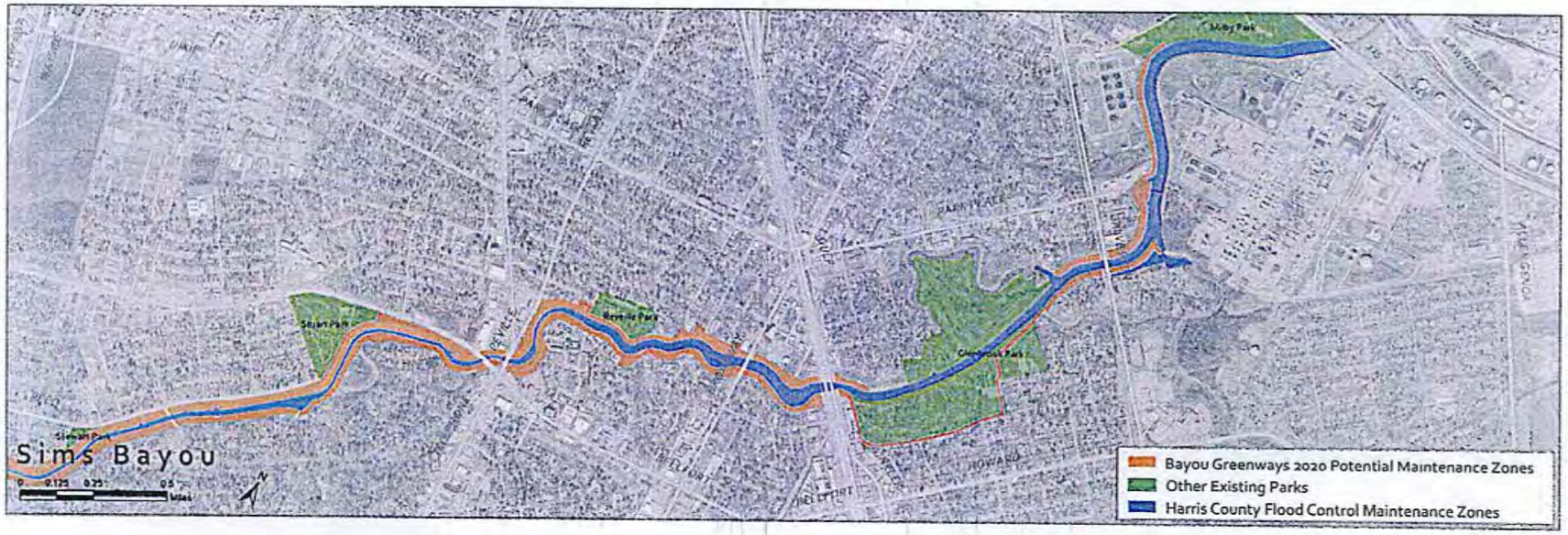
Greens Bayou
SPEARS
RANKIN
NORTHBOROUGH
ELLA
HARDY
HARDY AIRPORT CONNECTOR
OLD GREENS
GREENS
GEARS
TC JESTER
GREENS CROSSING
GREENSPOINT
IMPERIAL VALLEY
HARDY TOLL ROAD
FALLBROOK
ALDINE BENDER
AIRLINE
LILLA
ALDINE
VETERANS MEMORIAL
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones


Hall's Bayou
Tidwell Park
Galena Circle South
Galena Circle
DOWELL
Hall's Bayou Park
East Tidwell Park
Lake Forest Park
Brock Park
GREEN RIVER
HOUSTON
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

Halls Bayou
Keith Weiss Park
Tidwell Park
Pinewood Village Park
Mary Wilson Park
Bretshire Park
Shady Lane Park
TIDE
BENTLEY
LITTLE YORK
LANGLEY
HOPPER
PARKER
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

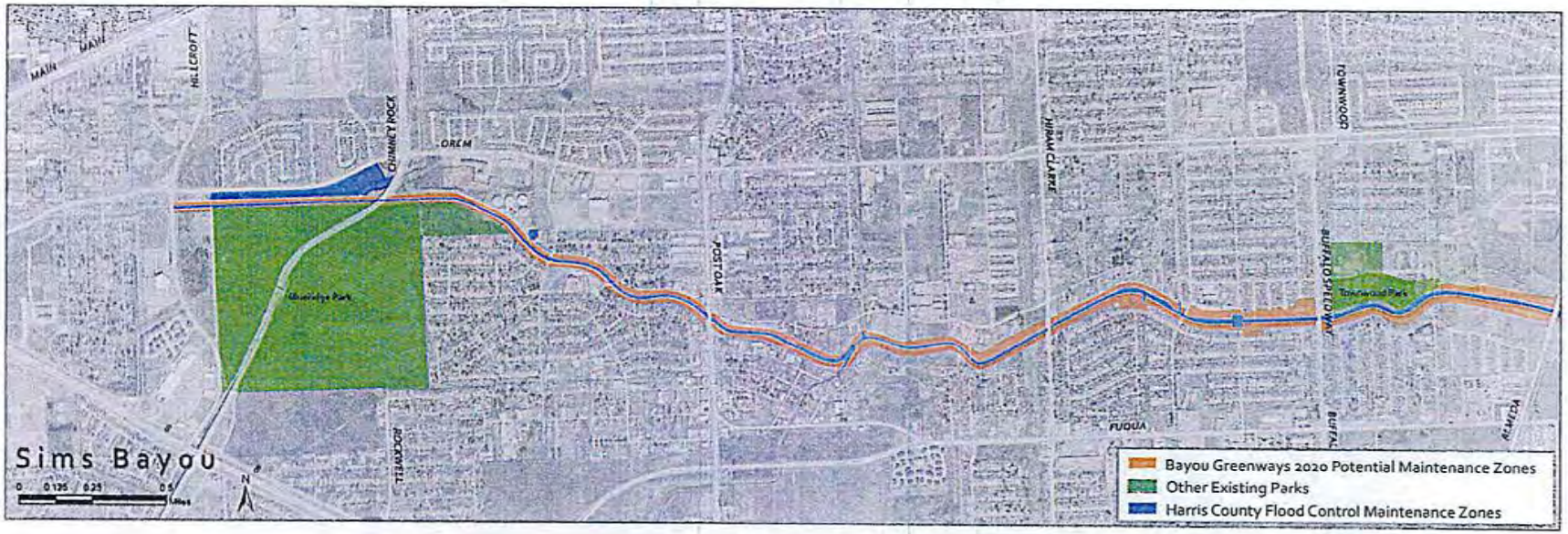
Hunting Bayou
HOUSTON ACRES
HAYSIDE
LIBERTY
MC CARTY
MESA
WALLISVILLE
GELLHORN
OATES
WOODFOREST
Hermann Brown Park
Hardy Park
JOHN RALSTON
MERCURY
MARKET
FEDERAL
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

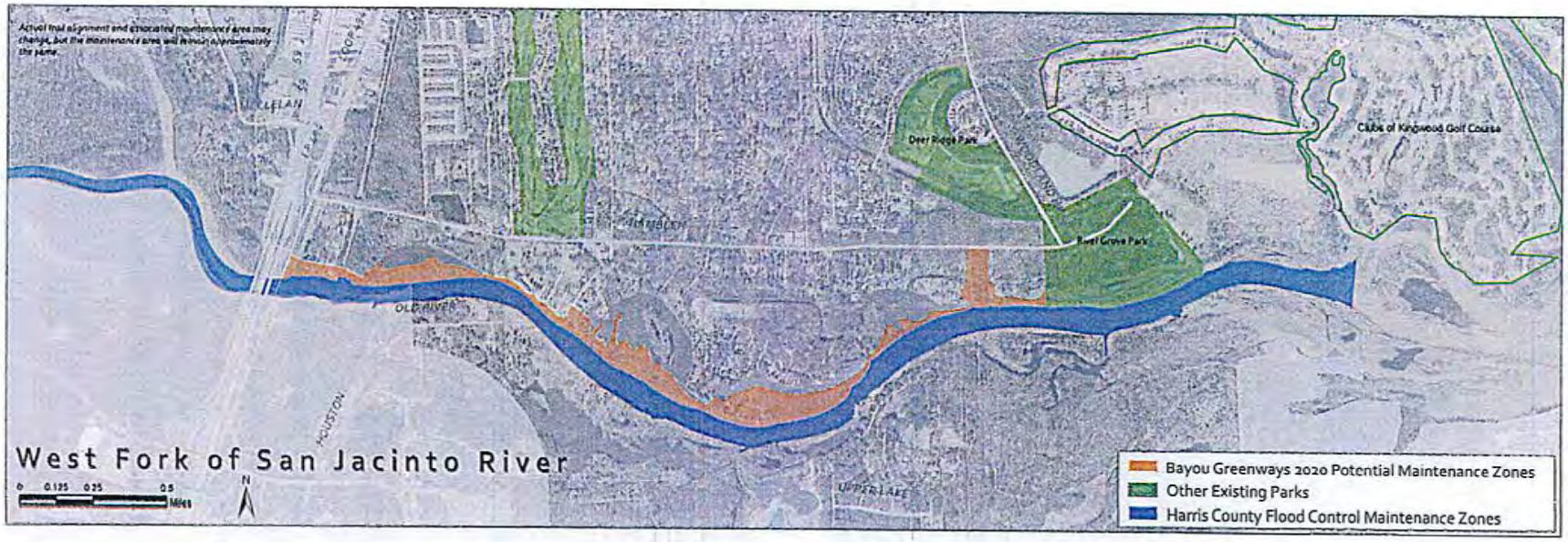

Hunting Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones
KELLY
KIRKPATRICK
WAYSIDE
LIBERTY
HESTON
HOMESTEAD
LOCKWOOD
CAVALCADE
BROTLES
COLLINGSWORTH
WALLISVILLE
MCKEE
JENSEN
ELSWORTH


Sims Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones
PARK PLACE
HOWARD
BELFORT

Sims Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones
SCOTT
RUTLAND
MARTIN LUTHER KING
CRESTMONT
WAYSIDE
MYKAWA
BELLFORT
REED
SOUTH ACRES
CULLEN
AIRPORT
Lew Park
Stewart Park

Sims Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones
AIRPORT
SCOTT
OREM
TOWNWOOD
BUFFALO SPEEDWAY
ALMEDA
ALMEDA GENOA
FUQUA
PINKMAN
Townwood Park
Scotland Park


Sims Bayou
MAIN
HILLCROFT
CHIMNEY ROCK
OREM
POST OAK
HIRAM CLARKE
TOWNWOOD
BUFFALO SPEEDWAY
FUDGA
ROCKWELL
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones


Actual trail alignment and associated maintenance area may change, but the maintenance area will remain approximately the same.
West Fork of San Jacinto River
Deer Ridge Park
River Grove Park
Clubs of Kingwood Golf Course
OLD RIVER
HOUSTON
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

White Oak Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

White Oak Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

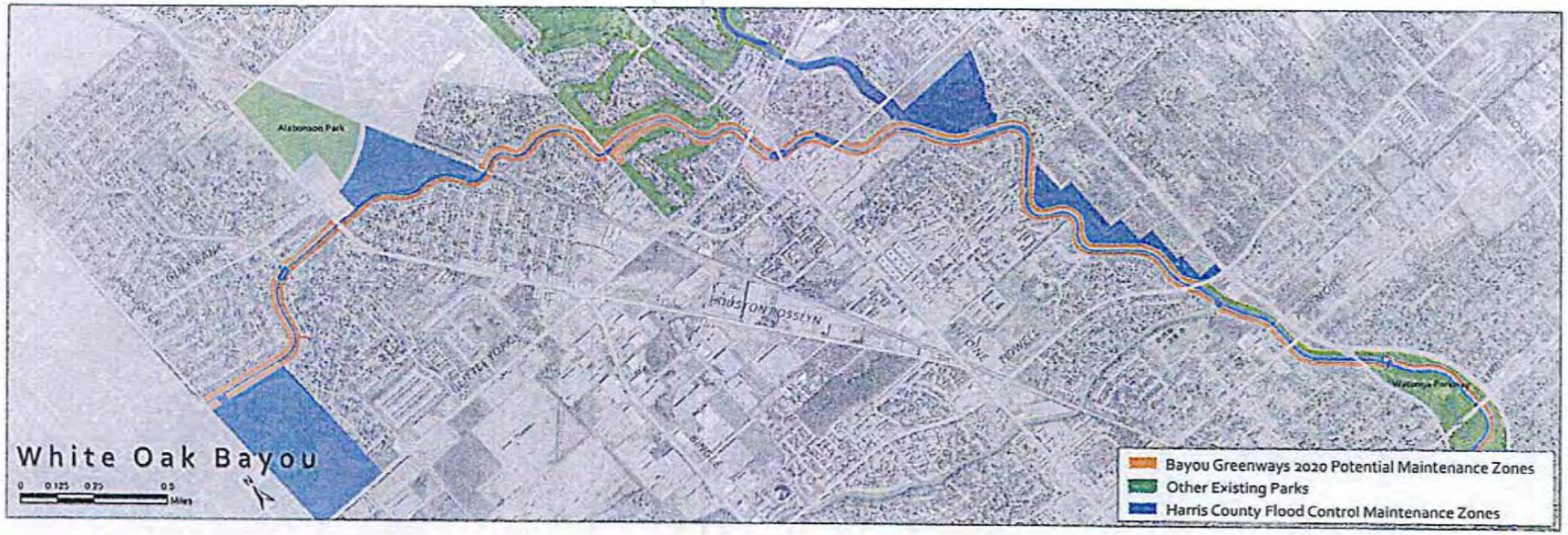

White Oak Bayou
Bayou Greenways 2020 Potential Maintenance Zones
Other Existing Parks
Harris County Flood Control Maintenance Zones

EXHIBIT B – GENERAL MAINTENANCE STANDARDS, TASKS, AND FREQUENCY

Expanded Uplands (Urban Parkland, Forested Fringe, Bottomland Forest)

Landscape Types (Components)	General Maintenance Standard	Key Tasks	Frequency	Comments
Lawn	Well groomed; except after flood events and during droughts. Kept usable for events. Regularly mowed and clear of litter and debris.	Mow and trim Aerate high use areas (5% of area) Seed bare or thin spots Remove litter Inspect and clear leaves from surface of catch basins Prune trees	27x/year or more often if needed 1x/year or more often if needed 1x/year or more often if needed 52x/year or more often if needed 1x/month, or after major rain event 1x/year or more often if needed	High visibility/use landscape to be maintained at high level. Larger areas may support some small events. Mowing frequencies are subject to seasons, periods of drought, and rainfall.
Meadow	Managed meadow; maintained at heights between 6"- 30". Less than 30% undesirable species permitted Mowing cycles should coincide with flowering meadow blooming cycles.	Mow 3x/year to a height of 6". Monitor and control undesirable species levels Overseed flowering species in select areas (25% of area) Remove litter (all perimeter areas including channel edges) Prune trees	3x/year or more often if needed 1x/year or more often if needed 1x/year 52x/year 1x/year or more often if needed	Meadow areas within the Expanded Uplands will experience less annual flooding than meadow areas within the Bayou Bank areas. Expanded Upland meadow maintenance can focus more on refining species mixture/ increasing flowering species percentages due to reduced flood effects. (See Part 1, Section C.II.e for list of undesirable species).
Woodland	Managed woodland; maintained understory and canopy edge.	Remove litter (perimeter areas and accessible channel edges) Inspect and prune dead/dying tree limbs at woodland edges and any visible or high profile areas Clear and remove fallen trees/branches at woodland edges Manage/remove undesirable species in select areas (woodland edges and high use/visibility areas)	27x/year or more often if needed 1x/year or more often if needed 1x/year or more often if needed 1x/year or more often if needed	Woodland areas within the Expanded Uplands will experience less annual flooding than woodlands located within the Bayou Banks. Woodland maintenance in the Expanded Uplands can focus more efforts on refining understory species mixture and tree canopy health.
Paving and Infrastructure	Clean, safe, well maintained surfaces with no visible damage. Well maintained infrastructure (bridges, crossings) with no visible damage.	Remove litter (all paving surfaces and infrastructure) Blow grass clippings from paving surface after lawn mowing Inspect, repair, and maintain paved surface Inspect and clear leaves from surface of catch basins Inspect, repair, and maintain bridges and infrastructure Inspect and maintain bridge lighting (both over and under) Remove dead or dying tree branches along trails and paving	52x/year or more often if needed 27x/year or more often if needed 1x/year 1x/month, or after major rain event 1x/year or more often if needed 4x/year As needed, upon detection	High use areas to be maintained at high level.
Seating Areas	Clean, well maintained site furnishings and amenities with no visible damage (Benches, trash/recycling, drinking fountains, signage components).	Empty trash/recycling stations Clean, Inspect, and maintain site amenities and signage components Repair site amenities and signage components	80x/yr or more often if needed 2x/year and after flood events As needed, upon detection	Trash/recycling schedules will fluctuate based on location and use patterns.
Secondary Trails	Well maintained; except after flood events and during droughts. Regularly cleared of undesirable vegetation and clear of litter, debris, and tree limbs.	Clear trail of any undesirable or encroaching growth Remove Litter Clear and remove fallen trees/branches Inspect and prune dead/dying tree limbs over or near trail	27x/year or more often if needed 27x/year or more often if needed As needed, upon detection 1x/year or more often if needed	Secondary trails are present within Woodland and Meadow Landscapes. Some areas may experience heavy user traffic and may need to be temporarily closed for clearing.

Bayou Banks (Urban Channel, Forested Fringe, Bottomland Forest)				
Landscape Types (Components)	General Maintenance Standard	Key Tasks	Frequency	Comments
Meadow	Managed conservation meadow; maintained at heights between 6"-30". Up to 50% undesirable species permitted. Mowing cycles should coincide with flowering meadow blooming cycles.	Mow or string trim to a height of 6" Monitor and control undesirable species levels Overseed flowering species (select areas, approx. 15% of area) Remove litter in all visible areas per Part I - Section B (II)i Prune trees	3x/year or more often if needed 1x/year or more often if needed 1x/year 52x/year 1x/year or more often if needed	Conservation meadows located within the Bayou Banks will experience frequent flooding which may cause a shift in maintenance focus to more undesirable species control efforts. A lower area percentage of flowering species overseeding will be done in these areas, approximately 15%. (See Part 1, Section C.II.e for list of undesirable species).
Woodland	Managed woodland; maintained understory and canopy edge.	Remove litter (all perimeter areas) Inspect and prune dead/dying tree limbs at woodland edges and any visible or high profile areas Clear and remove fallen trees/branches at woodland edges Manage/remove undesirable or destructive species in select areas (woodland edges and high use/visibility areas)	27x/year or more often if needed 1x/year or more often if needed 1x/year or more often if needed 1x/year or more often if needed	Frequent flooding of Bayou Bank Woodland areas will impact basic maintenance requirements. More effort may be required to maintain reduced levels of undesirable species' and removal of dead or dying trees and tree limbs.
Paving and Infrastructure	Clean, safe, well maintained surfaces with no visible damage. Well maintained infrastructure (bridges, crossings) with no visible damage.	Remove litter (all paving surfaces and infrastructure) Blow grass clippings from paving surface after lawn mowing Inspect, repair, and maintain paving surface Inspect and clear leaves from surface of catch basins Inspect, repair, and maintain bridges and infrastructure Inspect and maintain bridge lighting (both over and under) Remove dead or dying tree branches along trails and paving	52x/year or more often if needed 27x/year or more often if needed 1x/year 1x/month, or after major rain event 1x/year or more often if needed 4x/year As needed, upon detection	High use areas to be maintained at high level. Paving and infrastructure located in the Bayou Banks may experience more frequent damage due to flooding and will require inspection after flood events and repair on an as needed basis.
Seating Areas	Clean, well maintained site furnishings and amenities with no visible damage (Benches, trash/recycling, drinking fountains, signage components).	Empty trash/recycling stations Clean, inspect, and maintain site amenities and signage components Repair site amenities and signage components	80x/yr or more often if needed 2x/year and after flood events As needed, upon detection	Some seating areas along Multi-use Trails will experience frequent flooding. Immediate inspection, cleaning, and repair of site amenities will be required after flood water has receded.
Secondary Trails	Well maintained; except after flood events and during droughts. Regularly cleared of undesirable vegetation and clear of litter, debris, and tree limbs.	Clear trail of any undesirable or encroaching growth Remove Litter Clear and remove fallen trees/branches Inspect and prune dead/dying tree limbs over or near trail	27x/year or more often if needed 27x/year or more often if needed As needed, upon detection 1x/year or more often if needed	Secondary trails are present within Woodland and Meadow Landscapes. Some areas may experience heavy user traffic and may need to be temporarily closed for clearing.

Trailheads

Landscape Types (Components)	General Maintenance Standard	Key Tasks	Frequency	Comments
Lawn (with potential additional plantings)	Well Groomed; Regularly mowed, maintained, cleaned, and clear of litter and debris.	Mow and trim Aerate high use areas Seed bare or thin spots Remove Litter (Prior to mowing) Inspect and clear leaves from surface of catch basins Prune and maintain trees, shrubs, and planting beds Water high maintenance planting areas	27x/year or more often if needed 1x/year or more often if needed 1x/year or more often if needed 52x/year or more often if needed 1x/month, or after major rain event 4x/year or more often if needed As needed during drought periods	High visibility/use landscape to be maintained at high level. Several trees as well as shrub plantings, ornamental grasses, or planting beds may be present in these areas. Mowing frequency may need to be adjusted during periods of drought conditions or frequent rainfall. Hand watering of selected planting areas may be required during periods of drought.
Paving and Infrastructure	Clean, safe, well maintained surfaces with no visible damage. Well maintained infrastructure with no visible damage.	Remove litter (all paving surfaces and infrastructure) Blow grass clippings from paving surface after lawn mowing Inspect, repair, and maintain paving surface Inspect and clear leaves from surface of catch basins Inspect, repair, and maintain bridges and infrastructure Inspect and maintain bridge lighting (both over and under) Remove dead or dying tree branches along trails and paving	52x/year or more often if needed 27x/year or more often if needed 1x/year 1x/month, or after major rain event As needed, not less than 1x/year 4x/year As needed, upon detection	Paving located at Trailheads will provide vehicular entry and parking as well as pedestrian and bike access. Maintenance of these areas will be more intensive than Multi-use Trail paved areas.
Seating Areas	Clean, well maintained site furnishings and amenities. (Benches, picnic tables, information kiosks, signage, drinking fountains, trash/recycling, bike racks).	Empty trash/recycling stations Clean, inspect, and maintain site amenities and signage components Repair site amenities and signage components	80x/yr or more often if needed 2x/year and after flood events As needed, upon detection	Trailheads will be located in high use, high visibility areas along roadways and Greenway access points. A high level maintenance standard will be required at these areas.

Multi-Use Trails

Landscape Types (Components)	General Maintenance Standard	Key Tasks	Frequency	Comments
Lawn (Strips adjacent to concrete trail)	Well groomed; except after flood events and during droughts. Regularly mowed and clear of litter and debris.	Mow and trim Aerate required areas (approx. 10% of area) Aerate required areas (approx. 10% of area) Remove Litter	27x/year or more often if needed 1x/year or more often if needed 1x/year or more often if needed 52x/year or more often if needed	High visibility/use landscape to be maintained at high level. High user traffic will increase areas of bare, thin, and compacted lawn areas. Mowing frequencies are subject to seasons, periods of drought, and rainfall.
Paving and Infrastructure	Clean, safe, well maintained surfaces with no visible damage. Well maintained infrastructure (bridges, crossings) with no visible damage.	Remove litter (all paving surfaces and infrastructure) Blow grass clippings from paving surface after lawn mowing Inspect, repair, and maintain paving surface Inspect and clear leaves from surface of catch basins Inspect, repair, and maintain bridges and infrastructure Inspect and maintain bridge lighting (both over and under) Remove dead or dying tree branches along trails and paving	52x/year or more often if needed 27x/year or more often if needed 1x/year 1x/month, or after major rain event 1x/year or more often if needed 4x/year As needed, upon detection	Paving surface cleaning of litter and debris should be performed immediately after mowings. Multi-use trails will be the main user surface along the greenways and should be maintained in a safe, usable condition at all times.
Seating Areas	Clean, well maintained site furnishings and amenities with no visible damage (Benches, trash/recycling, drinking fountains, signage components).	Empty trash/recycling stations Clean, inspect, and maintain site amenities and signage components Repair site amenities and signage components	80x/yr or more often if needed 2x/year and after flood events As needed, upon detection	Seating Areas will be located periodically along Multi-use Trails. A high level maintenance standard will be required at these areas.

Flood Clean-up

Landscape Types (Components)	General Maintenance Standard	Key Tasks	Priority Level	Comments
Multi-use Trails Trailheads	Debris removed within 1 week. Silt removed from paved surfaces after all minor and major flood events within 2 weeks after water recedes to ensure trails and access points are safe and usable.	Remove debris from entire area including planting areas. Remove silt from hardscape areas after each flood event so that use of the trails can begin. Remove and clean silt and mud from all site furnishing and signage. Power wash any surfaces if necessary.	1	Proper equipment must be used to limit disturbance and damage to landscapes and surfaces. USACE regulations restrict washing any silt deposits into the channel.
Lawns	Debris removed within 2 weeks. Silt removed from lawn areas when deposits negatively impact the health of lawn areas or has a negative visual impact (~4" above design elevation).	Remove debris from entire lawn area after flood event. Remove silt from lawn areas when a noticeable buildup occurs (~ 4" depth).	2	Proper equipment must be used to limit disturbance, compaction, and damage to landscape.
Meadows	Debris removed within 2 weeks. Silt removed from meadow areas when deposits negatively impact the health of lawn areas or has a negative visual impact (~12" above design elevation).	Remove debris from entire meadow area after flood event. Remove silt from meadow areas when a noticeable buildup occurs (~ 12" depth).	3	Proper equipment must be used to limit disturbance, compaction, and damage to landscape.
Secondary Trails	Debris removed within 2 weeks. Silt removed from trail sections when deposits reach a height of ~12" above design elevation.	Remove debris from entire trail length after flood event. Remove silt from trails when a noticeable buildup occurs (~12" depth).	4	Proper equipment must be used to limit disturbance, compaction, and damage to landscape.
Woodlands (Visible areas only)	Debris removed within 2 weeks. Silt removal to occur only in woodland areas if determined to be a public health or safety issue.	Remove debris from woodland edges area after flood event. Replant where appropriate, subject to extent of damage, funding, and season.	5	Proper equipment must be used to limit disturbance, compaction, and damage to landscape.

Vandalism

Categories	General Maintenance Standard	Key Tasks	Comments
Graffiti	Graffiti removed within 72 hours of reporting.	Graffiti to be removed within 72 hours of reporting. Report and coordinate with HPD when needed.	
Site Features	Properly maintained to ensure public use. Repairs to maintain design and detailing.	Repairs made to site features as soon as possible to ensure usability and safety. May be closed or fenced-off temporarily while waiting on materials or crew. Report and coordinate with HPD when needed.	
Landscapes	Properly maintained to ensure aesthetics, public use, and proper function of other park systems, drainage, stormwater runoff, etc.	Damaged areas may be closed or fenced-off temporarily. Replanting subject to extent of damage, funding, and season. Report and coordinate with HPD when needed.	Landscape vandalism includes trailblazing areas. Vandalizing of greenway areas to create trailbazed paths will be reported to the appropriate agency(s).
Heavy Trash Removal	Heavy trash (other than typical litter) removed within 2 weeks of reporting.	Heavy trash removed within 1 week. Report and coordinate with HCFCD when needed.	Heavy trash such as old tires and furniture may be dumped along properties comprising the bayou greenways. Depending on severity and frequency, a funding request may be required from the Maintenance Reserve Fund.

EXHIBIT C – LANDSCAPE CATEGORY PLAN DIAGRAM

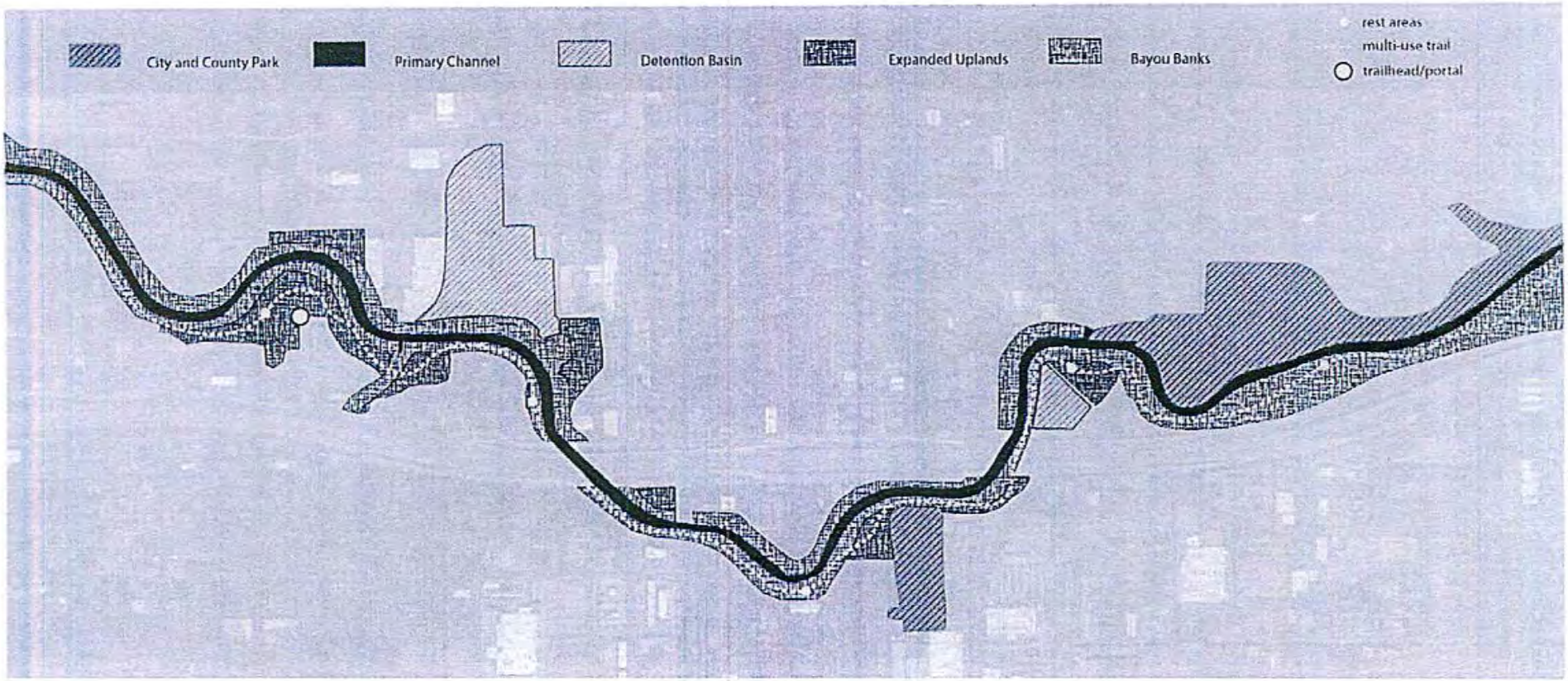

City and County Park
Primary Channel
Detention Basin
Expanded Uplands
Bayou Banks
rest areas
multi-use trail
trailhead/portal

EXHIBIT D – LANDSCAPE CATEGORY TYPICAL SECTION

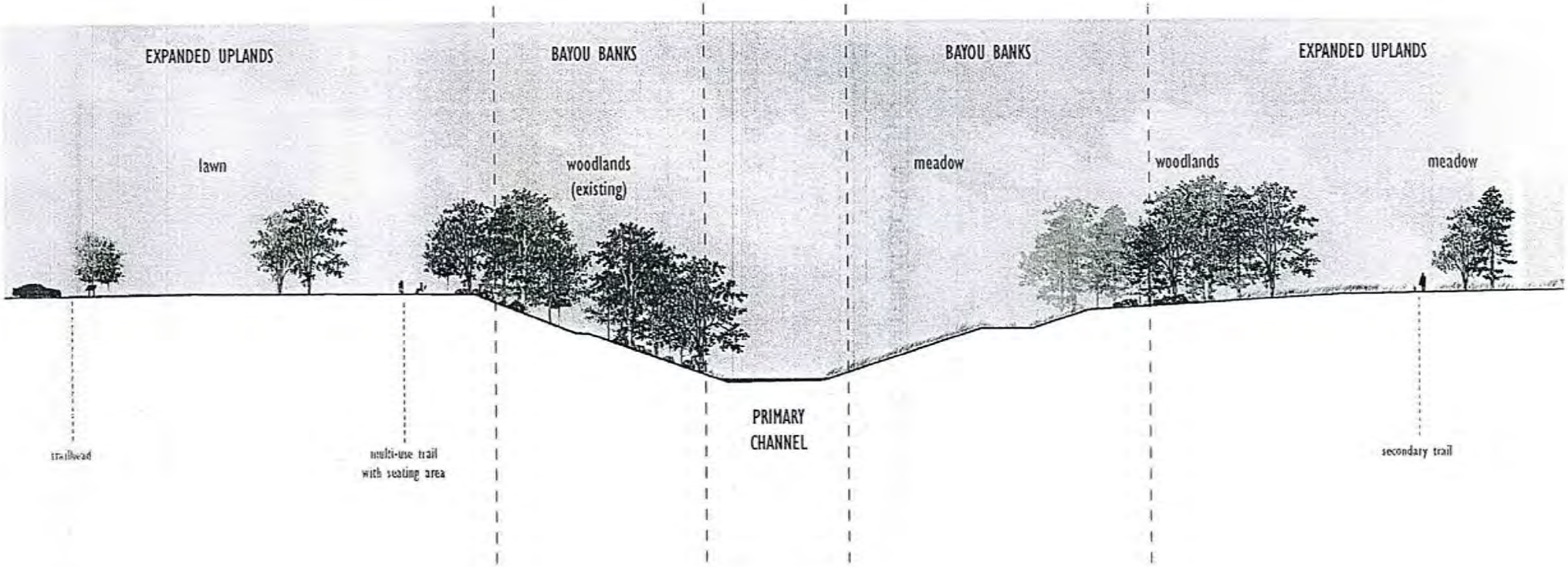

EXPANDED UPLANDS
BAYOU BANKS
BAYOU BANKS
EXPANDED UPLANDS
lawn
woodlands
(existing)
meadow
woodlands
meadow
PRIMARY
CHANNEL
trailhead
multi-use trail
with seating area
secondary trail

EXHIBIT D-1

PHASE IN SCHEDULE

FYE	2013 $ BASE MAINTENANCE FEE $ (HPB OPERATING ACCOUNT)
2015	4,570,000
2016	5,778,000
2017	6,985,000
2018	7,951,000
2019	8,434,000
2020	8,917,000
*2021	9,400,000

Note: The fiscal year dates reflected above are the end dates of such fiscal year. By way of example, fiscal year 2015 is the fiscal year commencing on July 1, 2014 and concluding on June 30, 2015.

**Per Section IV.D.1 of the Agreement, the Base Maintenance Fee for fiscal year end 2021 is estimated to be $9,400,000 in fiscal year 2013 dollars.*

EXHIBIT D-2

CAPITAL REPLACEMENTS RESERVE

Capital Replacements Reserve Needs	
FYE Year	Cost
2015	$ 524,000
2016	$ 535,000
2017	$ 545,000
2018	$ 556,000
2019	$ 567,000
2020	$ 921,000
2021	$ 940,000
2022	$ 837,000
2023	$ 490,000
2024	$ 532,000
2025	$ 543,000
2026	$ 553,000
2027	$ 574,000
2028	$ 879,000
2029	$ 897,000
2030	$ 1,199,000
2031	$ 1,223,000
2032	$ 1,258,000
2033	$ 1,283,000
2034	$ 1,309,000
2035	$ 1,652,000
2036	$ 1,707,000
2037	$ 1,741,000
2038	$ 2,053,000
2039	$ 2,030,000
2040	$ 2,810,000
2041	$ 2,984,000
2042	$ 3,068,000
2043	$ 3,130,000
2044	$ 3,076,000
2045	$ 3,137,000
2046	$ 3,208,000
2047	$ 3,347,000
2048	$ 4,200,000
2049	$ 4,285,000
2050	$ 4,432,000
2051	$ 4,545,000
2052	$ 4,636,000
2053	$ 4,791,000

Note: The fiscal year dates reflected above are the end dates of such fiscal year. By way of example, fiscal year 2015 is the fiscal year commencing on July 1, 2014 and concluding on June 30, 2015. In addition, the above reflects a 2% annual increase in the cost of materials and labor and reflect the numbers that are currently expected to calculate the Ten-Year CIP and the Maximum Capital Replacement Reserve Cap for the initial term of this Agreement only.

ATTACHMENT
C-1

Collaboration in Science and Technology Inc.
CONSULTANTS IN ACOUSTICS, NOISE, AND VIBRATION

21 July 2017

MEMORANDUM No. M-1029-0

CSTI Job No. 6560

To: Ms. Mary Conner, Irvine & Conner

From: Arno Bommer, CSTI acoustics

Subject: CSTI Review of I-45 DEIS Noise Study

Dear Ms. Conner,

The Texas Department of Transportation (TxDOT) has issued a Draft Environmental Impact Statement for North Houston Highway Improvement project. The proposed project will consist of improvements to I-45 from Beltway 8 south to the intersections with I-10 and I-69. Details on the noise impacts of the project are discussed in Appendix I, the Traffic Noise Technical Report.

In this Memorandum, CSTI acoustics presents our review, concerns, and recommendations for the noise issues of this project.

1. No Quantitative Barrier Analysis

The DEIS does not include a quantitative analysis of any noise barriers. The criteria for a barrier being feasible and reasonable can be determined only as part of a quantitative analysis. If such an analysis is first made available to the public in the Final EIS, there will be little or no opportunity for TxDOT to make revisions based on community feedback. This could be alleviated with a supplement to the Traffic Noise Technical Report issued prior to the FEIS. We would request that such a supplement address all of the noise issues raised in these comments.

2. No Consideration of Noise Barriers for Mixed Adjacent Blocks

Section 5.0 of the Traffic Noise Technical Report states that for adjacent blocks that are less than 50% residential, "abatement was not considered feasible and reasonable." This may be based on the need for commercial access or visibility, though this is not clearly stated. Some commercial property adjacent to frontage roads has access from roads other than the frontage roads; however, these sites are considered just like commercial property that has direct access only from the frontage road. This elimination of areas from consideration for noise barriers occurs even before the quantitative noise analysis. We recommend an analysis of all appropriate sites for noise barriers without eliminating sites based on an arbitrary percentage of commercial properties within the block. For some sites, a barrier will not be feasible, but that decision should be made based on the specifics of the site, not general conditions.

The evaluation of the land use also considered "potential for commercial development" meaning that noise barriers would not be considered for residential areas based on vacant land adjacent to the residences even if there are no existing commercial facilities. This method of eliminating residences from consideration for noise barriers is not discussed in TxDOT's Guidelines for Analysis and Abatement of Roadway Traffic Noise.

Wealthier neighborhoods often have deed restrictions that homogenize land use, while poorer areas often have mixed uses and more vacant lots. The method of eliminating the consideration of barriers for these mixed areas results in less consideration of noise reduction for poorer neighborhoods.

3. No Evaluation of Barriers between Mainlanes and Feeder Road or on Elevated MaX Lanes

Section 5.0 of the Traffic Noise Technical Report states:

- Traffic noise barriers would be located along the outside of the frontage road/ROW where barriers could be continuous, without gaps for driveways or streets.
- Traffic noise barriers could also be located in between mainlanes and frontage roads.

However, the Traffic Noise Technical Report does not provide any discussion of barriers between the mainlanes and feeder roads. Although not always as effective as barriers at the edge of the ROW, barriers at this location can still be very effective, blocking noise from 14 of the 16 total lanes of traffic in Segment 2 where there are only 2 lanes of frontage road. Frontage roads also have slower speed limits, so traffic on frontage roads create relatively low levels of noise even without a noise barrier.

In areas where the MaX lanes are elevated, they could also be treated with a moderate-height barrier at the edge of the elevated structure. This possible location of a barrier should specifically be considered since noise from elevated roads without barriers can penetrate further into nearby neighborhoods as it readily propagates over first-row buildings. As the road structure must be designed to support the barrier load, this type of treatment is very difficult to retrofit later.

In areas where the mainlanes are depressed, a moderate-height barrier along the edge of the depressed lanes may be especially effective and will not affecting visibility of commercial uses, which is already partially or totally eliminated due to the depression.

The issue of access to commercial sites along frontage roads is being used in the noise study to prevent consideration of noise barriers in areas with mixed commercial and residential uses. A barrier on elevated MaX lanes and between the frontage road and mainlanes would provide noise reduction while still allowing access along the frontage road.

4. Other Noise Barrier Options

Barriers located between the commercial properties along the frontage road and the residences behind can be effective at reducing noise in the residences while still allowing commercial access. This is not traditionally allowed by TxDOT rules since the barrier would not be on the TxDOT ROW. For other projects, we understand that TxDOT has at least considered building a wall between commercial and residential property if some sort of easement was provided. This should be considered an option for residential areas that cannot be protected with traditional barrier location.

If there is a concern about the visibility of commercial sites along the feeder road when a barrier is built between the feeder and mainlanes, there are transparent noise barriers. Though these are expensive than traditional barriers, they can be durable and can provide both visibility and noise reduction.

5. No Consideration of Quiet Pavement

For noise reduction, barriers are discussed, but there is no discussion of quiet pavement. There are a number of options for quiet pavement. TxDOT may have concerns about the long-term durability of some options such as porous asphalt, but longitudinal tining is durable and has recently been applied by TxDOT to the I-10 Katy Freeway resulting in significantly reduced sound levels.

Pavement treatments reduce tire noise but not engine noise. With the high percentage of automobiles on I-45, tire noise is the dominant sound source.

Barriers are most effective at locations just behind the barrier. Quiet pavement reduces sound at the source and is therefore effective at reducing traffic noise throughout the highway corridor including areas where a barrier is not feasible or reasonable and residences, parks, schools, and other land uses set back several blocks from the ROW.

6. Bikeways (Current and Future) Not Considered as Parks

The Houston Bike Plan was adopted by City Council on March 22, 2017. It includes a bike path along Little Whiteoak Bayou extending from just north of I-10 to north of 610. The route is immediately adjacent to I-45 for much of the route, primarily on the west side of I-45. The bike path currently exists along segments of this route. For the purpose of the noise analysis, the bike path should be considered a park as it will be used for park activities (biking, running, and walking).

Section 5.0 of the Traffic Noise Technical Report states that "Potential for commercial development was also considered in the evaluation." If a vague potential for commercial use can be used to prevent consideration of noise barriers, a city-approved, partially built bikeway plan should be considered as justification for the use of noise-control treatments.

Site S1-R164, Little White Oak Trail. may represent this partially existing bikeway. However, the specific site selected for evaluation in the DEIS is set much further back from I-45 than most of the proposed path and has therefore been assessed as having no noise impact.

7. Park Uses

One of the key issues for the evaluation of barriers being "reasonable" in parks is the assessment of cost effectiveness (typically cost per benefited residence). The TxDOT guidelines call for the land area of the Category C (like parks) or D land use facility to be "divided by the representative receptor single family residential lot size development within the study area." For actual residences, the first row of houses is considered separately since housing behind this row is partially shielded with the first row of housing acting as a noise barrier. For the park, there will be no such barrier of housing, so the entire impacted area should be considered when evaluating cost effectiveness, not just the area directly adjacent to the frontage road.

Although some parks are small and located in noise-impacted areas, large parks adjacent to the highway corridor typically extend from impacted to non-impacted areas. Non-impacted parks or portions of large parks could still have sound levels that many would consider high though not exceeding the TxDOT criteria. Noise barriers typically benefit only a limited area of land just behind the barriers. Quiet pavement has a beneficial effect over a greater area, and will provide better benefits for parks that are either directly adjacent to and near the highway corridor.

8. Receivers with Noise Reduction (Positive Change)

The Traffic Noise Technical Report identifies locations where the proposed highway project will result in noise reduction, either due to roadway alignment or depression of the roadway. Although it is useful to understand that there may be some noise benefits of the project, properties with sound levels that will exceed the noise criteria must be considered for noise treatments even if their existing sound levels are even higher above the noise criteria.

For example, a residence modeled for current conditions may have a sound level of 70 dBA, exceeding the noise limit of 66/67. When modelled for the proposed highway, the sound level may be 68, a reduction of 2 dBA, but this is a level that still exceeds the noise requirements.

In Table 6 of the technical report, the percentage of impacted receivers plus the number of receivers with noise reduction add up to more than 100%. This is because some residences fall into both categories (impacted by noise above the noise limit but also with sound levels reduced below current conditions).

The figures in Appendix D of the Traffic Noise Technical Report show impacted sites in red but "potentially benefitted" sites in green. If a site is both impacted and "benefitted}, it is shown as green and not red (or some red/green combination). This fails to convey that many of these sites are in fact still impacted by noise over the criteria. This is misleading.

9. Worst Case Assumptions

23 C.F.R. § 772.9 states: "In predicting noise levels and assessing noise impacts, traffic characteristics that would yield the worst traffic noise impact for the design year shall be used."

It is important to select representative sites that are truly representative or are conservative (have slightly higher levels than typical). For example, Site S1-R164, Little White Oak Trail, is located far back from I-45 behind commercial buildings and has no noise impact. However, this trail is much closer to I-45 and would have a noise impact just a few hundred yards further south.

In the modeling, a speed of 60 mph was used for the mainlanes. Based on current patterns, sound levels currently exceed this speed, and higher actual speeds are also expected in the future.

Traffic capacity was based on current driving technology, but rapid advances in self-driving automobiles may bring substantial changes to traffic even before the planned highway is completed. One advantage of self-driving cars is the ability to reduce the spacing between vehicles, resulting in more vehicles per hour on each lane. This could result in increased noise. Modified traffic patterns with more truck traffic at night could also result in greater noise impacts.

Although TxDOT should not be expected to accurately predict the future, some conservative (increased noise) assumptions on traffic speed and volume would be prudent.

Let us know if you have any questions.

Sincerely,

COLLABORATION IN SCIENCE AND TECHNOLOGY INC.

Arno S. Bommer

ATTACHMENT
C-2

National Concrete Pavement Technology Center

September 2010

Surface Characteristics

Next Generation Grooving and Grinding Iowa Test Site Construction

James K. Cable

Final Report

National Concrete Pavement Technology Center

Iowa State University
Institute for Transportation

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle Surface Characteristics Next Generation Grooving and Grinding Iowa Test Site Construction		**5. Report Date** September 2010 **6. Performing Organization Code**
7. Author(s) James K. Cable and Paul Wiegand		**8. Performing Organization Report No.**
9. Performing Organization Name and Address National Concrete Pavement Technology Center Iowa State University [redacted]		**10. Work Unit No. (TRAIS)** **11. Contract or Grant No.**
12. Sponsoring Organization Name and Address Federal Highway Administration U.S. Department of Transportation [redacted]		**13. Type of Report and Period Covered** **14. Sponsoring Agency Code**
15. Supplementary Notes Visit www.cptechcenter.org for color PDF files of this and other research reports**.**		

16. Abstract

The National Concrete Pavement Technology Center (National CP Tech Center) has been involved in a surface characteristics project for six years (2004-2010) with the Federal Highway Administration (FHWA) and the American Concrete Pavement Association (ACPA). The objectives of that study are to investigate ways to reduce tire-pavement noise, while retaining surface friction, in both new and aged concrete pavements.

Much has been learned about the potential for using grinding methods to reduce noise, while retaining the frictional characteristics of the pavement surface, following the paving of a test section on US 30 in Tama County, Iowa in 2005. A Next Generation Concrete Surface (NGCS), which combines grooving and grinding, was identified, and the National CP Tech Center, in partnership with the International Grinding and Grooving Association (IGGA) and the Iowa Department of Transportation (Iowa DOT), decided to add this technology to the US 30 test site for evaluation.

The pavement will now be allowed to accommodate traffic for a period of greater than 30 days to allow both the texture to stabilize and the removal of any remaining residue from the grinding operation. At the end of that time, the three new sections will be tested in the same manner as the adjacent 18 sections to measure the surface characteristics resulting from the construction.

This report provides a detailed description of the construction of the three new sections: conventional diamond ground surface, standard ground surface with grooving, and NGCS.

17. Key Words	18. Distribution Statement
concrete pavement construction test site—concrete pavement surface characteristics—concrete pavement construction test site—next generation concrete surface—tire-pavement noise—US Highway 30-Iowa pavement test site	No restrictions.

19. Security Classification (of this report)	20. Security Classification (of this page)	21. No. of Pages	22. Price
Unclassified.	Unclassified.	44	NA

Form DOT F 1700.7 (8-72) **Reproduction of completed page authorized**

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Acknowledgements

The research staff wishes to thank the International Grooving and Grinding Association (IGGA) and the Grinding Division of Manatts, Inc. for their cooperation in the construction of this surface texture section of US 30. Special thanks also goes to the members of the Iowa Department of Transportation (Iowa DOT), Tama County maintenance staff and the Central Administration for their work in the traffic control area and allowing the three test segments to be constructed on an existing pavement. Without all of these partners' cooperation, the activity could not have happened. It is a pleasure to work in a state where all industry partners come together to make research happen.

Introduction/Background

The National Concrete Pavement Technology Center (National CP Tech Center) has been involved in a surface characteristics project for six years (2004-2010) with the Federal Highway Administration (FHWA) and the American Concrete Pavement Association (ACPA). The objectives of that study are to investigate ways to reduce tire-pavement noise, while retaining surface friction, in both new and aged concrete pavements.

In conjunction with a 2005 concrete paving project on US 30 in Tama County, Iowa, a series of 18 test sections of different surface textures were constructed. They included combinations of longitudinal and transverse tining, drag texturing, turf texturing, and one ground surface section.

Since 2005, much has been learned about the potential for using grinding methods to reduce noise, while retaining frictional characteristics of the pavement surface. Following the paving of the test section in Iowa, a Next Generation Concrete Surface (NGCS) that combines grooving and grinding was identified. The National CP Tech Center, in partnership with the International Grinding and Grooving Association (IGGA) and the Iowa Department of Transportation (Iowa DOT), decided to add this technology to the US 30 test site for evaluation.

Construction Objectives

The original objective of this construction was to build two sections of concrete surface that would provide one standard diamond ground surface and one NGCS for testing. Manatts, Inc., the contractor selected for this project, suggested the addition of a third section. This section would combine the standard ground surface with grooving for testing purposes. This suggestion was accepted by the Iowa DOT, IGGA, and National CP Tech Center staff.

Construction Process

The original 2005 surface characteristics project involved the eastbound two lanes of US 30 between a point ¾ mile east of the Marshall/Tama county line, easterly from Station 107+00 to Station 152+00 (metric) in Tama County. There existed some 700 meters between the end of these research sections and the end of the project, to allow for addition of the new grinding work. In July, 2010, the Iowa DOT changed the traffic control east of this project for completion of the next four-lane segment. In doing so, there was no longer adequate room for three test sections and traffic control on the 2005 surface characteristics project.

The research team found adequate space in the project just west of the 2005 surface characteristics project. This project was constructed prior to the 2005 project and extended from Stations 88+74.91, easterly to Station 107+00 (metric). A section from Station 100+00 to 106+00 was selected for the grinding test site. This site provided adequate site distance for traffic control and a tangent section of roadway. The roadway is on a +2.6368% grade from west to east.

Three test segments were identified between stations 100 and 106.

Test segment	Station	Surface
One	100+00 to 102+00	Next Generation concrete
Two	102+00 to 104+00	Conventional grind and grooved
Three	104+00 to 106+00	Conventional grind only

The contractor elected to do the work in three stages. The grinding train is shown in Figure 1 with two grinders and the associated water support equipment for Stage one. (All figures are in Appendix A.) Stage one consisted of grinding the entire surface between stations 100+00 and 106+00 to the best profile possible, while also removing much to all of the longitudinal tinning of the existing surface (See Figure 2).

This required the removal of up to ¼ inch of surface depth in some areas. This work was accomplished by the use of a Diamond Products PC 6000 with a 48-inch cutting head (See Figure 3). The pavement cross section consisted of a 4.2-meter (14-foot) driving lane and a 3.6-meter (12-foot) passing lane.

Work began in the outside lane, with the first pass being made adjacent to, but inside, the edge line and rumble strips. Figure 4 illustrates the visual difference in surface texture that comes from the standard grinding head with 18-inch-diameter blades, 0.125 inches in face width, with 0.11-inch spacers between blades. A close view of the finished standard grind surface is seen in Figure 5.

Four passes were made in this lane to complete it and this required that the grinding extend just to the left of the pavement centerline. Three passes were required in the passing lane to cover the area between centerline and the yellow edge line. This left approximately 10 inches between the centerline and the ground surface and 10 inches between the pavement edge and the ground surface. Edge line markings were retained in this operation, but the centerline was partially removed.

The second stage of the work involved the removal of any burrs from the surface with a special head 19 inches long with used 12-inch-diameter blades, 0.123 inches in width, stacked beside each other (no spacers) as seen in Figure 6. The worn blade faces allowed for a spacing of 0.004 inches between cutting surfaces. This was accomplished with a Diamond Products Model C-150 that worked immediately

behind the larger machine (See Figure 7). This work was done only on the segment one surface (station 100+00 to 102+00).

The work on stage one and two progressed across the driving lane until complete. A view of the traffic control used for this work is seen in Figure 8. When the driving lane stages one and two were completed, the equipment was loaded and removed from the work area to allow the Iowa DOT to switch the traffic to the driving lane from the passing lane.

Work continued in the passing lane in the same manner as the driving lane with grinding beginning at the outer edge and moving to the centerline. Grinding was accomplished with the same machines working in the same areas as was the case in the driving lane.

All of stage one and two work was completed between 8:05 a.m. and 7:30 p.m. Traffic control was removed by 8 p.m. on August 16, 2010. The finished product of stages one and two are shown in Figures 9 and 10, with the overall and close-up views of the diamond ground (standard and fine) surfaces. The change in surface texture from the longitudinal tinning to a finely ground surface obtained in stages one and two is illustrated in Figures 11 and 12.

Stage three involved switching out the 19-inch head on the C-150 machine for a 32-inch head that contained the new 12-inch diameter grooving blades with a 0.125-inch face width, spaced 0.75-inches, center to center of blade (See Figures 13 and 14). The cutting depth was established at 0.25-inches and checked with a tire tread gage. The same blade configuration was used for the NGCS and the standard longitudinal grooving segment.

This work began and was completed by 6:30 p.m. on August 17, 2010. The finished NGCS is illustrated in Figures 15 and 16. A view of the completed three-section project is shown in Figure 17, with the existing longitudinal tining texture in the foreground and the three test sections in the distance, to the top of the hill.

The detailed view and pavement lane surface for each finished product of this work are best illustrated in the Figure 18-26 photos:

Figures	Illustrate test section
18-20	NGCS
21-23	Conventional ground and grooved
24-26	Conventional ground

Slurry from the grinding and grooving operations was deposited in the outside ditch and median areas as the work progressed along the project length.

The test segments, as developed, do not expressly meet the NGCS guide specifications that have been developed by the ACPA and the IGGA (See Appendix B). Those guide specifications were not used on this project and are included in the appendix for information only. Final specifications for NGCS are yet to be developed.

The main differences between the guide specification and the US 30 construction relate to the texture on the "land" and the spacing and depth of the groove. The guide specification indicates a spacing of ½ to 5/8 inches with a depth of 1/8 to 3/16 inches. This project developed ¼-inch deep grooves and ¾-inch spacing. Testing will determine if there are significant differences in surface characteristics attributable to these minor differences.

Future Actions

The pavement will now be allowed to accommodate the US 30 traffic for a period of greater than 30 days to allow both the texture to stabilize and the removal of any remaining residue from the grinding operation. At the end of that time, the three sections will be tested in the same manner as the adjacent 18 sections to measure the surface characteristics resulting from the construction.

Appendix A. Construction Photos

Figure 1. Surface texturing train in place on day one

Figure 2. Pregrind longitudinal tined surface

Figure 3. Diamond Products PC-6000 in peration

Figure 4.Comparative view of tined and ground surface

Figure 5. Standard ground surface texture

Figure 6. Fine grind head (19 inches)

Figure 7. Diamond Products C-150 machine and tender

Figure 8. Typical traffic control for stage one and two construction

Figure 9. Test surfaces after stage one and two work completed

Figure 10. Fine ground surface

Figure 11. Tined vs. standard grind vs. fine grind surface

Figure 12. Standard grind vs. fine grind surface

Figure 13. Grooving head (32 inches)

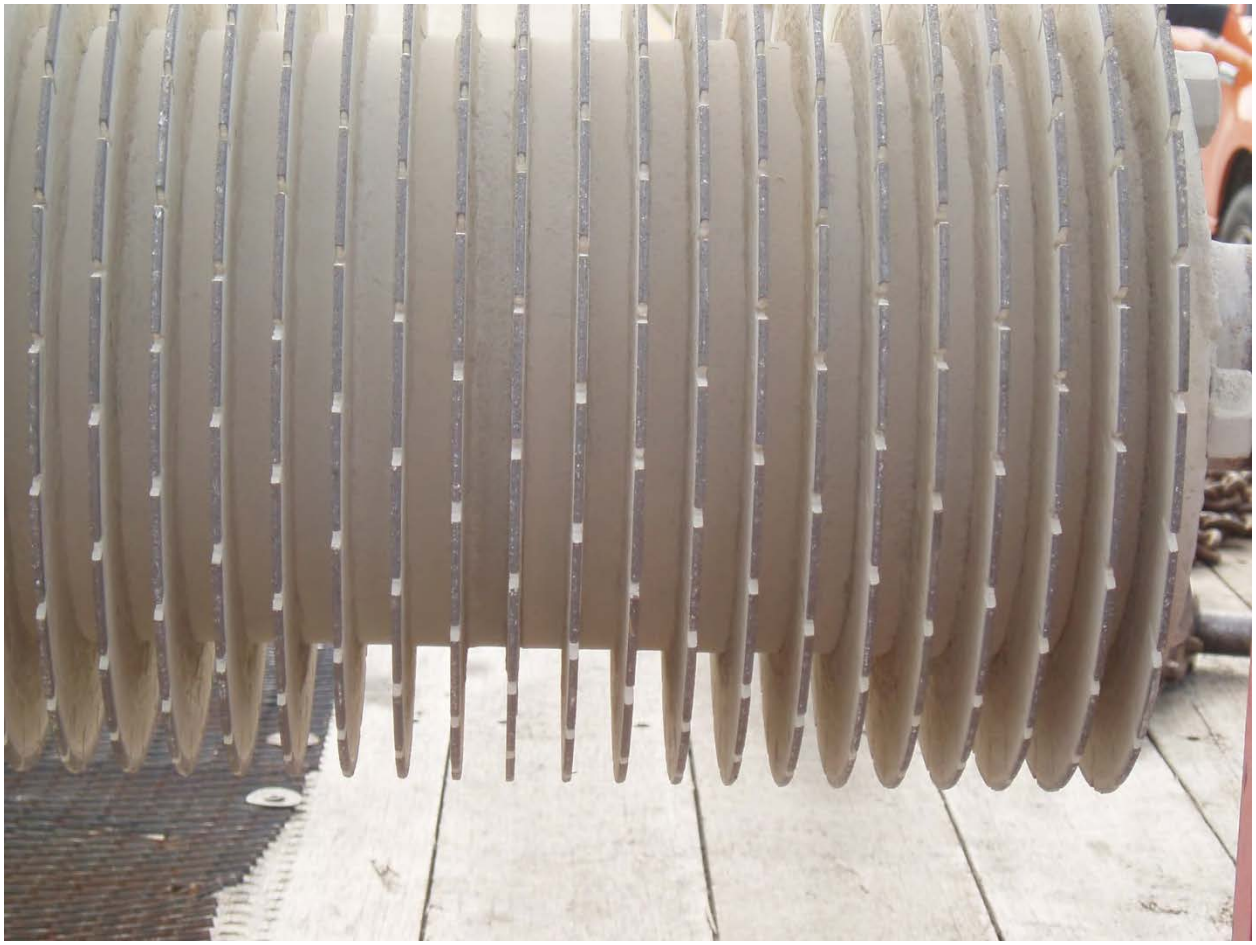


Figure 14. Grooving head (0.75-inch blade spacing)

Figure 15. Next Generation grooved (3/4" c-c blades) and ground surface

Figure 16. Next Generation surface (3/4" c-c; ¼" deep)

Figure 17. View of existing texture, Next Generation, grind and groove and grind only surfaces (milepost 149)

Figure 18. New Next Generation surface test section

Figure 19. Next Generation detailed surface texture

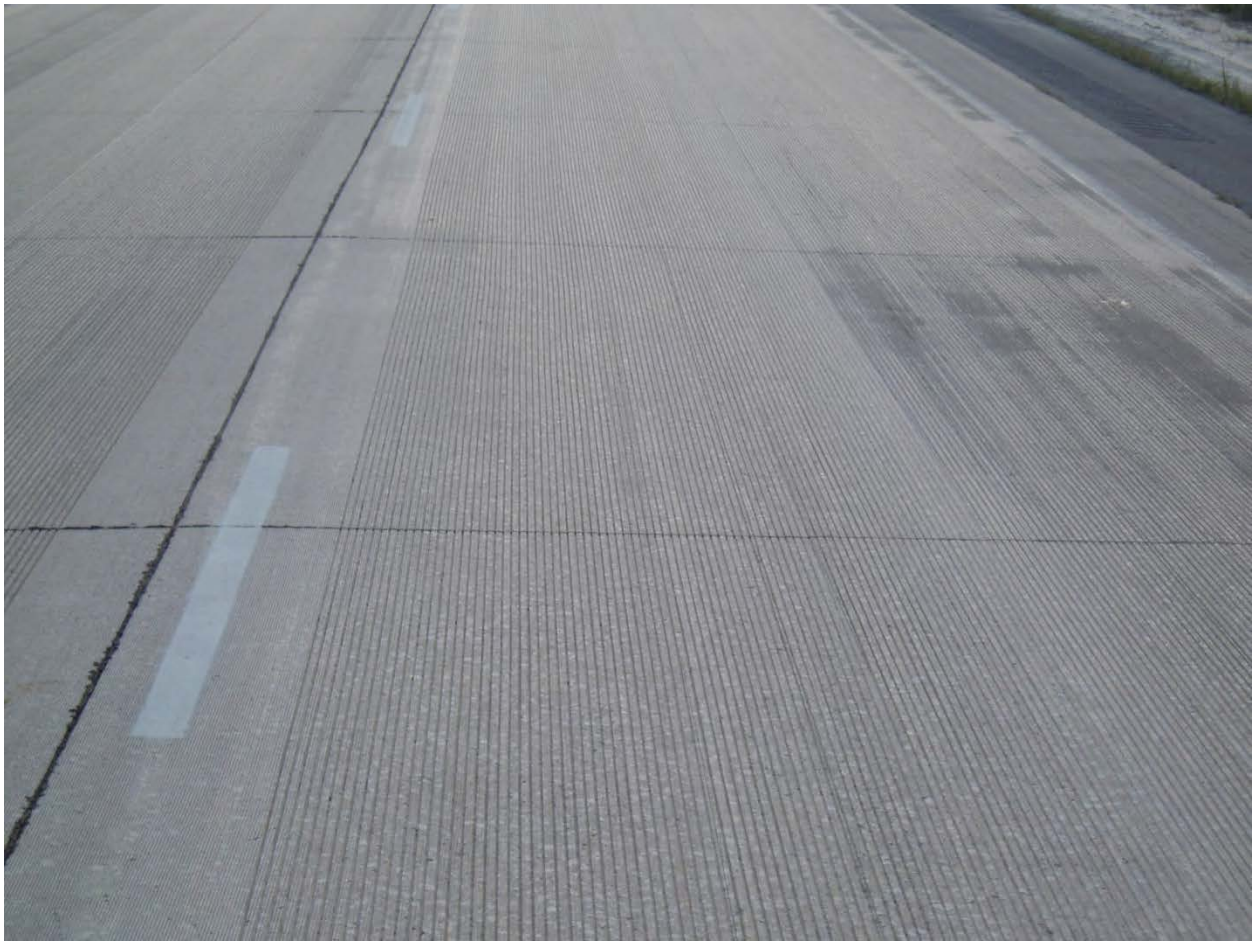


Figure 20. Next Generation pavement surface area

Figure 21. Ground and grooved surface test section

Figure 22. Ground and grooved detailed surface texture

Figure 23. Ground and grooved pavement surface area

Figure 24. Ground surface test section

Figure 25. Ground surface detailed test section

Figure 26. Ground pavement surface area

Appendix B. DRAFT - Guide Specification

Next Generation Concrete Surface Texture

This guide specification was not used during this project. It is included as general information only.

DESCRIPTION -
This work consists of constructing a Next Generation Concrete Surface (NGCS) texture utilizing diamond grinding and grooving on an existing Portland cement concrete pavement. This test section will aid the industry in developing a new standard for quiet concrete pavement and to that end this specification includes additional controls and safeguards to ensure proper construction.

REQUIREMENTS -
A. Equipment - Grinding shall be done utilizing diamond blades mounted on a self-propelled machine designed specifically for diamond grinding and texturing pavement. The equipment shall weigh a minimum 40,000 lbs (grinding head included) and be of a size that will grind a strip at least 4 feet wide in a single pass. Grinding equipment that causes ravels, aggregate fractures, spalls, or disturbance to the transverse or longitudinal joints shall not be permitted. The equipment shall have a positive means of vacuuming the grinding residue from the pavement surface and will leave the pavement in a clean condition.

B. NGCS Construction – The construction of the NGCS can be accomplished as a single pass or two-pass operation as determined by the contractor. The existing pavement shall be pre-ground over the entire surface with a conventional diamond grinding process (e.g. 125 blades and 110 spacers for example). The NGCS surface will be constructed after the pre-grinding has been completed. The pre-grinding must remove 100% of the existing surface texture on 98% of the pavement surface area. The construction operation shall be scheduled and proceed in a manner that produces a neat, uniform finished surface. A conventional diamond ground feather pass will be required on adjacent shoulders and ramps to maintain a consistent cross slope and ensure pavement surface drainage.
The contractor shall provide a single lane test grind of 500 ft in length to demonstrate that the equipment and procedures are capable of attaining the desired surface. The contractor will not be allowed to proceed any further until the test grind has been approved in writing by the Department of Transportation.
Single-pass operation. – The construction operation will provide a flush ground surface that contains longitudinal grooves and shall be constructed in one, single-pass operation. The diamond blade stack will consist of two types of diamond grinding blades arranged to provide a flush ground surface as well as those required to produce the longitudinal grooves. The diamond blade stack shall be mounted on a 4 ft grinding head, stacked with 0.125 blades separated by 0.03 inch spacers. The blades used to produce the flush grind surface should be flat across with other flush grind blades (excluding grooving blades) when mounted. The complete head when stacked with all blades should be straight across its length without bowing when mounted on the diamond grinding machine. The grinding shall eliminate joint or crack faults and will provide lateral drainage by maintaining a constant cross slope between grinding passes in each lane. The cross slope of the pavement shall be as shown on the plans and shall have no depressions or misalignment of slope greater than 1/8 inch in 12 feet when measured with a 12-foot straightedge placed perpendicular to the centerline. Areas of

deviation shall be reground. Straightedge requirements will not apply across longitudinal joints or outside the ground area. Grinding shall begin and end at lines normal to the pavement centerline at the project limits. No unground surface area between passes will be permitted. The blades used to create the longitudinal grooves will be 0.250 inches to 0.376 inches taller in diameter than the grinding blades used to create the flush ground surface. The longitudinal grooves will be spaced among the flush grind blade stack approximately 0.5 inches center to center. The grooves shall be constructed parallel to the centerline. The contractor shall use a guide to ensure proper alignment of the grooves to centerline.

Two-pass operation – This construction method will allow for two separate operations to construct the NGCS section. The first operation will create the flush ground surface. The flush grind blades shall be mounted on a 4ft grinding head, stacked with 0.125 blades separated by 0.030 spacers. The flush grind head shall be flat across the blades when mounted on the diamond grinding machine with no bowing of the head. The grinding shall eliminate joint or crack faults and provide lateral drainage by maintaining a constant cross slope between grinding extremities in each lane. The cross slope of the pavement shall be as shown on the plans and shall have no depressions or misalignment of slope greater than 1/8 inch in 12 feet when measured with a 12-foot straightedge placed perpendicular to the centerline. Areas of deviation shall be reground. Straightedge requirements will not apply across longitudinal joints or outside the ground area. Grinding shall begin and end at lines normal to the pavement centerline at the project limits. No un-ground surface area between passes will be permitted. The second operation will provide the longitudinal grooves. The longitudinal grooves shall be 0.125 inches wide and will be 0.125 inches to 0.188 inches deep. The longitudinal grooves will be spaced approximately 0.5 inches center to center. The grooves shall be constructed parallel to the centerline. The contractor shall use a guide to ensure proper alignment of the grooves to centerline.

C. Final Surface Finish – The NGCS grinding process shall produce a pavement surface that is true to grade and uniform in appearance with a longitudinal grooved texture. The flush ground surface shall appear smooth and shall contain no ridges that exceed 0.03 inches. The longitudinal grooves shall be constructed parallel to the centerline. At a minimum 98% of the pavement surface shall be textured utilizing the NGCS. Depressed pavement areas due to subsidence, edge slump or other localized causes will be excluded from this requirement when approved by the engineer.
The final surface will look similar to the photo in Appendix A

D. Slurry Removal - The contractor shall remove and dispose of all residue from the pavement surface in a manner and at a location to satisfy environmental regulations. Residue discharge/collection locations should be predetermined and specified by the contracting authority in the project documents on a job-by-job basis (side slope discharge vs. hauling and disposal). The contractor shall have the engineer's approval for the method of spreading and disposal of the residue prior to beginning any grinding operations.

Solid residue shall be removed from the pavement surface before any residue is blown by traffic action or wind. Residue shall not be permitted to encroach on open lanes. The residue shall not enter into gutters or closed drainage systems. Erosion control items that help prevent slurry discharge into drains and culverts (etc.) should be included within the spec to assure that uncontrolled slurry releases are prevented. These should be included as pay items.
The contractor may disperse residue onto unpaved shoulders, adjacent roadside embankments, or median ditch areas of divided highways where the residue runoff can percolate into the soil, unless specified otherwise in the contract.
Discharge of any residue runoff shall not flow into adjacent rivers, streams, lakes, ponds or other open bodies of water. Residue shall not be spread within 100 feet of any streams, lakes or other open bodies of water, or within 15 feet of a water filled ditch.
Grinding residue disposal requirements must be enforced vigorously and consistently.

E. Smoothness Requirements
An initial profile index of representative portions of the pavement will be available through the project contact person upon written request. This information represents a summary of conditions found to exist at the time the survey was made. This information is provided to give the contractor an idea of the condition of the pavement in regard to smoothness when bidding on this work. The contractor assumes the risk of error if the information is used for any purpose other than the intended purpose.
Each segment of the finished NGCS shall have a final profile with an International Roughness Index (IRI) of 60 inches/mile or less.
The profile testing shall be conducted in both wheel paths and the results averaged for the lane acceptance. Profile testing will be conducted at 0.1 mile intervals. The engineer may test for smoothness and bumps near the center line and at other spot locations where compliance is questionable. Additional grinding may be required.
The finished ground surface shall not include any bumps exceeding 0.3 inch in 25 feet. Depressed pavement areas due to subsidence, edge slump or other localized causes will be excluded from testing when approved by the engineer.

F. Example of the Next Generation Concrete Surface

ATTACHMENT
C-3

Next Generation Concrete Surface

Industry Innovations in Quiet
Pavement Technology

Next Generation Concrete Surface (NGCS)

Term used to describe a category of texture(s) that have evolved through current research. The term may apply to several textures that evolve for both new construction and rehabilitation.

How did we get here?

The Noise Issue Comes to Phoenix

The Noise Issue Comes to Phoenix

- 1995 - ADOT conducts first formal noise research comparing ARFC vs. concrete
- 2002 - ADOT actively begins noise research
- Community resentment grows against noise
- ADOT utilizes random transverse tining
- Public outcry reaches Governor's office
- $34 million ARFC overlay program initiated

ADOT agrees to a Diamond Grinding test section

- Conducted in 2003
- Conducted on SR-202 between 56th street and Kyrene Road westbound
- 3,000 lf. in length, 3 lanes wide
- Multiple grinding configurations applied

What did we learn in Arizona?

- Improved smoothness
- Improved friction
- Improved cross slope
- Reduction in noise

Bottom line

We knew we weren’t quiet enough

Purdue Research

- Optimize grinding
  - Blade Spacing
  - Blade Width
  - Depth
- Joint Effect
  - Joint Opening
  - Joint Faulting
- Innovative Surfaces
  - To be determined and tested

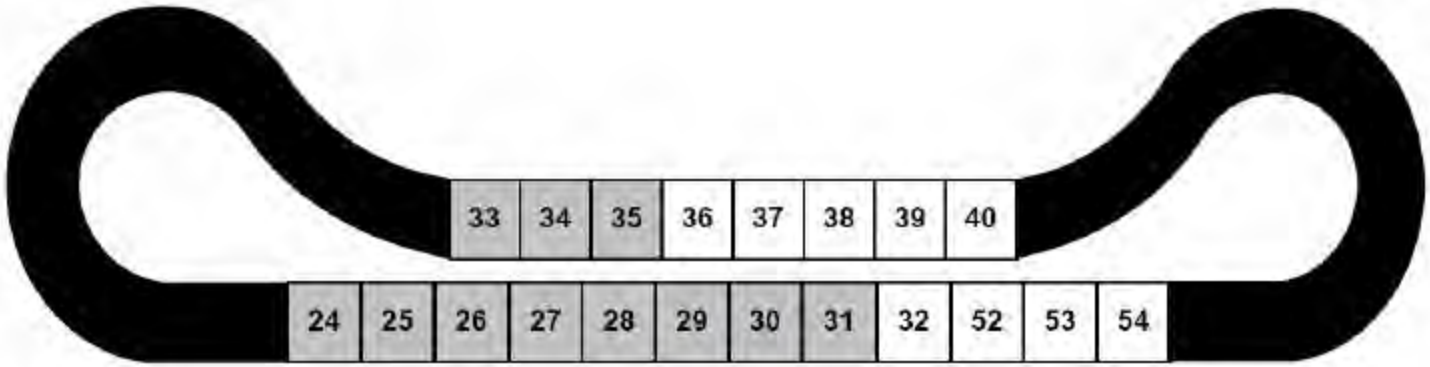
Purdue Tire Pavement Test Apparatus (TPTA)

- Tested 24 Diamond Ground Sections
- Developed Texture Measurement Laser System
- Incorporating Friction Measurement Capability
- Incorporating Rolling Resistance Measurement Capability
- Meet with Tire Manufacturers to Discuss Tire Noise

Test Pattern at Purdue

Test Pattern at Purdue

Next Generation Concrete Surface (NGCS)



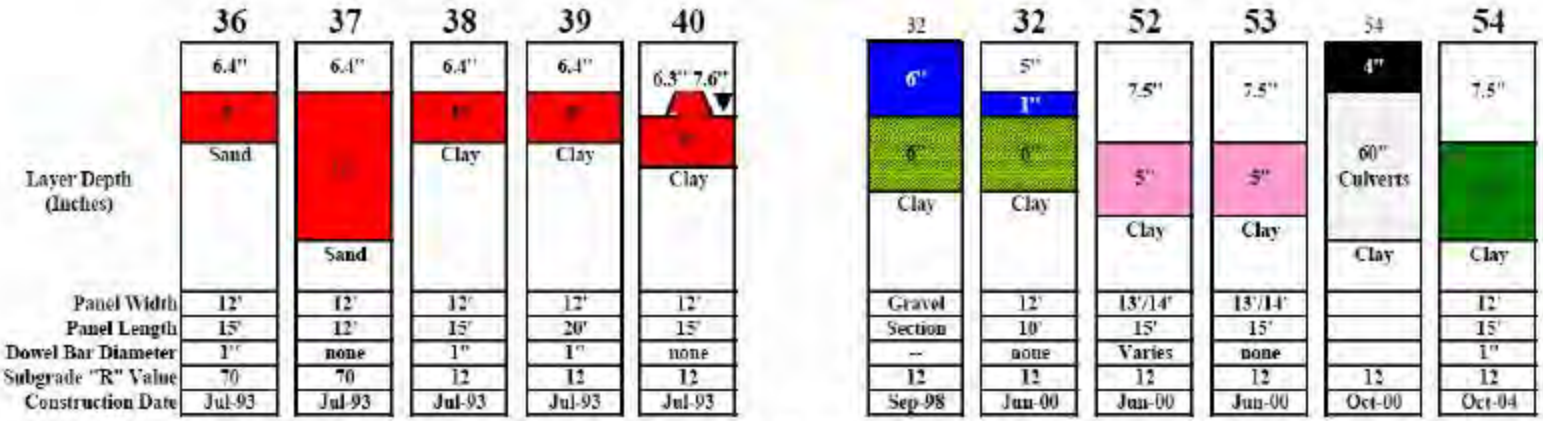


Figure 1 Layout of Mn ROAD Low Volume Road Sections

MNROAD Innovative PCCP Texture Field Research

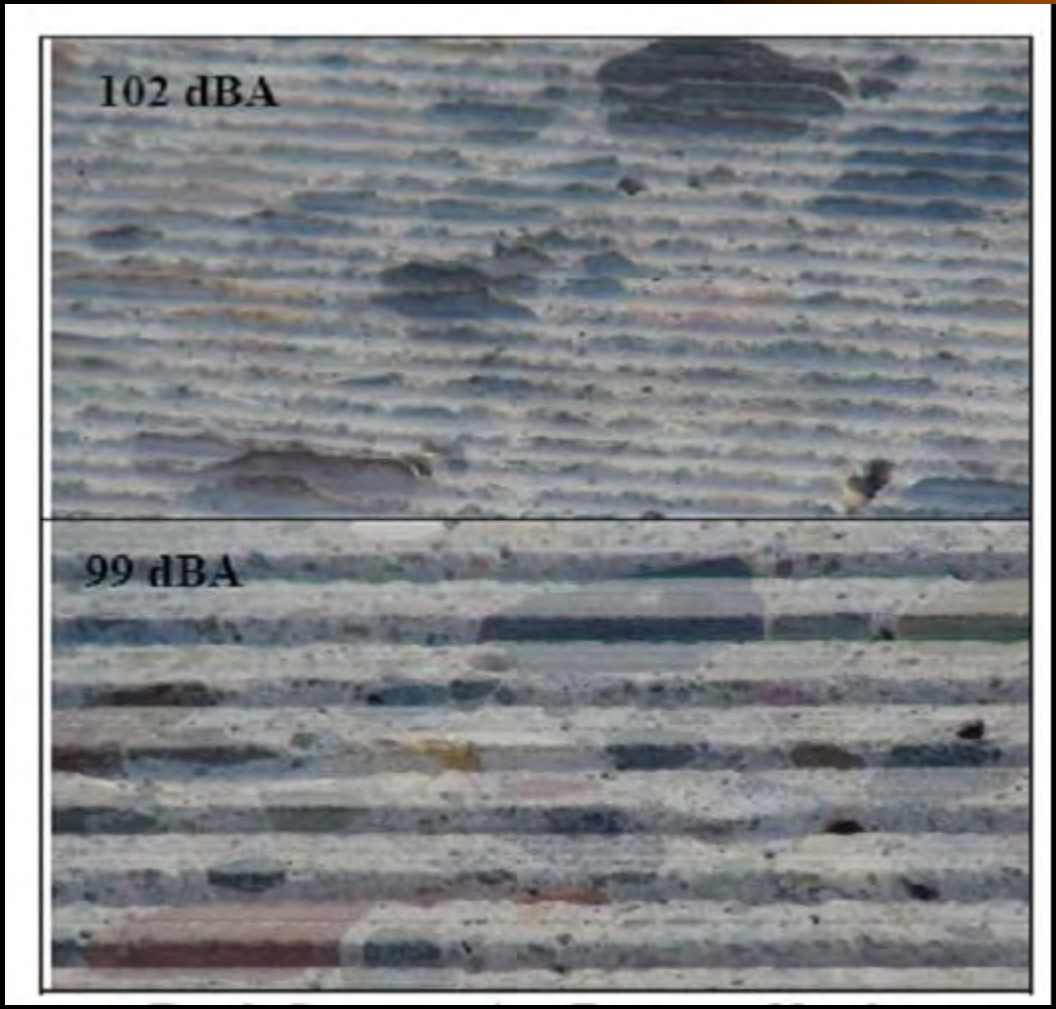


Figure 21 MN DOT Loading Truck

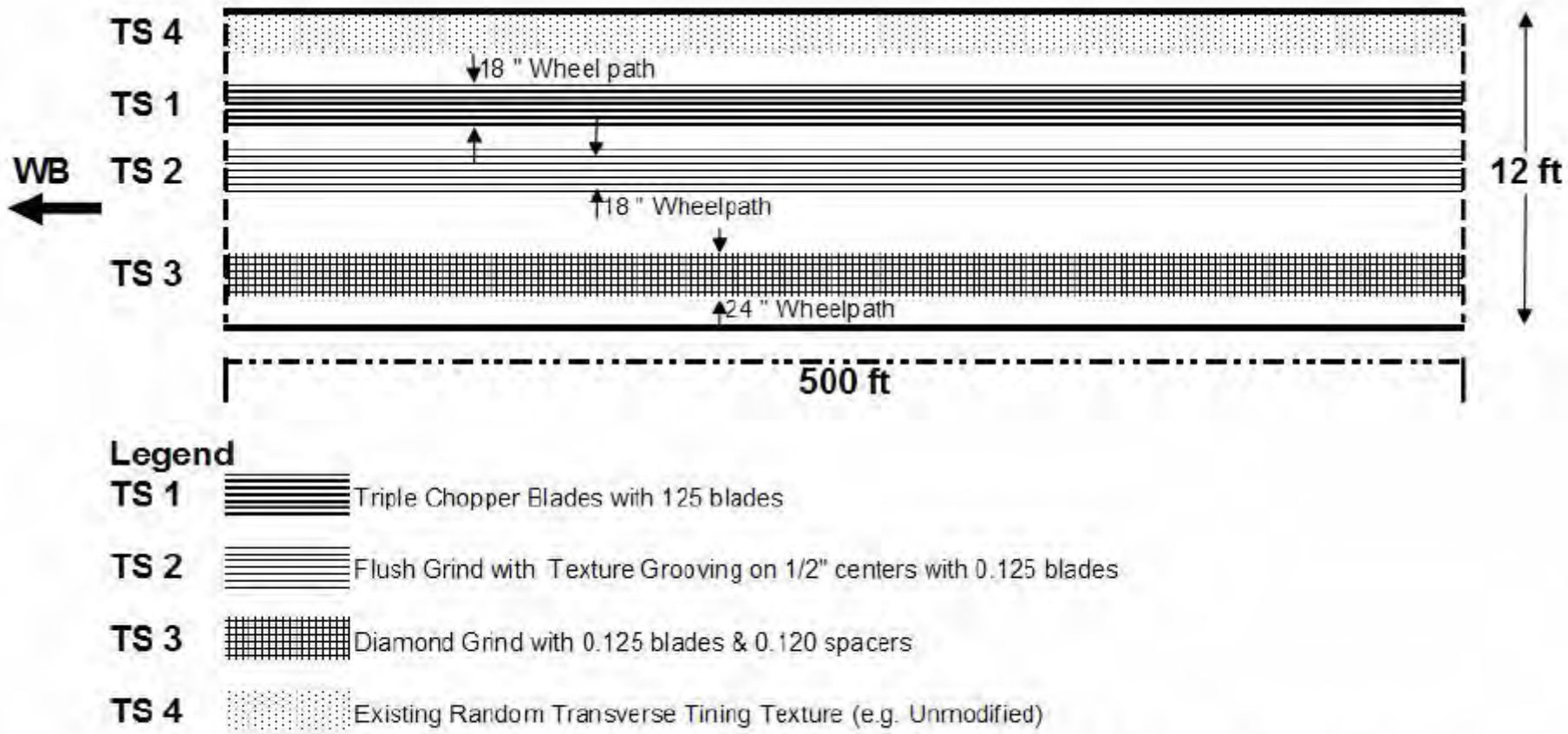


Figure 2 Track Locations for Diamond Grinding and Joint Effects Experiments

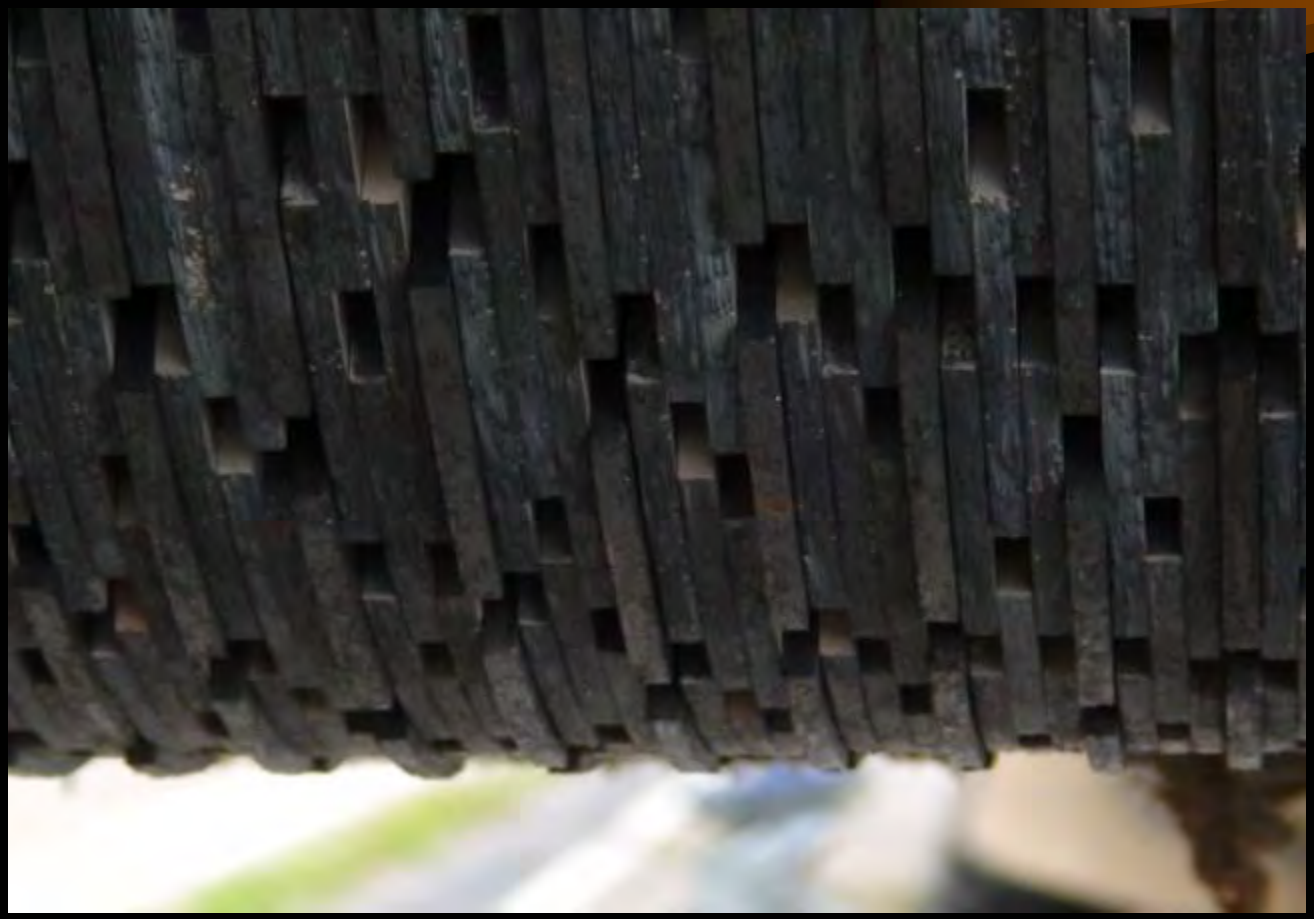
Bison

Figure 7 Blade and Spacer used in Conventional Diamond Grinding Process

Figure 10 Close Up of TS1 Single Pass Texture Immediately Behind Grinder

Close Up of Texture

Photo of Single Pass Grinding Head



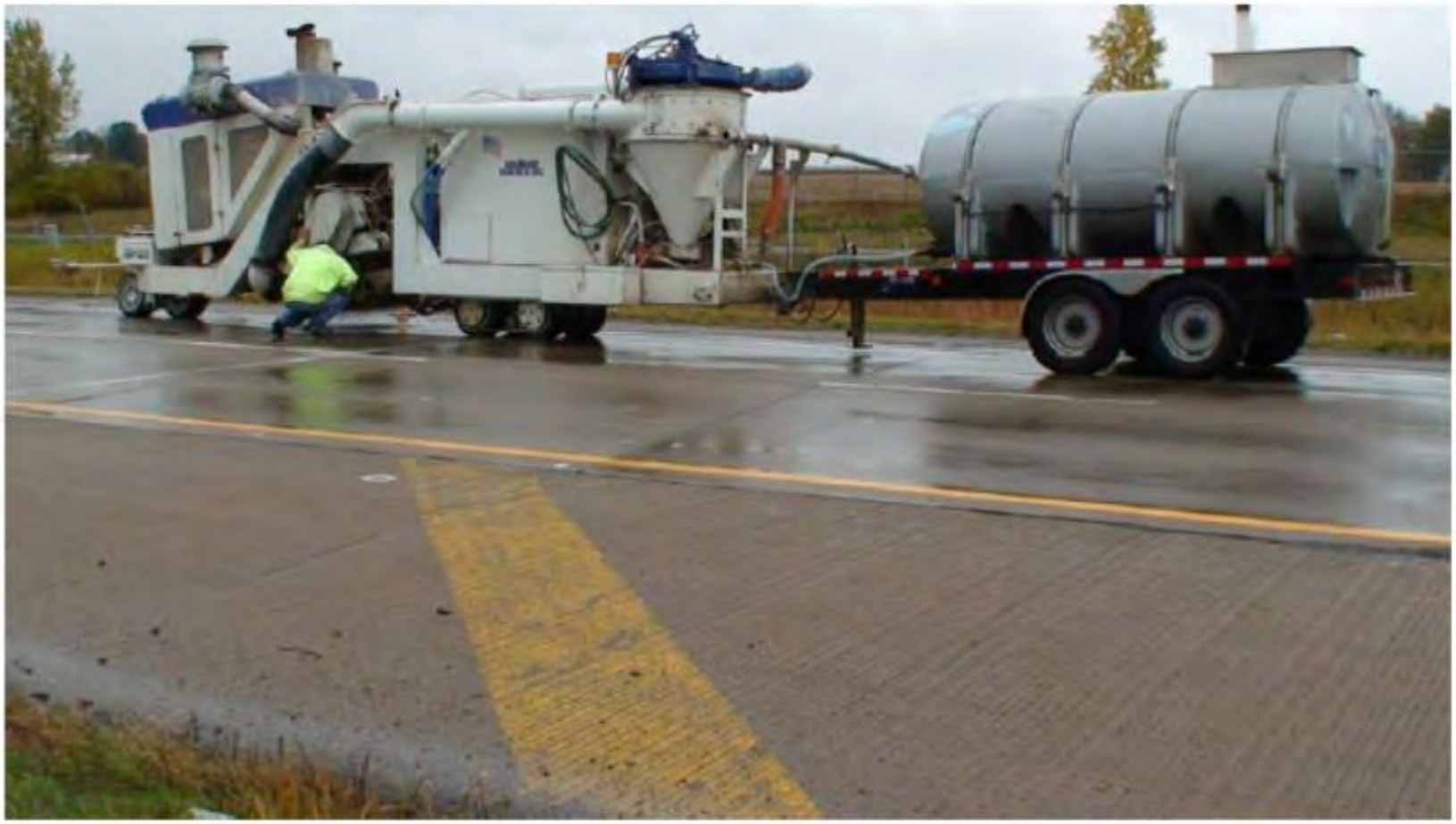
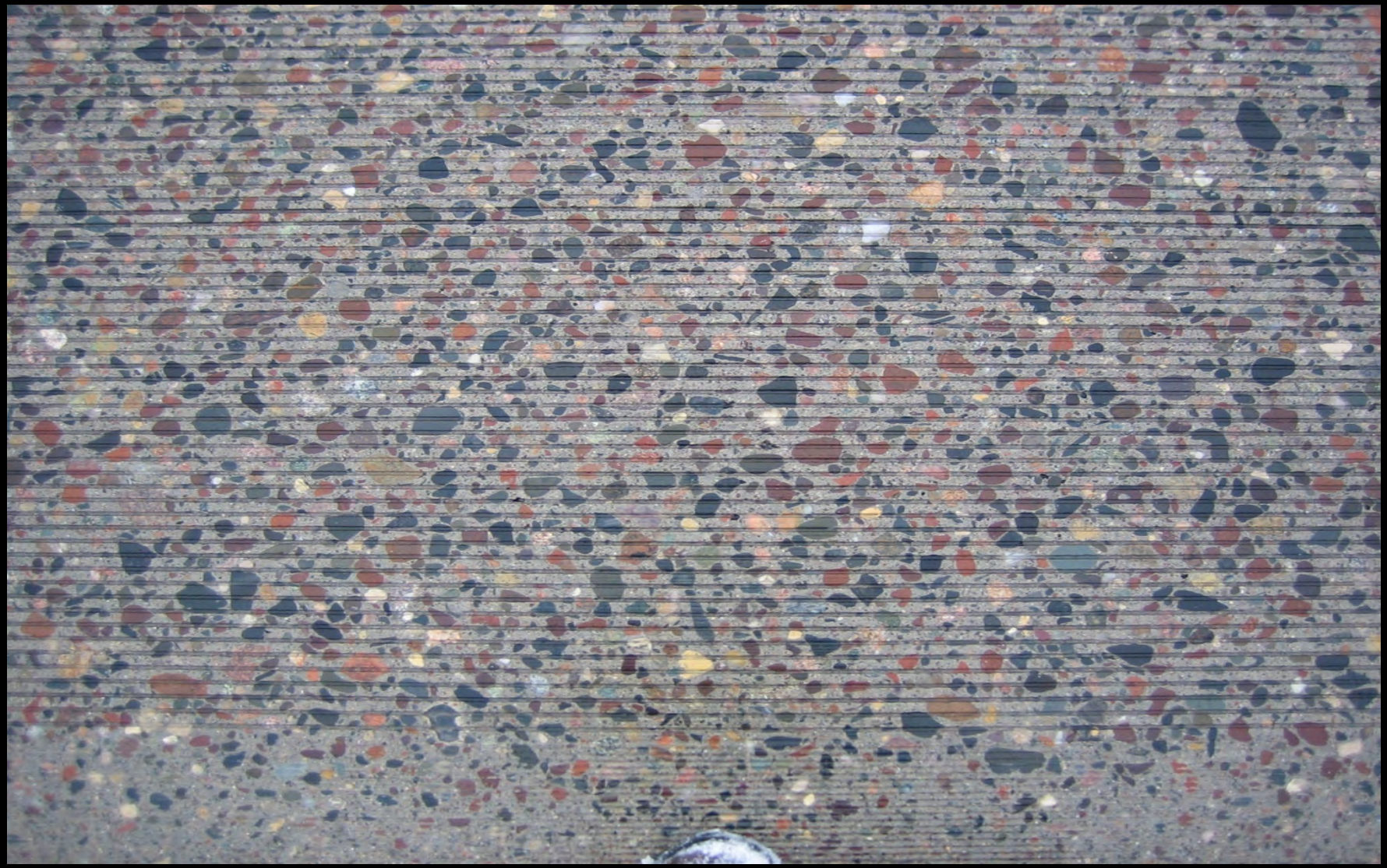
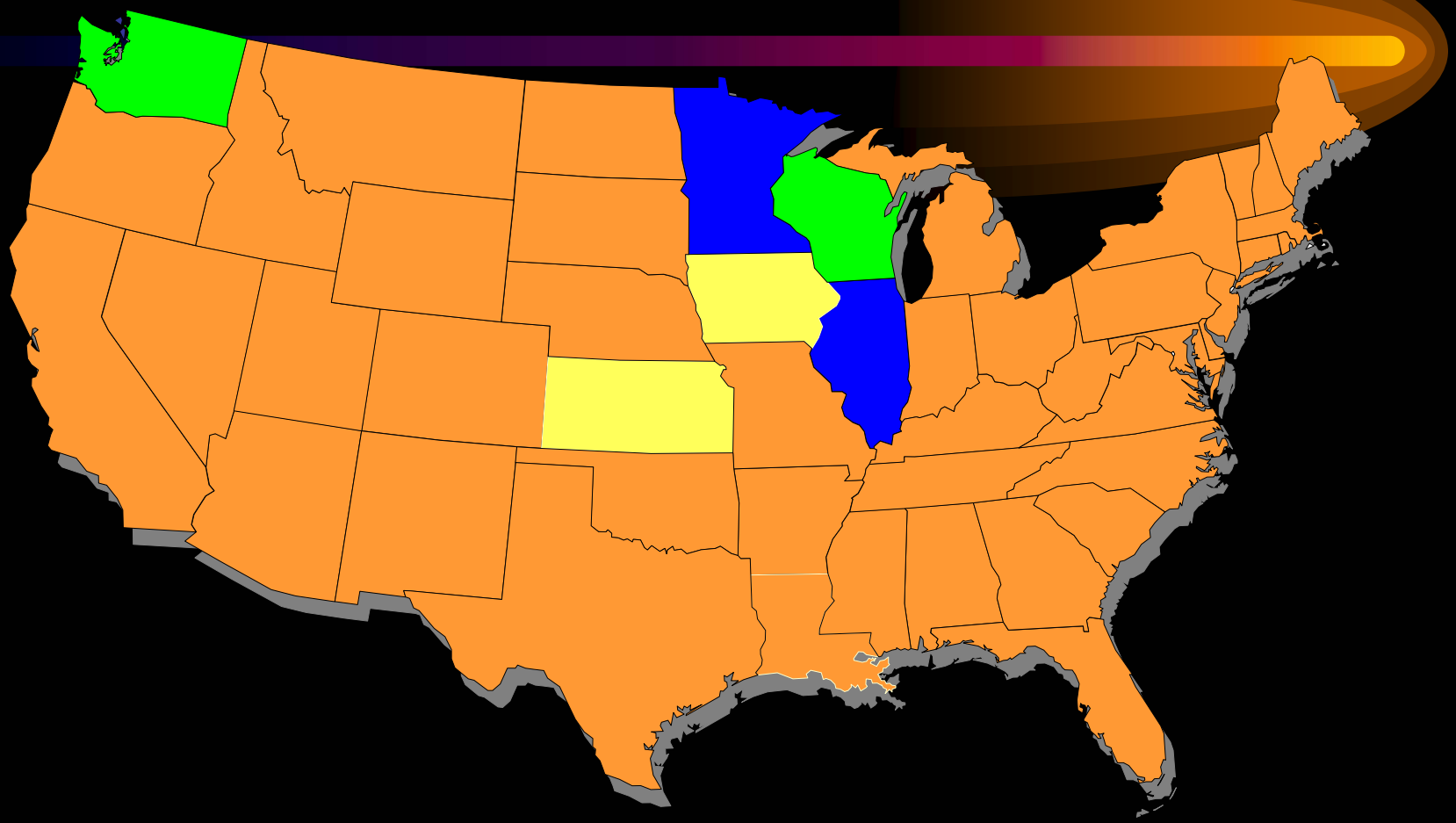


Fig 4.1 DSI Diamond Grinding equipment complete with cutter and articulated water truck



Implementation Locations



Diamond Grinding – Conventional

Diamond Grinding – Next Generation

Issues and Concerns

- Winter conditions
- Durability over time
- Has not been proven on major projects
- Constructability
- Cost

Visit Us on the Web

International Grooving and Grinding Association

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_____ Concrete Pavement Association

- _____

Diamond Surface, Inc.

- _____

ATTACHMENT
D-1

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CHAPTER 6

Case Studies

The visual impact assessment (VIA) documents from five projects were examined to determine a set of best practices for assessing the visual impacts that may be caused by highway projects. Four of the projects were in the United States, in the states of Colorado, Minnesota, Vermont, and Washington. The fifth project was in Scotland, United Kingdom.

The following narratives discuss the methods and results of these five case studies. The narratives are arranged in a similar manner to facilitate comparison. Typically where the discussion addresses the ten evaluation criteria introduced in Chapter 5 of *NCHRP Report 741,* the discussion is primarily about that particular VIA. However, if the review of the project VIA has been augmented by a review of additional agency documents, such as a VIA policy directives, a VIA procedural manual, or references to VIA-related documents of other agencies, those documents also may be included in the discussion. For all case studies, the ten evaluation criteria are understood to be defined as follows:

- **Objective:** The VIA procedure is designed to eliminate individual bias.
- **Valid:** The VIA procedure can be defended as measuring what it intends to measure.
- **Reliable:** Adequately trained professionals using the VIA procedure reach the same conclusion.
- **Precise:** The VIA grain or scale is sufficiently fine as to validly measure or describe characteristics of substantive interest, and sufficiently coarse as to be pragmatically implemented.
- **Versatile:** The VIA procedure supports valid assessment of different types of proposed changes from the perspectives of different viewer groups interacting with different landscape settings.
- **Pragmatic:** The VIA procedure is easily and efficiently implemented by a trained professional.
- **Understood Easily:** The VIA procedure and an explanation of the process is readily available to stakeholders (i.e., understood easily by the public and decision makers) and is clearly articulated.
- **Useful:** The VIA procedure affects location, design, or mitigation decisions.
- **Implemented Consistently:** The VIA is consistent with the chosen procedure and the procedure is consistently applied among different projects.
- **Legitimate:** The VIA procedure is supported by laws, regulations, or other legal mechanisms, and uses socially/culturally accepted standards as well as scientifically accepted standards.

These narratives apply only to the projects analyzed; they do not necessarily represent the process or procedures of the state departments of transportation (state DOTs).

6.1 United States

6.1.1 Colorado

Sources

Agency: Colorado Department of Transportation (Colorado DOT)
Project: I–70 Mountain Corridor
Citation: Colorado Department of Transportation (2010). *I–70 Mountain Corridor Programmatic Environmental Impact Statement Visual Resources Technical Report.*
Web Addresses of Reviewed Materials:

- *Visual Resources Technical Report.* Available at: http://www.coloradodot.info/projects/i-70mountaincorridor/final-peis/final-peis-documents/technical-reports/Vol5_I-70_Mntn_Corridor_Final_PEIS_VisualResources_TR.pdf/view.
- *Draft PEIS Visual Resources Section* (pages 3.11-1—3.11-8). Available at: http://www.coloradodot.info/projects/i-70mountaincorridor/2010-revised-draft-peis/Revised_Draft%20_PEIS.pdf/view.

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- *Final PEIS Visual Resources Section* (pages 3.11-1—3.11-10). Available at: http://www.coloradodot.info/projects/i-70mountaincorridor/final-peis/final-peis-documents/MainText_combined_withTabs.pdf.
- *Final PEIS CSS Appendix.* Available at: http://www.coloradodot.info/projects/i-70mountaincorridor/final-peis/final-peis-documents/20_App_A_CSS_Rev50.pdf.

Short Project Description

Highway. The project is for the only east-west Interstate highway in Colorado, consisting of 144 miles of I–70 extending between Denver in the east and Glenwood Springs in the west. The cross section of the highway is typically four-lanes with a median, although in several locations, physical restrictions reduce the median to a median barrier and the roadway is placed on structures. Recreational and tourist traffic mixes with cross-country freight and passenger traffic.

Landscape Setting. The landscape setting is varied, including mountainous terrain from steep-walled canyons to alpine meadows. The road passes through five counties and several small cities. Except for pockets of concentrated urban areas, this segment mostly passes through public wilderness, including three national forests and other public lands managed by the federal government.

Viewers. Three types of viewers are identified: Residents (occupants of buildings near the freeway); recreationists (people pursuing recreation, usually outdoors, on public or private property, adjacent to the freeway); and motorists (travelers in vehicles on the freeway). Although the Colorado DOT identifies these three viewer types, the VIA primarily concentrates on issues of concern to recreational viewers, claiming they would be the most sensitive to visual impacts caused by changes to the highway corridor.

Transportation Issue. Increasing congestion caused by escalating tourist and commercial traffic required expansion of the existing facility to meet the need to increase passenger and freight capacity.

Proposed Solution. Several configurations are evaluated, from adding driving lanes to constructing exclusive bus lanes or installing a rail line.

Purpose of VIA. The purpose of the VIA is to evaluate and compare visual impacts associated with and between alternative solutions.

Alternatives Examined. Thirty alternatives are examined, including a minimal action alternative (with minor spot improvements); transit alternatives (bus and rail); highway alternatives (adding lanes at two different design speeds and use of reversible lanes); and various combination alternatives, resulting in a minimum preferred alternative (initial build-out) and maximum preferred alternative (complete build-out).

VIA Procedures

The Colorado DOT developed a VIA for the I–70 Corridor between the cities of Glenwood Springs and Denver, a distance of 144 miles, as Tier 1 of a tiered highway design and environmental review process. The focus of the Tier 1 process was on general corridor and overarching concerns. A subsequent Tier 2 process will focus on more detailed concerns as specific segments become final design projects.

Recognizing that most of the lands adjacent to the corridor are either managed by the U.S. Forest Service (USFS) or the Bureau of Land Management (BLM), the Colorado Department of Transportation (Colorado DOT) elected to merge the VIA procedures of the two federal agencies to evaluate visual impacts that may be caused by changes to this segment of I–70. In the VIA report, the Colorado DOT compares the two methods and defines how it will proceed with a three-phased process. The first phase was to conduct an inventory of existing conditions.

Phase 1—Inventory. The first step of the inventory phase identified existing visual character in terms of landform, vegetation, and the value society assigned the landscape through legal protections. The corridor was divided into distinct scenic landscape units, by viewshed (or other landscape commonalities) and its existing visual condition and scenic attractiveness were evaluated using USFS and BLM methodologies.

"Existing visual condition" is a concept developed by USFS for "rating existing disturbances and their effect on the integrity of the landscape setting, regardless of scenic attractiveness" (Colorado DOT 2010, page 2.) If a natural landscape is untouched by human activities, it is rated "I." If nature remains dominant but human activity is visible, the landscape is rated "II." If human activity dominates nature, such as in a town, the landscape is rated "III."

The Colorado DOT claims these ratings must not be confused with scenic attractiveness, which is a completely separate rating. However, as used by the Colorado DOT on this project, scenic attractiveness was tied directly to a preference for natural landscapes, making the two ratings somewhat redundant. Indeed, except for a general explanation of the ratings, the Colorado DOT did not use the I to III ratings of existing visual condition in its analysis of scenic landscape units. It only used the concept of "scenic attractiveness."

"Scenic attractiveness" is a classification system used by BLM. Class A landscapes are natural landscapes that are rare

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in the corridor. Class B landscapes are natural landscapes that contain some distinctive features but are fairly typical of landscapes seen in the corridor. Class C landscapes are natural landscapes that are common and homogeneous. The Colorado DOT uses this system exclusively to inventory what it calls "existing visual character." This classification does not seem to accommodate the existing Interstate highway, which is a significant engineered structure accommodating large numbers of motorized vehicles through this landscape.

The second step of the inventory phase identified viewers, their key viewpoints, and their proximity to proposed changes. The purpose of this effort was to determine who would be affected, from where, and their sensitivity to change. Using a geographic information system (GIS), Colorado DOT identified key viewpoints and calculated the proximity for the three types of viewers: residents, recreationists, and motorists. Proximity was categorized into three distance zones: foreground, middleground, and background. Foreground was defined as being within ½ mile of the observer who is able to differentiate individual objects by form and color. Middleground, defined as views between ½ mile to 3 miles, allowed the observer to see larger landscape patterns, including recognition of the relationship (if any) between natural and cultural landscapes. Background views, scenes that extended beyond 3 miles, allowed an observer to see only the outlines of larger shapes without texture, detail, or even color differentiating the shapes. Background views, due to enclosing landforms, were rare in the corridor.

Despite the clear distinctions between distance zones, in practice the concept is only applied to static key views. For travelers (those viewers moving along the highway), the discussion of distance zones is more complicated, as a particular scene changes relatively quickly from being background or middleground to foreground as a traveler approaches it. To avoid confusion, distance zones are established only at key viewpoints.

The inventory phase concluded with an identification of key viewpoints based on the sensitivity of viewers for each scenic landscape unit. Colorado DOT identified three types of views that might be affected by the proposed project as being critical to the experience of motorists, recreationists, and residents: (1) gateway views, which provide a sense of entry or arrival to key portions of the corridor; (2) focal views, which are dramatic views dominated by a dominating landmark or characteristic; and (3) canyon views, or views of the enclosed landforms and dramatic settings typical for the corridor.

In addition to a thorough narrative of the landscape character and scenic attractiveness for each scenic landscape unit, Colorado DOT used expert opinion to map the locations and areas of the scenic landscape units and the locations of key viewpoints for each of the five counties in the project corridor landscape. Dozens of key viewpoints for each landscape unit were established.

Phase 2—Identifying Visual Management Objectives. Following the inventory phase, Colorado DOT reviewed the visual management prescriptions that had been assigned to the corridor. Most of these prescriptions were based on goals established either by USFS or BLM for managing federal lands adjacent to the corridor. Where federal management goals were not applicable, such as in towns and cities, local ordinances, rules, and regulations were examined for evidence of visual quality goals.

USFS determined visual management goals for the three forests in the corridor using the scenery management system (SMS). (SMS evolved from a process used by USFS from 1973 to 1995, called the visual management system (VMS), expanding constituent input and concepts related to the management of ecological systems.) The SMS process defines "scenic integrity objectives," which are used to evaluate proposed changes to the forest. SMS defines five categorical levels of integrity:

1. Very high.
2. High.
3. Moderate.
4. Low.
5. Very low.

Landscapes that warrant a very high level of protection are intact landscapes where existing landscape character and sense of place is superbly expressed. A high level of protection is warranted for landscapes that are mostly intact and the scale of unnatural intrusions does not dominate the scene and for which the introduced forms, lines, colors, textures, and patterns mimic the native environment so effectively that they are unobtrusive. Moderate protection is applied to landscapes where the natural environment appears to be slightly altered but the intrusions are still subordinate to the native environment. A low level of protection applies to landscapes that have been substantially altered by human activity and artifacts, although the composition of the landscape must be complementary with larger landscape patterns.

BLM also uses a five-level system to establish management prescriptions. Class 1 landscapes must be managed to preserve the existing wilderness character, and development must be avoided or be very non-intrusive. Class 2 landscapes must be managed to preserve the appearance of no human intervention to the casual observer. Any development must mimic the forms, lines, color, and texture found in the surrounding native environment. The management of Class 3 landscapes allows human activity and artifacts, but they must mimic natural elements so that they do not dominate the views of a casual

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observer. Although the native environments can be substantially changed in Class 4 landscapes, such changes should be minimized through careful location and design. The native character of Class 5 landscapes has been so disturbed that rehabilitation is necessary to restore it to its natural condition (or at least to one where the native and cultural environments are compatible).

In addition to these federal management objectives, Colorado DOT conducted an extensive review of local plans and legal restrictions related to the management of the visual environment, contacting local authorities to verify its interpretation of these plans and rules.

Phase 3—Determining Visual Impacts. After completing the inventory of existing conditions and establishing visual management objectives for the landscape units that compose the corridor, Colorado DOT assessed the potential visual impacts that may be caused by each of the proposed alternatives. Conducted in three steps, this phase determined (1) visual contrast ratings, (2) viewer sensitivity, and (3) mitigation strategies.

Visual contrast ratings were developed to assess the visual contrast between the existing landscape conditions and the project elements that composed each of the proposed alternatives. Two primary categories of project elements were identified, "landform" and "structures." Project elements assessed under the landform category included retaining walls, roadside cut-and-fill slopes, and medians. Project elements assessed under the structures category included elevated platforms (for transit stations), piers/columns, catenaries, barriers, and fencing. For each project element that composed a particular alternative, visual contrast was assessed as having one of five levels: very strong, strong, moderate to strong, moderate, or weak.

Within each landscape unit, project elements that significantly altered the existing scene, specific to each alternative, were selected to determine the contrast rating. Several such contrast ratings—one for each key viewpoint—were identified. The number of highway miles associated with that rating was also recorded. For documentation and comparison, a bar chart was created that recorded all of the contrast ratings for all of the key viewpoints within a landscape unit by alternative. The bar chart allowed the visual contrast ratings for various alternatives to be compared simultaneously for each landscape unit.

No methodology was identified for determining the actual contrast ratings. Although the VIA contains no definitive statement that the ratings were determined solely by professional opinion, there is no evidence that the public was involved in determining the level of visual contrast either. Regardless of their source, the ratings were qualitative and not quantitative.

After determining the visual contrast rating, viewer sensitivity was examined by determining who would be affected and their proximity to the proposed project. Based on previous studies, Colorado DOT determined that a majority of viewers in the corridor were recreationists and, depending on the area, ¼ to ⅓ were sightseers consuming scenic views. The recreationists were generally located either along the highway as tourists or outdoors on adjacent public property. Colorado DOT determined that since recreationists were the most sensitive to changes in the landscape, they would serve to measure sensitivity for representative views typically found in the corridor and focal views of selected scenery. Recreationists were not, however, the only viewer group identified as being sensitive. Colorado DOT also identified that residents would be particularly concerned with gateway views from and to their towns.

Using a matrix, Colorado DOT identified the level of visual impact by crossing visual contrast ratings with viewer sensitivity. As with the data for visual contrast, Colorado DOT used a bar chart to record ratings for visual impact by alternative for each landscape unit. The bar chart also displayed the proportion a particular impact rating occurred in a specific landscape unit by identifying how many miles that rating occurred in that landscape unit.

Mitigation strategies were not fully developed as part of the Tier 1 study. However, Colorado DOT did explain that mitigation would be part of any Tier 2 projects and based on lessening impacts caused by an increase in visual contrast. Specifically, the VIA identified the following potential mitigation strategies:

- Repair of past visual impacts and scarring.
- Preservation of views.
- Minimal use of highway signs, lights, guardrails, and other design elements.
- Minimum grading.
- Reduction, minimization, or compensation for other project-specific visual impacts.

Colorado DOT also developed a companion context-sensitive solutions (CSS) guidance for Tier 2 final design projects. This guidance was reported in the Final Programmatic Environmental Impact Statement (FPEIS) in March 2011. The guidance established methods for ensuring that the core values identified by stakeholders would be incorporated into the final design, including the desire to ensure an aesthetically appropriate design. In particular, the CSS guidance required that the aesthetics of the project be "inspired by the surroundings, protect scenic integrity, and incorporate the context of place." The design was to "continue the corridor's legacy" using the following aesthetic principles:

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- Connect to the setting; harmonize with the surroundings; and be a light touch on the land, subservient to the landscape;
- Reflect the I–70 highway as a major regional and national transportation Corridor;
- Celebrate crossing the Rocky Mountains with a high-country travel experience;
- Respect urban, rural, and natural settings; [and]
- Draw upon and regenerate the context of place (Colorado DOT 2010).

The CSS guidance further required that aesthetic design treatments would:

- Support safety and mobility.
- Support communities and regional destinations by providing direct and subliminal messaging for gateways, connections, access, and identification.
- Maintain a sense of the greater whole.
- Respect the current time and place.
- Integrate with functional elements.
- Borrow materials from the landscape.
- Showcase key views while buffering inconsistent views.
- Include maintenance considerations and responsibilities (Colorado DOT 2010).

Evaluation Criteria

The ten evaluation criteria defined in Chapter 5 of this report were applied to the Colorado DOT VIA document.

Objective. The VIA procedure Colorado DOT used to evaluate impacts to visual resources and viewers on the I–70 is objective to a large extent. The procedure is an amalgamation of VIA procedures developed by USFS and BLM. It uses an explicit qualitative (or ordinal) measurement system to evaluate the visual character of the existing landscape, the sensitivity of viewers to change, and the impression viewers would have to changes in the landscape. However, it overtly emphasizes natural landscapes, following the focus of the two federal agencies for managing wilderness. It is unclear whether the evaluation of the existing condition includes the influence of the existing Interstate highway in the viewshed.

The VIA document provides only a limited discussion of cultural landscapes, and the interests of those viewers who use these wilderness landscapes for recreation are emphasized over the interests of viewers who use the corridor for other purposes. This results in a limited discussion of the relevant landscape characteristics of landscapes and viewers and reduces objectivity. Nonetheless, the process adopted by Colorado DOT uses specific visual management objectives both for wilderness and developed landscapes. It explicitly defines visual impacts as a measure of proposed change. It also uses a transparent and replicable VIA process.

Valid. Although the VIA for this project acknowledges the interest the public, federal land management agencies, and local jurisdictions have in maintaining or enhancing the perception of visual resources, it does not identify specific federal or state laws or regulations requiring that a VIA be conducted as part of the environmental documentation of state-managed highway projects. It does note that management practices of both USFS and BLM require the management of visual resources and notes that the lands potentially impacted by the proposed project have existing management plans for maintaining or enhancing visual resources and their perception by viewers.

For the I–70 corridor, Colorado DOT primarily was interested in evaluating scenic resources and justified that narrow approach to conducting a VIA by providing evidence that the majority of viewers were recreationists and that up to 1/3 of those viewers were purposefully visiting the corridor to see the scenery. Although not specifically addressed in the VIA document studied, it appeared to the research team that the assessment used expert opinions of what recreationists would prefer rather than expressed preferences of actual recreational viewers. Although dozens of viewpoints were selected for each landscape unit, the document did not specify how they were selected beyond general criteria related to resource interest and viewer sensitivity. This Tier 1 assessment did not use simulations, nor was it suggested that the Tier 2 project-specific studies would or should use visual simulations.

Reliable. Colorado DOT employed two VIA processes—one produced by USFS, the other from BLM—to assess and compare visual impacts caused by a range of alternatives. The use of USFS and BLM procedures to assess visual impacts caused by highway projects is atypical. For Colorado DOT, the use of this merged process was unique to I–70 where federal land dominates the corridor. Given that these procedures were prescribed and defined by years of their application to the management of wilderness areas, it seems reasonable to conclude that adequately and similarly trained professionals would reach similar conclusions. However, no independent checks of this assumption were made for this project. (BLM has tested the reliability of their process on their own projects, however.)

Precise. The VIA process adopted by Colorado DOT is very good at establishing baseline conditions. It has a thorough methodology for performing this task for existing conditions. The future condition without the project is treated like another alternative, however, not as the base from which to judge the build-alternatives. Simulations are not used as a way to infer and judge impacts. Viewsheds, particularly

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the use of key viewpoints, are essential to the analysis but are amalgamated into landscape units, which form the basis for the assessment. For this project, relevant characteristics of the affected environment were documented using a narrative augmented with maps and photographs. Characteristics of the affected population were documented as a narrative. A GIS process was used during the analysis to determine the proximity of viewers to the proposed improvements. For a Tier 1 study, the determination and analysis of baseline conditions seemed adequately precise.

Versatile. The Colorado DOT process merges the VIA and visual management processes of USFS and BLM, which have a strong bias toward natural landscapes. Given this focus, it is unclear how a major structure such as an Interstate highway could be seen as a positive scenic element. In addition, the process almost exclusively focuses on the scenic attractiveness of the landscape to recreational users. Colorado DOT argues that this focus is appropriate for this corridor, tacitly acknowledging that the process might not be versatile enough to use in other locations. As used by USFS or BLM, however, the process has been shown to be sufficiently versatile to be applied to a wide range of ecological regions. Because the process has demonstrated applicability to such a wide range of natural settings, it would seem that, with some creativity, it could also be applied to less natural settings. The primary limitation on using this process more universally may be the lack of definitive aesthetic goals and visual quality management (VQM) practices for urban landscapes, not the process itself.

Pragmatic. This procedure was pragmatic for the I–70 corridor primarily because the adjacent property was almost exclusively under USFS and BLM management. These lands already had visual management goals and objectives assigned to them, making the analysis efficient. Training in how to conduct the USFS/BLM VIA process was not identified as an activity that Colorado DOT would provide to practitioners. According to the FPEIS, the person who prepared the visual resource section had 3 years of experience and the person who prepared the CSS section had 25 years of experience. It appears that only the section on mitigation strategies related to a CSS approach to corridor aesthetics and visual quality was particularly advantaged by the previous experience of its authors.

Understood Easily. Colorado DOT reported its findings in a manner that makes the VIA understood easily by the public and decision makers. Meeting this criterion is especially impressive for this project, given that up to 30 alternatives were being studied. Colorado DOT reported the findings of the VIA by county with a discussion comparing impacts by groups of visually similar alternatives. In the appendices to the report, the detailed analysis was presented by landscape unit. By developing a reporting structure that was sufficiently general and sufficiently detailed, Colorado DOT tailored its report to the varied needs of a wide and diverse audience.

Useful. As evidenced by the creation of a CSS manual with a section dedicated to corridor aesthetics, the VIA does appear to have affected design and mitigation decisions. As a significant component of the PEIS, it also appears to have been instrumental in the selection of a preferred alternative. Therefore, the VIA procedure and its application to I–70 appears very useful.

Implemented Consistently. Although BLM and USFS processes have been used repeatedly to manage federal lands, they have rarely been used on highway projects. Colorado DOT explains the use of this process because of the dominance of federal lands in the project corridor. Although this process has not been implemented consistently by Colorado DOT, it can be said that, as a process, it has been applied consistently to federal lands in Colorado and throughout the nation.

Legitimate. Legitimacy is enhanced by the use of USFS and BLM VIA processes on this particular project because of the amount of federal land involved. However, this is not a procedure normally used or recognized by Colorado DOT. Colorado DOT indicated that they incorporated local laws and regulations into the process, though it was not explicitly clear where or how this was done. To the extent that these policies, procedures, laws, and regulations are legitimate, Colorado DOT's procedure is legitimate.

Visual management objectives directly linked to visual resources and viewers are used in the VIA with the expectation that these objectives will be followed as design proceeds from a Tier 1 programmatic approach to Tier 2 project-specific implementation. Authors are not identified in the VIA. Authors are identified in the FPEIS; however, only the length of the authors' professional service is indicated. Information about the nature of authors' responsibilities and experience could have been helpful.

Summary

The use of USFS and BLM VIA processes appears to be an appropriate response by Colorado DOT for a project that traverses so much federal land managed by those two agencies. However, by abrogating the need to examine visual impacts with a process geared to the particular needs of a transportation agency, Colorado DOT seems to have inadvertently skewed its examination of visual impacts to scenic resources and the needs of recreationists. Although Colorado DOT apparently tried to overcome this bias by inserting a discussion of planning documents, ordinances, and other regulations of

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local units of government, the result is still an emphasis on the views of neighbors who are dependent on tourists desiring pleasant views of scenery, including views of picturesque historic structures and quaint mountain villages. The visual quality needs of the average commuter are not analyzed and are not addressed, even though the percentage of commuters may approach nearly 50 percent of the traffic volume.

The process itself is thorough and requires a high level of effort. Given that the scenic and recreational value of the I–70 corridor is recognized nationally, and possibly internationally, utilizing such a process makes sense, especially given the geographic scope of the project. However, it will be instructive if the VIA process coupled with the mitigation strategies outlined in the Colorado DOT's CSS guidelines for the corridor provide sufficient detail to develop actual final design plans. It is anticipated that additional site-specific VIAs and VQM studies will probably be required as part of final design. If the Colorado DOT elects to continue its use of USFS and BLM methodology during final design, the emphasis on scenery and the visual needs of tourists will only be increased. The Colorado DOT makes no indication if it will continue on that path or if a more comprehensive approach will be incorporated into the Tier 2 final design process.

A summary of the evaluation criteria ratings for the I-70 Mountain Corridor project VIA appears in Table 6.1. A similar table appears in the summary of each case study.

6.1.2 Minnesota

Sources

Agency: Minnesota Department of Transportation (Minnesota DOT)

Table 6.1. Evaluation criteria ratings for the I–70 Mountain Corridor PEIS Visual Resources Technical Report.

Criteria	Rating
Objective	√√
Valid	√
Reliable	√√
Precise	√√√
Versatile	√
Pragmatic	√√√
Understood easily	√√√
Useful	√√√
Consistently implemented	√√
Legitimate	√√

Note: The more check marks given a particular criterion, the more that criterion is realized in the VIA examined.

Project: Trunk Highway 14 Mankato to Smiths Mill
Citations:

- Minnesota Department of Transportation (circa 1989). Draft Visual Impact Assessment Special Study. Technical Services Division, Environmental Services Section, in cooperation with District 7, Mankato.
- Minnesota Department of Transportation (circa 1989). Draft Environmental Impact Statement.
- Minnesota Department of Transportation (August 25, 2010). Highway Project Development Manual, Scoping, Subject Guidance, Visual Quality.

Web Addresses of Reviewed Materials: Reviewed materials are not available on-line.

Short Project Description

Highway. Trunk Highway 14 (TH 14) is a major cross-country highway passing through Illinois, Wisconsin, Minnesota, South Dakota, and Wyoming between Chicago and the east entrance to Yellowstone National Park in western Wyoming. Roughly parallel to Interstate 90, it connects several key southern tier cities in rural Minnesota which are not connected by freeway from Winona (on the Mississippi River) through Rochester, Owatonna, Mankato, and New Ulm in the center of the state before continuing through several small towns in western Minnesota.

Landscape Setting. Rural, fairly flat, Midwestern farmland corridor with a small suburbanizing hamlet in the center of it.

Viewers. Generic neighbors with views to the road and travelers with views from the road. Some attempt to identify special categories of viewers particular to the corridor and their needs, such as cemetery visitors.

Transportation Issue. Incorporated into the National Highway System in 1926, TH 14 had been considered for upgrading to a 4-lane freeway or expressway east of Sleepy Eye since the 1960s. A segment of freeway was constructed around the north side of Mankato during the 1970s. The section from Mankato east to Smiths Mill was intended to extend this 4-lane segment another 9 miles to the junction with Trunk Highway 60.

Proposed Solution. This project was to be the first step in completing a 40-mile, 4-lane upgrade connecting Mankato to I–35, the state's major north-south connector at Owatonna. This first phase, which was built in the early 1990s, was divided into western and eastern segments. The western segment was constructed as a freeway (controlled access,

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4-lane highway with grade-separated interchanges) between Mankato and Eagle Lake. The eastern segment, east of Eagle Lake, was constructed as an expressway (controlled access, 4-lane highway with at-grade intersections).

Purpose of VIA. Contribute to alternative selection and identify needed mitigation.

Alternatives Examined. Various options from no-build to upgrading the existing route to four-lanes to several alternatives for a new route on a new but parallel nearby corridor.

VIA Procedures

In 1989, the TH 14 Mankato to Smiths Mill project was one of the first for which the Minnesota Department of Transportation (Minnesota DOT) conducted a VIA using its then recently developed six-step VIA process. The TH 14 VIA was one of several special studies conducted by the Minnesota DOT in advance of producing a Draft Environmental Impact Statement (DEIS) for the project. These special studies were developed by professional staff within the department.

The Minnesota DOT VIA procedure was in its formative stages and was not yet codified into Minnesota DOT's Highway Project Development Process (HPDP) manual when the TH 14 Mankato to Smith's Mill project VIA was conducted. In fact, the VIA process was being developed concurrently with the writing of the department's HPDP manual. Therefore, a few procedural differences exist between what became Minnesota DOT's official VIA process as documented in its HPDP manual and the VIA process used to assess visual impacts for the TH 14 Mankato to Smiths Mill project.

For this evaluation of the TH 14 Mankato to Smiths Mill VIA, the VIA process as defined in the HPDP manual will be referred to as the "HPDP VIA." The actual VIA document developed for this project will be called the "TH 14 VIA." The HPDP VIA represents Minnesota DOT's prescribed approach to conducting a VIA, while the TH 14 VIA represents how the approach was initially applied.

The TH 14 VIA describes the steps that are documented in the special study. However, for a more robust understanding of the process, it is still instructive to examine the HPDP manual to more fully comprehend the thinking behind the TH 14 Mankato to Smiths Mill VIA Special Study. By examining both, a better understanding emerges regarding Minnesota DOT's VIA process and how it was applied to this project. This evaluation will utilize both documents.

The TH 14 VIA was conducted as part of the project's preliminary design process to assess the visual impacts that would be caused by the project and to identify potential mitigation strategies. The TH 14 VIA examined several alternatives—no-build, reconstructed 2-lane, and several 4-lane options on new alignments—assessing, comparing, and documenting the impacts to visual resources, viewers, and visual quality caused by these alternatives.

The VIA process outlined in the HPDP has three distinct phases: Inventory, Analysis, and Design. A complete VIA, as defined by the HPDP VIA process, includes, and usually documents, all three phases. However, for this special study the level of documentation was purposefully left to the discretion of the VIA's author. The HPDP does not require that all steps, or even all phases, be reported in the VIA document. The TH 14 VIA labeled the three main phases of its assessment as "Inventory," "Analysis," and "Mitigation." The difference between what the HPDP VIA calls design and what the TH 14 VIA calls mitigation appears to be primarily a difference in labeling. The mitigation directives suggested in the TH 14 VIA Mitigation section are primarily instructions to final designers, although some of the directives also apply to the operation and maintenance of the roadway. Therefore, there is no fundamental discrepancy between the methodological phases found in the HPDP VIA and the TH 14 VIA.

Although all three phases of the HPDP VIA process were identified and were apparently used by Minnesota DOT when it produced the TH 14 VIA, no separate section in the document reports the first-phase inventory. The inventory is reported only by implication as part of the second-phase analysis. This complicates this evaluation of the TH 14 VIA and further justifies examining both the HPDP VIA and the TH 14 VIA simultaneously.

Phase 1—Inventory. The first phase of the VIA process as outlined in the HPDP is to conduct an inventory of visual resources, viewers, and existing visual quality. The inventory phase answers three of the six questions of Minnesota DOT's six-step VIA process. The first three questions of the HPDP VIA process are:

1. What visual resources will be affected by the proposed project?
2. Which viewers will be affected by the proposed project?
3. What is the existing visual quality of the project area?

The TH 14 VIA answered these three questions but did not document the answers in the same order in which they were asked. In fact, the documentation of the inventory phase did not occur as a separate section in the TH 14 VIA document, but rather was reported as part of the analysis of alternative alignments.

Although the discussion of impacts by alternative is typically the fifth step of Minnesota DOT's six-question VIA process, the HPDP VIA gives an author latitude in documenting the steps, suggesting that streamlining the reporting of the VIA is more desirable than a rote following of the HPDP VIA

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methodology. Consequently the reporting of the inventory as part of the analysis should not be considered a failure to follow the prescribed procedure. In fact, it should be considered as following one of the overarching dictates of the HPDP VIA, to streamline documentation.

Step 1: Inventory of Visual Resources. As its first step, the HPDP VIA process asks and answers the question, "What visual resources will be affected by the proposed project?" This step defines the physical objects that compose the visible landscape as visual resources. It suggests that all visual resources can be assigned to one of three categories: natural visual resources, cultural visual resources, or project visual resources.

To be consistent within a single document and to provide continuity between all of Minnesota DOT's VIA documents, the HPDP VIA process suggests that authors retain fidelity to the three types of visual resources identified in the HPDP VIA. However, at the time of the development of the TH 14 VIA, only two categories of visual resources were being used by Minnesota DOT, natural and cultural. Probably since it was not a particular category to inventory at the time of the development of the TH 14 VIA, no project visual resources—except for one railroad overpass—were distinctly identified in the TH 14 VIA. This exception, which was cataloged as a cultural visual resource that was part of the corridor's railroad heritage, provided some of the most panoramic views to travelers.

As previously noted, the documentation of the inventory, including the documentation of visual resources, was woven into the TH 14 VIA as part of the analysis of visual impacts. As part of the analysis phase of the VIA, the documentation of visual resources included maps, photographs, and a narrative.

The locations and types of visual resources found in the project corridor were labeled on two rudimentary maps. The first map labeled the types and locations of natural visual resources. These included resources typical of a rural landscape—flat fields, wetlands, shelterbelts, native vegetation, lakes, ditches, streams, rolling terrain, tree farms. The second map labeled the types and locations of cultural visual resources which were also typical of a rural landscape—power lines and electrical substations, radio towers, commercial and industrial buildings, pipeline storage tanks, water towers, farmhouses, barns, churches, cemeteries, railroads, railroad trestles and overpasses, and townscapes.

The visual resources were also documented in the TH 14 VIA as labels on oblique aerial photographs. The photographs, on which the alignment of the alternatives had been drawn, illustrated not only the location and character of each visual resource, but also its proximity to each of the various alternatives.

The narrative describing visual impacts provided a thorough list of natural and cultural resources, identifying, describing, and documenting the character of visual resources by alternative for neighbors and by alternative and direction of travel for travelers. The narrative provided a description of the visual resources that were illustrated on the maps and photographs contained in the TH 14 VIA. By inventorying which visual resources were affected by which alternative, the narrative efficiently provided the reviewer and decision maker with the information needed to compare impacts to visual resources by alternative.

Step 2: Inventory of Viewers. The second step of the HPDP VIA asks and answers the question, "Which viewers will be affected by the proposed project?" This step defines viewers as the affected population. It divides viewers into two general groups: people who view the adjacent landscape from the road as travelers and people who view the road from the adjacent landscape as neighbors. Although the HPDP VIA allows for subdivision of both groups (travelers by mode of travel and reason for travel, and neighbors by land use), the TH 14 VIA used only the basic dichotomy, travelers and neighbors.

The HPDP VIA acknowledges the arbitrariness of dividing viewers into these two categories, noting that an actual person may, in the course of even a typical day, be both a neighbor and a traveler. The HPDP VIA suggests that the division of viewers into these categories and additional subcategories is only an analytical tool for understanding the visual preferences of "viewer groups." The HPDP VIA defines a viewer group as a collection of people with similar reasons for being in the vicinity of the transportation facility (e.g., land use for neighbors, or reason for travel or mode of travel for travelers). The HPDP VIA process eventually evolved into providing a description of the expectations and needs of the most frequently found viewer groups. Originally, however, these descriptions were based on the professional opinions of landscape architects who worked for the department and who based the descriptions on their conversations with social scientists in the department and outside academics, and on their experiences interacting with the public and regulatory agencies while conducting previous VIAs. These original descriptions, or "aesthetic preferences," are no longer used by Minnesota DOT.

By the time the TH 14 VIA was produced, however, the descriptions and visual preferences had become more general, referring only to travelers and neighbors. Travelers were defined as commuters typically concerned with maintaining existing landmarks that guide them to their destinations. Neighbors were defined as rural residents typically involved with agricultural production and primarily concerned with maintaining the existing rural character of the landscape. These visual preferences were established by the author of the report, providing a basis for evaluation of impacts that may be caused by the proposed highway project.

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Step 3: Inventory of Visual Quality. The third step of the HPDP VIA asks and answers the question, "What is the existing visual quality of the project area?" As defined by the HPDP VIA process, visual quality is a product of the interaction between the viewer and visual resources. The Minnesota DOT defines visual quality as a transactional process—the idea that what people perceive (in this case, what they find visually pleasing or displeasing) is based on the many interacting environmental and psychological factors that form a person's experience. Perception is to be considered a system involving the inherent physical attributes of the landscape and the particular neurological and psychological nature of the viewer, particularly their visual preferences. Visual quality, the HPDP VIA process insists, cannot be isolated in the environment or in the viewer; rather, it is defined as the nature of the relationship between the visual resources and the viewer.

This relationship between viewers and visual resources is measured on three different dimensions: (1) natural harmony, (2) cultural order, and (3) project coherence. Moreover, each dimension can be measured using a simple binomial (Yes/No) scale. Natural harmony is defined by the relationship between a viewer and the corridor's natural visual resources. Viewers judge the natural harmony of the existing scene as being either harmonious or disharmonious. Cultural order is defined by the relationship between a viewer and the corridor's cultural visual resources. Viewers judge cultural order as being either orderly or disorderly. Project coherence is defined by the relationship between a viewer and the project's visual resources (in this case, the transportation facility itself). Viewers judge project coherence as being either coherent or incoherent.

These binomial scales recognize no ordinal gradations (such as very harmonious, slightly orderly, or partially coherent) between the two identified states. The author of the VIA is instructed to choose one state for each dimension (harmonious or disharmonious; orderly or disorderly; coherent or incoherent) and to avoid any descriptive modifiers.

The viewers' judgment is based on how closely the existing state of visual quality matches the ideal state desired by a particular viewer group. If the existing scene is judged to match viewer expectations and needs, the scene is characterized as being a positive visual experience, with the elements that compose the existing scene appearing harmonious, orderly, and coherent. If the existing scene is judged not to fulfill viewer expectations or needs, it is seen as being a negative visual experience, with disharmonious, disorderly, and incoherent elements composing the scene.

The HPDP VIA recognizes that different viewer groups may evaluate visual quality of the existing scene differently. It is also possible for a particular viewer group to consider one dimension, such as cultural order, as being positive or orderly, and another dimension, such as project coherence, as being negative or incoherent. The dimensions are independent. It is not necessary for all of the dimensions to be positive or negative for a particular viewer group. The author of a VIA is encouraged to identify and document such differences.

The HPDP VIA suggests that authors use only the three binomial scales listed in the HPDP VIA (harmonious/disharmonious; orderly/disorderly; coherent/incoherent) when describing existing visual quality. The HPDP VIA emphasizes the need to keep these terms distinct, implying that it is not appropriate to combine the three measures into a single measurement of existing visual quality, such as "high visual quality" or "low visual quality."

Although the TH 14 VIA did not document existing visual quality separately, it implied the state of existing visual quality by identifying changes that would be caused by the construction of the project. The VIA labeled these changes as being "beneficial" or "adverse" impacts to visual quality and recorded these distinctions in the second phase of the assessment.

Phase 2—Analysis. The second phase of the HPDP VIA process includes two more steps of Minnesota DOT's Six-Step VIA Process, Steps 4 and 5. Step 4 is an analysis of the types of impacts by view groups. Step 5 is a summary of that analysis which compares impacts by alternatives. The analysis phase answers questions 4 and 5 of the Minnesota DOT's six-step VIA process:

4. How does the proposed project affect existing visual quality?
5. How do different alternatives affect visual quality?

The TH 14 VIA reports the first five steps of the HPDP VIA process as a narrative, supplemented with maps and photographs. Although the VIA does not document each step separately, it thoroughly describes each step with what is an appropriate level of detail for determining the presence of existing visual resources (Step 1), the types of viewers (Step 2), existing visual quality (Step 3) and changes to existing visual quality (Step 4), essentially reporting these first four steps as a discussion of impacts by alternative (Step 5). Interestingly, the TH 14 VIA conducts and documents its evaluation not only by alternative but by direction of travel, recognizing that direction of travel affects not only the sequencing of perception but in some cases the actual ability to see something. Analyzing impacts by direction of travel is not required by the HPDP VIA process but is, nonetheless, an effective addition to the TH 14 VIA.

Step 4: Identify Impacts to Visual Quality. For Step 4, determining visual impacts by viewer group, the HPDP VIA suggests that visual impacts need to be identified first by type and then by degree of impact for each viewer group. Visual impacts can be assessed for each viewer group independently, but the reporting is typically done by creating a composite

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viewer. This composite viewer can be referred to generically as the "affected population."

A composite viewer is an abstraction. It has the complete range of all of the sensitivities that are attributed to all viewer groups. It is an amalgamation that combines all viewer groups into a single viewer group or, more typically, two viewer groups—neighbors and travelers. The concept is premised on the idea that all viewers belong to more than one viewer group. Each viewer and each population of viewers are actually composite viewers.

The TH 14 VIA generally refers only to travelers and neighbors. Nonetheless, it also identifies several distinct viewer groups beyond those two (e.g., cemetery visitors and business neighbors) and examines how a particular alternative would specifically affect their viewing experience.

In determining the type of impact, the HPDP VIA defines impacts to visual quality as changes that the proposed project will cause to existing visual quality—that is, changes to natural harmony, cultural order, and project coherence. Despite pre-dating the final development of the HPDP VIA, the TH 14 VIA follows this formula with a high level of fidelity.

Once the type of impact has been identified, the degree of impact is determined for each viewer group. The degree of impact to visual quality is defined by the value of the impact, measured as being beneficial, adverse, or neutral. The degree of impact to visual resources is defined by the scale of physical changes to visual resources, measured as being either minor or major. The degree of impact to viewers is defined by the extent of impacts to viewers (essentially the number of viewers and views affected by the project) and measured as being either localized or widespread. Although these three dimensions define the nature of the visual impact and they are interrelated, there is no absolute correlation between them; they are independent variables.

The value, scale, and extent of an impact is determined by the professional judgment of the VIA author. Except for public and agency feedback on the VIA itself, the HPDP VIA process does not measure dimensions by actual viewers. It does, however, suggest that the public should be involved in the measurement process on complex or controversial projects.

The TH 14 VIA reflects the professional judgment of a staff landscape architect, with limited comments from other Minnesota DOT professionals. Its measurements are limited primarily to impacts to existing visual quality.

Step 5: Summarize Visual Impacts by Alternative. For Step 5, the TH 14 VIA lists the visual impacts by alternative but does not provide a comparative summary of impacts by alternative. The list of visual impacts in the TH 14 VIA is extensive and complete, including those that affect visual quality, visual resources, and viewers. However, the analysis is presented primarily as a narrative augmented by a map and photographs that depict visual resources and alternative alignments and the VIA does not include a comparative summary of impacts by alternative. A summary comparing impacts does occur in the TH 14 Mankato to Smiths Mill Draft Environmental Impact Statement (TH 14 DEIS). Therefore, the HPDP VIA requirements for Step 5 to provide a summary of visual impacts by alternative was completed as part of the project's environmental process. It would have been preferable, however, to have included this analysis in the actual VIA.

Phase 3—Design. The third phase of the VIA process uses the analysis of impacts to determine how visual quality in the project area can be (1) maintained by mitigating adverse impacts or (2) enhanced by ensuring the inclusion of beneficial impacts. In the third phase, the sixth question of the Minnesota DOT six-step VIA process is asked:

> 6. How are adverse visual impacts mitigated and beneficial impacts incorporated into the proposed project?

The HPDP VIA defines three types of impacts to visual quality: adverse, beneficial, or neutral. The design phase includes developing design concepts that mitigate adverse impacts or incorporate opportunities to include enhancements to visual quality created by beneficial impacts. Mitigation avoids, minimizes, or compensates for adverse impacts to visual resources or to the views of viewers. Enhancements are additions to the project (beyond those typically included in a transportation project) that improve visual quality by enhancing visual resources or the view for viewers.

Mitigation of Adverse Impacts. Avoidance is the preferred mitigation practice. It typically means selecting the alternative which has the fewest inherent adverse visual impacts to visual resources and viewers. Avoidance is difficult to achieve in practice because adverse impacts to one visual resource or viewer group may be neutral or even beneficial to another resource or viewer group. Frequently, regardless of which alternative is chosen, adverse visual impacts increase for some resources or viewers and decrease for others.

Minimization is used when avoidance is not possible. Typically, minimization means that the project has been designed in a manner that lessens unavoidable adverse impacts. Minimization is usually possible in practice by saving, to the greatest extent possible, those visual resources or views that the affected population values highly.

Compensation is required when minimization and avoidance are insufficient to maintain existing visual quality. Compensation is the addition of elements that replace or substitute for visual resources or views that were lost as part of the project. Compensation is mitigation and should not be confused with enhancements, according to the HPDP VIA. If avoidance and

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mitigation inadequately rectify adverse impacts, compensation is required.

Professional judgment is typically used to make a decision on how to mitigate adverse impacts, although public involvement is preferable.

Enhancements Incorporating Beneficial Impacts. Although they may be good public policy and a good social, economic, or environmental investment, enhancements are optional. Specific transportation enhancement funds may be available to partially fund an enhancement, but enhancements frequently include investment by organizations not receiving funds directly from a department of transportation. The identification of enhancement opportunities in a VIA alerts potential partners to the prospect for improving particular visual resources or views as part of the transportation project. Identifying such opportunities provides a mechanism for other organizations to leverage their capacity for improving resources and views.

For the TH 14 VIA, enhancements were limited to visual improvements of adjacent wetlands, creating views of selected cultural resources, and integrating park and ride lots into the construction of the roadway.

Evaluation Criteria

Objective. The HPDP VIA guidance uses an explicit, nominal method for measuring the qualities of the landscape. This nominal method establishes a set of distinct and objective categories from which an author of a VIA can choose for defining existing visual resources, viewers, and visual quality. It also establishes distinct and objective categories for defining impacts to visual resources, viewers, and existing visual quality that would be caused by the proposed project.

Visual resources are divided into three categories: natural, cultural, or project resources. Viewers are divided into two categories: travelers or neighbors. Visual quality, which is a product of viewers interacting with visual resources, is defined on three dimensions: natural harmony, cultural order, and project coherence. Natural harmony is categorized as being either harmonious or disharmonious; cultural order is either orderly or disorderly; and project coherence is either coherent or incoherent.

In a similar manner, impacts to visual resources are categorized as being major (involving many or large resources) or minor (involving few or small resources). Impacts to viewers are categorized as being widespread (involving many people) or localized (involving few people). Impacts to visual quality are categorized as being beneficial (adding to visual quality), adverse (subtracting from visual quality), or neutral (no change to visual quality).

The HPDP VIA assumes that the selection of categories should be obvious and consistently assigned regardless of personal bias. It provides guidance on how to best differentiate between categories where defining the division may be fuzzy. It particularly impresses the importance of consistently categorizing the same element across all Minnesota DOT documents. (As an example, a pasture arguably comprises both natural and cultural visual resources. *How* it is defined is less important than that it be *consistently* defined within the VIA document and, subsequently, across all of the Minnesota DOT's VIA documents.)

The HPDP and the Minnesota DOT VIA training originally gave guidance for differentiating categories of visual resources and viewers that had fuzzy boundaries. To ensure greater consistency, this guidance has now been modified, the training film is no longer available on-line, and the teaching of the VIA process has been replaced by training in CSS and VQM.

The TH 14 VIA divided the environment into natural and cultural resources. It identified travelers and neighbors. It implied a baseline for existing visual quality by stating how visual quality may change as a result of the construction of a particular alternative. It did not, however, identify the actual baseline for visual resources, viewers, or visual quality. Nor did it document how the baseline was determined. The baseline is merely implied in the section describing project impacts.

Although the TH 14 VIA documented impacts, it did not adequately document the existing status of visual resources, viewers, or visual quality. The HPDP VIA clearly indicates that baseline conditions for visual resources, viewers, and visual quality need to be established. By using distinct and distinguishable categories for visual resources, viewers, visual quality, and impacts to visual quality, it provides a replicable, objective process. However, it does not require that these baseline conditions be recorded in the project VIA.

At the time of the writing of the TH 14 VIA, the Environmental Studies Unit and its landscape architects, who were part of the Minnesota DOT's Office of Environmental Services, were responsible for administering the department's VIA process. Today, under a new administrative arrangement, a VIA is rarely required. Visual issues are discussed in the general environmental documents for a project, but without a VIA being conducted.

Valid. The HPDP VIA guidance thoroughly lists the laws and rules that provide the legal basis for requiring the assessment of visual impacts for Minnesota DOT projects. It particularly states that the Minnesota DOT VIA process was developed in response to NEPA requirements. These mandates were not referred to in the TH 14 VIA document, which potentially reduces that document's appearance of validity. Project VIAs produced by Minnesota DOT since the formal

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implementation of the HPDP VIA process have tended to identify these legal obligations.

The Minnesota DOT VIA process does not limit its analysis to what appears scenic or natural. It does not solely rely on art or design tradition. In practice, however, it relies almost exclusively on expert opinion. Although it incorporates viewers and viewer responses into its determination of existing visual quality and impacts, it rarely uses the actual public to ascertain these responses or other existing conditions or impacts. The reliance on a single expert's opinion, rather than that of a group of experts, can exacerbate the potential for an idiosyncratic approach. The public's role is relegated to responding to a VIA, not participating in its creation. Involvement of the public or other agencies is limited to commenting on the lone expert's assumptions and findings. The potential of the Internet or other methods for gathering information from the public or other constituents is typically not utilized.

Separately conducted research supports what and how the HPDP VIA measures in relation to visual impacts (Colorado DOT 2010); however, this approach misses the opportunity to discover if what the public thinks about a particular corridor and project differs from or coincides with the opinions derived by the designated authors of the VIA. Although the research that led to the HPDP VIA process has influenced Minnesota DOT's understanding of what is valued by viewers, the public information-gathering technique used in that research is rarely applied to individual projects.

In the past, the Minnesota DOT has used simulations as part of its VIA process. This also was done in a rudimentary way in the TH 14 project to make location decisions, and it has been done on other projects for structural decisions. Currently, simulations are typically used as part of Minnesota DOT's VQM process as a method for determining the aesthetic details of landscaping or architectural treatments of structures.

Reliable. The Minnesota DOT has established a process that is reliable by creating a procedure by which an adequately trained professional will typically identify the same visual resources, viewers, visual quality, and impacts as any other adequately trained professional. The results are generally replicable, and the most extreme negative effects are identified. However, since the VIA process does not require documentation of the process and proof that the process has been followed, it is frequently not known if the process was followed accurately. The TH 14 VIA did not document all of the steps used to assess visual impacts. Therefore, it is difficult to know it the HPDP VIA process was adequately followed.

In addition to these reporting difficulties, the VIA process currently available on-line for guidance is missing a few key components, such as a listing of the aesthetic preferences of selected viewer groups, which is critical in analyzing impacts to existing visual quality.

Although the use of objective binomial variables promotes replicability during the inventory and analysis phases, reliability depends on training and expertise in the use of the process. Furthermore, results may be more variable for identifying required mitigation and enhancement opportunities. Advanced design skill or more design experience may result in one VIA author identifying better mitigation options and more enhancement opportunities than another author. To support reliability, the HPDP VIA guidance provides categories for the author to consider when developing mitigation and enhancement strategies, guiding different authors to identify similar strategies. Nonetheless, the third phase of the HPDP VIA process—design—is the phase that is most subject to variability due to the experience and knowledge of a VIA's author.

Precise. The level of precision appropriate for a Minnesota DOT VIA process is inherently related to the extent of the project. The process works well for large, complex projects and for small, simple projects. The level of detail used to record the inventory or analysis of a particular category of visual resources, viewers, visual quality, and visual impacts can be adjusted to fit the project scope.

In an attempt to streamline documentation, the Minnesota DOT VIA process does, however, allow VIAs to record only the findings of impacts, not the process that was necessary to reach the findings. In other words, a VIA document may not record all six steps that were followed to reach its findings. This limits others' ability to review the process for errors or omissions. The TH 14 VIA, for example, only reported impacts, which limits the ability to review whether the process adequately identified baseline conditions for visual resources, viewers, and existing visual quality.

How and when to use simulations is generally identified by the HPDP VIA guidance, which includes a suggestion that a wide range of techniques can be employed, depending on the circumstances. Specific methods for choosing the most appropriate locations, season, and time of day for images to be used as a basis for simulations is not included in this advice, however. The TH 14 VIA used an appropriate level of simulation for determining locations, which were the focus of the DEIS.

Versatile. The Minnesota DOT's VIA process is inherently versatile since it is premised on first identifying the visual resources and viewers affected by the proposed project. It is not dependent on a certain range of visual resources or viewers to be effective. However, it does create only three types of categories for resources (natural, cultural, and project) and only two general categories for viewers (travelers

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and neighbors), and the small number of categories may limit versatility. Nonetheless, within those general categories, subcategories can be created by the VIA author, fostering versatility.

In addition to being applied to the rural and small-town settings of the TH 14 VIA, the Minnesota DOT's VIA process has been applied to projects in a wide range of settings, from wilderness settings to the urban core of metropolitan areas. The process also has been used on a wide range of transportation project types, from adding turn lanes to an existing roadway to the construction of a new freeway on new alignment. It also has been used for non-transportation projects, including assessing the visual impacts that would be caused by the construction of a dam on a tributary of a national scenic river in Ohio.

Pragmatic. The Minnesota DOT's VIA process is designed to be used easily by any adequately trained professional and can be understood readily by decision makers, regulatory authorities, and the general public. Although in practice it has been primarily the domain of trained, on-staff landscape architects, the on-line directions for how to conduct a VIA potentially allow anyone to prepare a VIA for Minnesota DOT. Consulting landscape architects or planners and on-staff preliminary engineers or planners have conducted VIAs in the past 2 decades following the Minnesota DOT process. An introductory training session was originally regularly given as part of Minnesota DOT's environmental or CSS training programs. At the request of FHWA, this classroom introductory session was converted into a video tape that was distributed nationally to each state's department of transportation and was also available on-line until recently. A few states—notably Ohio—adopted the process.

Although the on-line directions for how to conduct a HPDP VIA still exist, they have been edited and certain critical concepts, especially those differentiating viewer groups, have been removed. The VIA process is no longer part of any Minnesota DOT training program. Training on how to handle visual issues has switched from an analysis of impacts to creating opportunities for improving corridor aesthetics through a stakeholder involvement process. This process, called visual quality management (VQM) and administered primarily by Minnesota DOT's Bridge Office, focuses almost exclusively on determining the aesthetic detailing of bridges, retaining walls, and noise walls.

Environmental documents now typically state that visual issues will be resolved as part of a CSS and public engagement process during the development of construction documents. In practice, this has narrowed the focus of visual issues to determining planting designs and architectural detailing of structures.

Understood Easily. The six-step VIA process, with each step based on answering six simple questions, is understood easily by practitioners, decision makers, regulators, and the public. At a minimum, in this particular case, it seems to have affected decision makers.

The phrasing of the six questions may seem to ask for an opinion rather than a statement about how a person engages the environment. (For example, the training video suggests that the question associated with Step 3 is "What do viewers like and dislike about the existing scene?") Although they are easily understood, if the questions that form the basis of the VIA process suggest that answers are merely opinion, they may create confusion and actually undermine the intellectual basis for the VIA process. Rephrasing the questions could be helpful in avoiding that pitfall.

Useful. The Minnesota DOT process has proved itself helpful in identifying preferred locations and alternatives, particularly the avoidance, minimization, and compensation of adverse impacts to visual resources, viewers, and visual quality. It has also been useful in identifying potential opportunities for enhancing visual quality by incorporating impacts beneficial to the experience of visual quality into Minnesota DOT projects. However, the practice of reporting only if a project will cause impacts to designated scenic resources in the department's environmental documents may have reduced the standing of the VIA process, which is still theoretically required by the department.

Implemented Consistently. The Minnesota DOT VIA process as established by the HPDP was still under development at the time of the TH 14 project. The evaluation of consistency for the TH 14 VIA had to be inferred, given that none of the first four steps of the HPDP VIA process were recorded in the TH 14 VIA document. Although the TH 14 VIA essentially followed the concepts of the Minnesota DOT process to assess visual impacts, it did not use the category "project visual resources" and that omission may have limited the discussion of visual resources associated with the highway. Also, in examining impacts in both directions of travel, the TH 14 VIA varied from the HPDP guidance. However, the innovation actually yielded a more thorough discussion of visual impacts, and suggests a path that was not taken when the process was codified by the Minnesota DOT.

Today, consistent use of the HPDP VIA process is not mandatory. Increasingly, Minnesota DOT's VQM process is substituted for conducting a VIA. However, the VQM process focuses on public involvement in generating solutions to a very limited set of design issues that relate to architectural treatments of walls and bridges and planting design. The VQM process may lack the ability to discern impacts and

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identify opportunities for avoidance, minimization, compensation, or enhancement.

Legitimate. Legally, the Minnesota DOT VIA process was developed in response to the requirements of NEPA, several presidential Executive Orders, and FHWA policy guidelines. Scientifically, it was formulated from an understanding that the perception of the environment and visual impacts needed to be broader in its approach than merely using an artistically picturesque approach to aesthetics. The process recognizes that a picturesque approach may satisfy tourists in a scenic wilderness setting but would fail to identify impacts that would concern the majority of travelers, especially the average commuter.

The TH 14 VIA does not identify its legal or scientific pedigree. The HPDP VIA guidance does a good job of identifying the legal basis of the process but is less forward in establishing its scientific basis.

Summary

The Minnesota DOT VIA process uses a nominal measuring system to inventory, analyze, and mitigate visual impacts. It also identifies enhancement opportunities. The process does a fairly good job of identifying visual resources, viewers, existing visual quality, and visual impacts. The use of categories is legitimate and expedites the inventory and analysis. However, clarifying the domains of these categories is critical to the success of the process. Definitions that used to be in the HPDP VIA guidance but that have been removed over the last 20 years need to be restored using the latest research available for establishing scientifically valid categories. Similarly, training needs to be updated and regularly offered to practitioners writing, reviewing, or simply reading VIAs.

The questions that form the basis of the DOT's unique six-step VIA process could be phrased in a manner that does not insert subjective opinion into the assessment of visual impacts. The six questions must be aligned with the premise that particular viewers have distinct visual preferences based on their relationships with visual resources, particularly as these relationships relate to their objective needs and expectations.

It is suggested that language addressing the legal requirements for conducting a VIA be incorporated into Minnesota DOT policy and procedures, including language that strengthens the enforcement of those requirements. A VIA must be conducted for any project requiring an environmental review. Conducting a VIA is not optional; it is a required part of federal environmental documentation.

Public involvement in the Minnesota DOT VIA process could be re-imagined. The current process is based on objective relationships between abstract viewer groups and visual resources rather than on the opinions of actual viewers. Nonetheless, it is important to develop a way for the public to become involved with defining the general aesthetic preferences of viewer groups and/or become involved with a VIA being conducted for an individual project.

The use of maps, photographs, and simulations is a key part of taking inventory and analyzing visual impacts, and is critical to formulating mitigation and enhancement strategies. The HPDP should continue to suggest the use of these tools in assessing visual impacts.

Maintaining document consistency is important. Rather than perpetuate a uniform approach to conducting a VIA in its HPDP manual and re-instituting a VIA training program, the DOT could re-establish the primacy of a single office with staff dedicated to overseeing the use of the Minnesota DOT VIA process.

Responding to the findings in *NCHRP Report 741* will help the Minnesota DOT fulfill all ten criteria for an effective VIA process. A summary of the evaluation criteria ratings for the HPDP VIA guidance appears in Table 6.2.

6.1.3 Vermont

Sources

Agency: Vermont Agency of Transportation
Project: Champlain Parkway
Citation: Jean E. Vissering (2011). Champlain Parkway Assessment of Visual Impacts. City of Burlington, Vermont.
Web Addresses of Reviewed Materials: Federal Highway Administration, Vermont Agency of Transportation, and City of Burlington (2009). Southern Connector/Champlain Parkway Project, Chittenden County, Vermont, Final Supplemental EIS (FHWA-VT-EIS-77-02-FS). Available at: http://www.

Table 6.2. Evaluation criteria ratings for the HPDP VIA guidance.

Criteria	Rating
Objective	√
Valid	√√
Reliable	√√
Precise	√√√
Versatile	√√√
Pragmatic	√√√
Understood easily	√√
Useful	√√
Implemented consistently	√
Legitimate	√√

Note: The more check marks given a particular criterion, the more that criterion is realized in the VIA examined.

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champlainparkway.org/_resources/documents/2009FSEIS/FSEIS.pdf. Accessed (August 22, 2012).

Short Project Description

The Burlington Belt Line was proposed in 1965 as a freeway running the entire length of the city. The northernmost segment was funded and built in 1971; however, the remainder became bogged down in right-of-way acquisition, lack of funding, and concerns with residential displacement in the Old North End neighborhood. A revised Southern Connector was approved in 1979 for a 4-lane arterial street with at-grade intersections linking Burlington's city center to Route 7 and I–189. Construction began, but was halted due to the unanticipated extent of hazardous waste contamination in the right-of-way. Remediation and interim alternative routes were explored through the 1980s, but public opposition to these plans began to surface and grew through the 1990s. In response, the City of Burlington investigated additional options, referred to as the Champlain Parkway, including a 2-lane at-grade route that avoided the Superfund site. The objectives of the redesigned proposal were (1) to remove trucks and through traffic from residential streets, and (2) create a better fit with adjacent neighborhoods by using only 2 lanes, narrowing lane widths, lowering design speed and speed limits, improving the streetscape, and providing for safe pedestrian crossings. Numerous public meetings were held in the 2000s, leading to various adjustments. A DEIS was prepared in 2006, the Final Environmental Impact Statement (FEIS) was submitted in 2009, and a Record of Decision was made in 2010.

The 2009 FEIS briefly describes the affected visual setting and visual impacts, but it does not reference a VIA or identify the procedures that were used to evaluate visual impacts. However, the City of Burlington commissioned a separate VIA to fulfill the requirements of Vermont's Act 250, known as the Land Use and Development Act. It is this VIA that is reviewed here.

VIA Procedures

The VIA is intended to address Criterion 8 of Vermont's Act 250, which requires that projects "not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas (10 V.S.A § 6086(8))."

The procedure to determine if an aesthetic effect has an "undue adverse effect" was defined by the State Environmental Board's 1985 Quechee Lakes Decision (*Quechee Lakes Corporation.* #W04-110A-EB (11/4/85)). Called the "Quechee Lakes test" or "Quechee Analysis," this assessment has two parts: (1) determination of whether an aesthetic effect is adverse and, if so, (2) determination of whether the adverse effect is undue. The Quechee Analysis may be unique in the United States as the only VIA procedure defined primarily through court order.

Under the Quechee Analysis, the standard for assessing whether a project has an adverse scenic effect is its harmony and fit with its surroundings. If a project fits with its context, it will not have an adverse effect. The elements considered in the determination of whether an effect is adverse are the context of the surrounding landscape; the project design, color, and materials; the project visibility; and effects on open space.

Once an effect has been defined as adverse, one of the following three questions must be answered affirmatively for the adverse effect to be considered undue:

> "1. Does the project violate a clear written community standard intended to preserve the aesthetics or scenic natural beauty of the area?
>
> "2. Does the project offend the sensibilities or the average person . . . when viewed as a whole is (it) offensive or shocking, because it is out of character with its surroundings, or significantly diminishes the scenic qualities of the area?
>
> "3. Has the applicant failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the proposed project with its surroundings?" (Vermont ANR 2007).

Evaluation Criteria

Objective. A Quechee Analysis is typically qualitative in nature, and is frequently the work of a single landscape architect. The court has provided ample description of the standard and criteria, though there are no established procedures for how to measure or document them and no thresholds for evaluating them. This ambiguity appears to be more of a problem for determining whether the impact is adverse; the two criteria for determining if it is undue (i.e., violating a clear community standard, and taking generally available mitigation steps) are relatively straightforward. However no method is suggested for determining if the impact is shocking or offensive to an average person. In practice, a Quechee Analysis typically presents a rationale built around descriptive text and photographs that address the Quechee criteria. It is normal that landscape architects representing the different parties will provide different descriptions and reach different conclusions.

In the case of the Champlain Parkway VIA, the project description and determination of adverse effects are brief and straightforward. It is accepted that the impacts will be adverse, though limited justification is given for this judgment. In considering whether these impacts are undue, substantial documentation is provided to show how the project fits with local standards and the extent to which the impacts

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have been mitigated. However, that the change will not be shocking to typical viewers is less well supported. For example, reference could have been made to comments made at the several public meetings, or an independent survey could have been conducted. Instead, the primary reasoning is that the project has been under development for decades; therefore, how could anyone be shocked?

Valid. The Quechee Analysis evaluates the harmony and fit of a project with its surroundings. The criteria seem to be reasonable for this purpose, though no peer-reviewed research has ever been presented to justify the approach. However, the assumption appears to be that harmonious fit results in no scenic impact, which is the standard for Act 250's Criterion 8. This may not be adequate in situations where there is agreement that scenic quality needs to improve, or that a land use change is desirable.

The Champlain Parkway VIA presents a cogent description of the project and its setting, but lacks a justification for its determination of adverse scenic impacts. No process of synthesis or determination of thresholds is identified. The discussion of congruence with written community standards and reasonable mitigation are adequate, but the determination that the project will not be shocking or offensive to average viewers is not strongly justified.

Reliable. Experience with the Quechee Analysis indicates that trained professionals can reach very different conclusions, in part because there are no explicit, unambiguous procedures. While no evaluation has been conducted of the Quechee Analysis' reliability, it is reasonable to expect that landscape architects representing the developer and opponents could reach very different conclusions after evaluating the same criteria.

The landscape architect responsible for conducting the Champlain Parkway VIA is identified in the document. It appears that the VIA fieldwork, analysis, and reporting are the work of one individual. There is no discussion of whether the VIA is a reliable assessment, however, or whether it should be considered the professional opinion of a single landscape architect.

Precise. The Quechee Analysis provides no guidance for making measurements, and as a result there is no discussion of the appropriate grain or scale at which to conduct the assessment.

The length of the Champlain Parkway is approximately 2.3 miles. The VIA divides the corridor into three segments, each of which represents an area of relatively homogeneous use and visual character. Based on the descriptive text and the reviewer's familiarity with the corridor, the grain and scale of this analysis are very appropriate. Residents appear to be the only viewers considered, though clearly there will be travelers using this route. While various viewpoints are mentioned, there is no systematic evaluation of any specific viewpoints.

Versatile. The Quechee Analysis applies to commercial or industrial construction on more than 10 acres of land (1 acre in towns with appropriate subdivision and zoning laws), subdivisions with ten or more residential units, or roads that are 800 feet long or provide access to five or more lots. Even though this applies to a very broad range of projects, in practice the Quechee Analysis has been successfully scaled to reflect the magnitude and significance of the potential scenic impacts. Part of the credit for this is due to the Environmental Court, which has recognized the need for a procedure that is appropriate to the circumstances encountered. However, the descriptive and qualitative nature of the Quechee Analysis also contributes to its flexible versatility.

Pragmatic. Pragmatism can be thought of as the interaction of two factors: sophistication of knowledge and reasonableness of cost. This VIA appears to have been prepared by one individual with familiarity of the study area. From this standpoint, the VIA appears to have been very cost effective.

On the other hand, the only specialized VIA analysis is the inclusion of three photosimulations; there are no visibility maps, interviews with randomly sampled viewers, or measurements of visual qualities associated with scenic quality or impact. The level of sophistication of this VIA is modest, but the VIA still thoroughly addresses the criteria to determine whether the impacts are undue or merely adverse.

Understood Easily. This criterion involves the interaction of public involvement and their understanding of the project. The VIA makes only one mention of public comments (concerning sound barriers), even though dozens of public information meetings were held in the past decade to provide the public opportunities to learn about and comment on the project. Since there is no on-line record of what transpired at these meetings, it was not possible to determine if scenic impacts were not an issue or if they were being ignored.

The text describing the scenic impacts and mitigation employed for each segment of the project are clearly descriptive and easily understood. A photo essay that describes the visual character of each segment and three eye-level simulations are included as appendices to the VIA. Finally, the text is noticeably absent of jargon and there are no esoteric analyses.

Useful. A Quechee Analysis requires a thorough and systematic consideration of the three factors thought to create an undue scenic impact: violation of a clearly written community standard, being shocking or offensive to an average person, and failure to take generally available mitigating steps to improve the harmony of the project with its surroundings.

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This focus on specific criteria rather than an abstract analysis is one of the reasons that the Quechee Analysis is useful.

The process of environmental review has significantly changed the Burlington Beltway as it has evolved in response to environmental conditions and public concerns into the Southern Connector and finally the Champlain Parkway. The reviewed VIA appears to have been prepared after the FHWA Record of Decision was signed, so it could not have been involved in that decision. However, it will be part of the State's Act 250 review, which is also required and still under review.

Implemented Consistently. One of the strengths of the Quechee Analysis is that it provides for judgment about how to address the criteria based on the magnitude and significance of the potential scenic impact. As a result, specialized analyses, such as viewshed maps and photo-realistic simulations, are prepared for larger projects but not required for smaller ones. Similarly, alternatives may be evaluated for controversial projects but are not required. Though the standards and criteria are the same for every Quechee Analysis, they are not consistently addressed in the same way or with the same rigor for projects with very different potential scenic impacts.

A moderate level of rigor is used in Champlain Parkway's Quechee Analysis. For instance, the five criteria used to determine whether the scenic impact is adverse are not systematically considered one at a time. As a result, color and materials are not really considered, and compatibility with the surroundings and areas with visibility of the projects are addressed in a very general way. This seems appropriate, however, for a project where the controversy surrounds how to direct traffic intensity rather than the scenic impacts per se.

Legitimate. The Quechee Analysis was established by judicial case law to clarify the provisions of Act 250. It is required for all but very small development projects in Vermont. After more than 25 years of experience with this approach, it has come to be widely accepted as legitimate by developers, environmentalists, and the wider public. It is generally accepted that smaller developments, such as a new church on a 1-acre parcel, will be required to prepare a modest descriptive VIA. On the other hand, projects with a greater potential for scenic impacts, such as wind energy developments, require lengthy VIAs that rigorously address all of the Quechee Analysis criteria and include visibility maps and photo-realistic simulations to be considered complete. The rigor of the Champlain Parkway VIA is appropriate to the level of concern about the potential scenic impacts.

Summary

Vermont's Act 250 requires that the environmental effects of all development projects larger than 10 acres evaluate potential environmental impacts. The approach to evaluate scenic impacts has been specified through judicial review, and is known as the Quechee Analysis. It is based on a series of questions that are used to determine if the scenic impact is adverse, and then if an adverse impact is also undue. While these questions do not preclude sophisticated quantitative analyses, it is more typical that they are answered through qualitative descriptions that are understood easily by the public. This approach has proved to be very versatile and pragmatic, generally resulting in a level of rigor and sophistication appropriate to the magnitude and significance of the potential scenic impact. However, the individual nature of the qualitative description and lack of standard measurements tends to reduce the objectivity and reliability of the analysis. A summary of the evaluation criteria ratings for the Champlain Parkway VIA appears in Table 6.3.

Table 6.3. Evaluation criteria ratings for the Champlain Parkway VIA.

Criteria	Rating
Objective	√
Valid	√√
Reliable	√
Precise	√√
Versatile	√√√
Pragmatic	√√√
Understood Easily	√√√
Useful	√√
Implemented consistently	√√
Legitimate	√√√

Note: The more check marks given a particular criterion, the more that criterion is realized in the VIA examined.

6.1.4 Washington State

Sources

Agency: Washington State Department of Transportation (Washington State DOT)
Project: US 2 – West of Leavenworth – Slope Stabilization Project
Citation: Visual Discipline Report, US 2 – West of Leavenworth – Slope Stabilization Project, Washington State Department of Transportation, September 2010.
Web Addresses of Reviewed Material: http://www.wsdot.wa.gov/publications/fulltext/roadside/Leavenworth.pdf.

Short Project Description

Highway. The Stevens Pass Scenic Byway is a 3-mile segment of a 2-lane arterial highway serving cross-state and

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cross-country travel connecting Spokane with the Seattle metropolitan area.

Landscape Setting. The landscape setting is a narrow mountain pass through the alpine wilderness of Wenatchee National Forest in the Northern Cascade Range adjacent to the Wenatchee River, designated under the Wild and Scenic River Act as a federal recreational river.

Viewer Groups. Two major viewer groups were identified: tourists and "business travelers." Tourists frequent the corridor in both summer and winter. Business travelers are primarily commuters going to and from work, also throughout the year.

Transportation Issue. Falling and fallen rock create hazards for motorists and damage the highway.

Proposed Solution. The proposed solution involves stabilization using a combination of shotcrete, rock anchors, and cable netting to constrain and control loose rock from falling on the highway. Moving the road out of harm's way and widening the ditch to better serve as a catchment area was determined not to be a practical alternative due to the physical and regulatory constraints.

Purpose of VIA. This VIA evaluates and compares visual impacts associated with alternative stabilization methods to determine a set of preferred methods and mitigation measures.

VIA Procedures

The Washington State DOT considers the assessment of visual impacts essential to its analysis of the environmental impacts that may result from the construction or reconstruction of transportation facilities. The department's Environmental Procedures Manual states that a visual impact analysis is to be conducted for all types of transportation projects, including "highway, ferry, rail, and aviation projects." It recognizes that this analysis must be conducted in accordance with procedures established by its federal partners, suggesting that different federal agencies have distinct requirements and methods for conducting such an analysis.

For highway projects, Washington State DOT has adopted, with some clarifying modifications, the VIA process that FHWA has distributed to the states as guidance. It calls the document that records the process and the findings of a VIA a "Visual Discipline Report." The policies and procedures that Washington State DOT uses to guide an individual in writing a Visual Discipline Report are accessible on-line, extensive, and fully integrated. Key components published by the Washington State DOT include:

- Environmental Procedures Manual, Chapter 459, "Visual Impacts" (June 2011). Available at: http://www.wsdot.wa.gov/publications/manuals/fulltext/M31-11/459.pdf#page=(page45-11). This document provides an overview of how the Washington State DOT would like a VIA conducted and reported. It introduces the concept of visual impacts, briefly asserts why they are useful, addresses how they are conducted by the Washington State DOT, and provides a glossary of terms and a comprehensive listing and explanation of the applicable federal and state statutes and regulations that require the Washington State DOT to evaluate visual. The document also includes on-line and other references to additional policy and technical guidance.
- Environmental Procedures Manual, Chapter 456, "Historic, Cultural, and Archaeological Resources" (June 2011). Available at: http://www.wsdot.wa.gov/publications/manuals/fulltext/M31-11/456.pdf. This document provides further guidance on assessing and documenting visual impacts to historic and cultural resources.
- Roadside Classification Plan (Publication No. M 25-31, last updated November 2011). Available at: http://www.wsdot.wa.gov/Publications/Manuals/M25-31.htm. This publication defines the Washington State DOT roadside policy of ascribing not only a distinct landscape category to every state highway but a particular visual character that must be maintained or enhanced. This plan, consequently, serves as a fundamental basis for determining the visual impacts of a highway project.
- Visual Discipline Report Examples. Available at: http://www.wsdot.wa.gov/Design/Roadside/Visual.htm. These on-line samples of Washington State DOT VIA reports provide a template to guide authors, administrators, and reviewers. Washington State DOT environmental documents for individual projects, which typically include at least a summary of an assessment of visual impacts, are also available on-line to provide additional practical guidance. (For example, see the January 2012 DEIS for SR 525, Mukilteo Multimodal Terminal, available at http://www.wsdot.wa.gov/NR/rdonlyres/5B6748B1-B215-4CF8-A41F-38C2C07D4877/81386/FinalMukilteoDEIS_Chpt4_1of3.pdf.) Together, these on-line examples illustrate how the Washington State DOT prefers to conduct and record a VIA for a wide range of project types and settings, providing authors with useful templates to complete their work skillfully and accurately.
- Visual Impacts Discipline Reports Checklist (June 2010). Available at: http://www.wsdot.wa.gov/NR/rdonlyres/4F50855B-A15F-497B-BAC6-EF10AB5A11B0/0/DIscRpt_Visual.pdf. This checklist provides an outline of what Washington State DOT requires and also is an excellent quality assurance/quality control form for verifying if the document fulfills the Washington State DOT requirements for adequately assessing visual impacts.

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- Visual Impact Assessment for Highway Projects, 1981/1988, FHWA Publication No. FHWA-HI-88-054. Available at: http://www.wsdot.wa.gov/publications/fulltext/Roadside/fhwavia.pdf. Although this document provides the original basis for the state DOT's approach to assessing visual impacts, Washington State DOT has modified the methodology as identified in previously noted on-line documents.
- Additional guidance for other social, economic, and environmental issues that may, on any particular project, be related to visual quality issues can be found in documents on the Washington State DOT's NEPA/SEPA Guidance web page, available at: http://www.wsdot.wa.gov/Environment/Compliance/.

Washington State DOT directions for conducting a VIA and subsequently reporting it in a Visual Discipline Report are thorough and demanding. According to the Visual Impacts Report Discipline Checklist, each report is to have nine sections:

1. **Executive Summary,** a summary of items 2 through 6 below.
2. **Introduction,** providing a general overview including (a) legal justification for report; (b) project purpose and need; and (c) a description of project and alternatives.
3. **Methodology,** identifying (a) the name of the methodology used to conduct the assessment; (b) threshold criteria used to scope the need to conduct the assessment; and (c) a description of the process and criteria used to conduct the assessment.
4. **Affected Environment,** including identifying (a) the existing and designated landscape setting; (b) the viewers and their attributes; and (c) the viewing experience with key views.
5. **Potential Effects,** determining direct, indirect, and cumulative impacts by viewer groups at key views using the Washington State DOT reporting forms.
6. **Mitigation,** including a discussion of how best to avoid, minimize, or compensate for adverse impacts and how to incorporate beneficial impacts as enhancement opportunities.
7. **References,** which are to be noted.
8. **Appendices,** including all pertinent documents and forms—especially the completed Washington State DOT visual analysis form.
9. **List of Preparers.**

This outline fits with the reporting requirements and nomenclature of most environmental documents. In practice, the Washington State DOT Visual Discipline Reports follow this outline very accurately, including the Visual Discipline Report for the US 2 – West of Leavenworth – Slope Stabilization Project.

Evaluation Criteria

Objective. The Washington State DOT VIA procedure is objective to the extent that it is designed to eliminate individual bias. Washington State DOT provides thorough directions and a set of templates on how to conduct a VIA. This standardizes much of the approach to assessing visual impacts regardless of who is conducting the assessment. However, the Washington State DOT VIA process is dependent on professional judgment, and the assumption that all adequately trained professionals will assess existing and proposed visual quality (and therefore impacts) similarly, if not identically, is not tested by the process—there is no third-party verification built into the process. However, this issue has been mitigated by having the same individual responsible for overseeing and reviewing all VIAs for over a decade.

The Washington State DOT VIA process uses an explicit, normative rating system in which a professional assigns numerical labels to define values for (1) the character of the landscape before and after construction, (2) the sensitivity of viewers to change, and (3) the visual quality of the landscape as thought to be perceived by viewers. The process follows the FHWA–VIA process, which incorporates quantitative analysis. It treats the numerical labels as if they are quantities; however, the numbers used in the Visual Discipline Report for the US 2 – West of Leavenworth – Slope Stabilization Project do not reflect actual measurements. Treating numerical labels as quantities introduces a risk that readers of a VIA may interpret the labels as measured quantities. It is important that the narrative language be extremely clear if numerical labels are used in this way. The use of numerical labeling is further discussed under the criterion "Legitimate."

The Washington State DOT VIA method uses a narrative, photographs, maps, and simulations to describe relevant characteristics of the landscape, viewers, visual quality, and visual impacts, allowing a reviewer to understand the process and its findings.

Through the use of the Washington State DOT Roadside Classification Plan, the Washington State DOT has specified visual management objectives for every segment of highway on the Washington State DOT system. These management objectives are identified and used as a baseline for determining if impacts caused by the proposed project need to be mitigated or if there is an opportunity for the proposed project to enhance visual quality in the project corridor if the corridor's existing visual quality currently does not meet its management objective.

Valid. The legal basis for conducting a VIA is clearly documented by the Washington State DOT, both in its policy and procedural manuals and in each VIA. The Washington State DOT's environmental guidance specifies that local ordinances, plans, and policies are to be included in devel-

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oping a VIA. For the VIA conducted for the US 2 – West of Leavenworth – Slope Stabilization Project, only the legal requirements of federal and state laws are invoked to justify conducting a VIA; no local jurisdiction requirements were identified. Since the highway was located in a national forest, was adjacent to a federally designated river, and was part of a nationally designated scenic byway, the VIA document acknowledges federal agency requirements related to scenic quality, and that impacts to visual quality would be a concern to those agencies having jurisdiction over these scenic designations.

The Washington State DOT VIA process, although perhaps skewed toward analyzing what is considered scenic—it certainly emphasizes the scenic value of nature in its guidance and in practice—is not solely interested in scenic quality and does not mistake visual quality as being equal to scenic quality or what appears natural. Nonetheless, for the US 2 – West of Leavenworth – Slope Stabilization Project, the visual qualities that are analyzed are exclusively scenic.

The Washington State DOT process primarily relies on trained, expert opinion. Its guidance documents assert that expert opinion—contrary to the studies our research previously discovered—accurately identifies those visual issues that the general public would be concerned about if they had been asked. The expert's opinion, following the guidance provided by FHWA and subsequently adopted by the Washington State DOT, relies on the professional tradition of aesthetics as defined by the practice of art and design. In particular, the concepts of vividness, intactness, and unity are used almost exclusively to define visual quality and visual impacts.

Viewer response is identified as a factor in the determination of visual impacts in the Washington State DOT process but is determined by the expert conducting the VIA procedure, including assumptions about viewer sensitivity and duration of the views. Local planning documents are used as a surrogate for public input. Surveys of actual viewers are not suggested by the Washington State DOT guidance, nor were they conducted as part of the project VIA under study. Viewer input appears to be limited to reacting to public review of the project's environmental documents. Such documents only include a summary of the VIA process and its conclusions. There appears to be no feedback mechanism for the Visual Discipline Report itself, however.

Reliable. The Washington State DOT VIA process is very prescriptive. The required VIA procedure is well documented by a set of interrelated policy and procedural manuals that explain and reinforce the Washington State DOT preferred VIA process. It is likely that an adequately trained professional who follows the Washington State DOT procedures would reach similar if not identical conclusions as any other adequately trained professional following these procedures.

Washington State DOT policy and procedural methods require the identification of those persons who conducted the VIA. Washington State DOT uses a quality assurance/quality control process with checklists and a designated in-house reviewer to ensure consistency throughout the state, regardless of project setting, type, or size. The repeated use of the same personnel conducting the VIAs seems to have made the subsequent products progressively more thoroughly executed. As a fairly recent document, the US 2 – West of Leavenworth – Slope Stabilization Project Visual Discipline Report, benefits from these generational improvements. However, this consistency may be due to the VIAs being authored by only a few individuals.

Precise. The Washington State DOT policy, procedures, and practice related to assessing impacts to visual quality—as exemplified by the project under study—assert that any corridor must be divided into sufficient landscape units to be able to judge impacts. In this regard, the Washington State DOT follows the FHWA–VIA procedure. In practice, however, the Washington State DOT diverges from FHWA–VIA procedure as practiced in other states. This divergence appears to make the process more pragmatic and efficiently executed.

Washington State DOT tends to define landscape units by landscape type rather than by viewshed. For the US 2 – West of Leavenworth – Slope Stabilization Project, the whole corridor was considered a single landscape unit with several key views. This reduced redundancy in analysis and documentation without reducing the value of the VIA.

Since viewsheds are not specifically measured, there were no calculations of physical areas that may be adversely impacted by the proposed project. This lack of objective measurements was replaced by a narrative assessment describing impacts to the landscape and the experience of viewers.

In practice the Washington State DOT uses two baseline conditions from which impacts are assessed. The first baseline is the condition of the existing landscape—but this is supplemented by an assessment of whether the corridor is retaining its visual character as described in its assigned management strategy. The highway design process employed by the Washington State DOT includes a goal of retaining the landscape character established for the corridor. The extent of the improvement is dependent on the type of project, and less is expected of a minor project than a major project. If the existing condition is at par or above, the project is required to maintain the existing condition by restoring the disturbed area. Depending on the types of funding available and specific needs within the project corridor—which may relate to maintenance issues as well as visual impacts—a road project may thus become more than a road project, involving policies and practices related to establishing and maintaining a particular level of environmental protection and landscape aesthetics.

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For the US 2 – West of Leavenworth – Slope Stabilization Project, simulations where chosen in accordance with the Washington State DOT policy; they addressed key views that were either representative of the road and its context or were areas of particular sensitivity to certain viewers.

Versatile. Although the Washington State DOT policy, procedures, and practice consider primarily scenic values of natural areas, the process is adaptable to other landscapes and the diversity of ecological regions found in Washington State. The process is sufficiently versatile to be applied to minor projects (as evidenced by the US 2 – West of Leavenworth – Slope Stabilization Project) as well as large freeway projects on new alignment (as evidenced by other project examples accessible from the Washington State DOT website).

Pragmatic. The Washington State DOT policy and procedures, and their application in conducting the VIA under study, show a high level of pragmatism. Policy and procedures are well documented and readily assessable on-line, providing for easy and efficient implementation by a trained professional. The same professional team appears to perform (or at a minimum, review) most of the Washington State DOT VIA documents, which ensures a sophistication and presumed efficiency in their development. The near-universal incorporation of a visual quality discussion based on a Visual Discipline Report in the draft and final environmental documents examined by the research team and the survey as reported in Chapter 3 implies that visual issues are being analyzed in a timely fashion to the satisfaction of the project managers and department administrators.

Understood Easily. The Washington State DOT makes its VIA-related policies and procedures easily available on-line using clearly articulated language that is arguably more easily understood than the original guidance from which it was derived. Individual Visual Discipline Reports and their incorporation into projects' environmental documents are also easily comprehended. It is not known if it is standard practice to post every VIA (or every Visual Discipline Report) on-line. Projects' environmental documents, along with the synopsis of the Visual Discipline Report, seem to be regularly posted. It is presumed that providing the complete Visual Discipline Report would also be helpful to those stakeholders attempting to understand the visual impacts which may be caused by a particular project.

Although documents containing directions on how to conduct a VIA and even documents pertaining to an analysis of visual impacts for a particular project are available on-line, public participation appears to be limited to feedback provided at general project meetings or comments made on completed documents. The Visual Discipline Report for the US 2 – West of Leavenworth – Slope Stabilization Project does not indicate any public feedback or comments to a draft of that report. It is not known if the project's environmental documents contain such comments.

According to information provided in the Roadside Classification Plan, the public was not involved in recording the landscape character and the goal of retaining that character for the state's highways. The determination of visual quality goals was made by experts from the Washington State DOT central office with input from district personnel. No public input is required. For the US 2 – West of Leavenworth – Slope Stabilization Project, no public or outside agency input from stakeholders is documented. Regardless of the presence or absence of documented comments, however, it is apparent that the public has input into Washington State DOT's VIA process (e.g., through local government comprehensive plans or forest plans and through public reactions to published documents or to professional assertions made at public meetings).

Useful. The Washington State DOT's policy and procedures are oriented to generating an action, particularly in helping form design and mitigation decisions. Although it was not evident in the example studied, it is conceivable that location decisions could also be affected by a Washington State DOT VIA. The establishment of corridor visual quality goals and the goal that projects maintain or attain landscape character mandate a high level of usefulness for a Washington State DOT VIA.

Implemented Consistently. On its web page devoted to Visual Quality, the Washington State DOT lists links to several examples of its Visual Discipline Reports. These reports follow an almost identical format (albeit with some incremental reporting improvements from earlier to later versions) regardless of project type or landscape setting. The report under study, the Visual Discipline Report for the US 2 – West of Leavenworth – Slope Stabilization Project, is consistent with the general process and the other on-line examples.

Legitimate. The Washington State DOT VIA process measures changes to the vividness, intactness, and unity of the project area that may result from the construction of the proposed project. Existing and future vividness, intactness, and unity are described and assigned numerical labels. The labels function as short-hand substitutes for descriptive qualities and relate to categories, but they are not actual quantities or quantitative measurements.

It is important to distinguish normative numerical labels from quantitative measurements. Normative labeling systems that rely on the use of categories—such as *very low* to *very high* or even *1* through *7*—have limited computational capabilities. Mode (the most common answer) can be determined, but finding a mean (the average answer) or median (the middle answer) can be problematic when dealing with categories

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as opposed to measured quantities. When numerical labels are summed, averaged, or otherwise treated in ways that parallel or suggest quantitative analysis, the numerical labels may become confused with quantitative measurements.

In the case of the Visual Discipline Report for the US 2 – West of Leavenworth – Slope Stabilization Project, the use of numerical labeling is moderated and clarified by a parallel reliance on a descriptive narrative. It is the description of existing visual quality, impacts, and potential mitigation that gives the Washington State DOT process its legitimacy.

Summary

As documented in the Washington State DOT's policies and procedures and in the various examples that have been posted on-line, the Washington State DOT VIA appears to be highly effective. By the definitions used by the research team, the Washington State DOT VIA process is highly reliable, precise, versatile, pragmatic, useful, and implemented consistently. It is somewhat valid, objective, and capable of being understood easily by stakeholders. The state DOT relies primarily on expert opinion in its assessment of visual impacts. Although local government comprehensive plans and public sector planning documents such as forest and park management plans are examined when going through USFS or National Park Service (NPS) lands, the public appears not to be directly involved in developing the assessment. Feedback to a specific VIA seems to be limited to comments on the general environmental document rather than to the VIA, which is conducted as a separate Visual Discipline Report. The Washington State DOT indicates that landscape architects who conduct the assessments are often local and may talk about the project with homeowners when capturing views from residences; however, such "behind-the-scenes" discussions are not always documented in the reports.

The legitimacy of the Visual Discipline Report would be improved by relying less on numerical labels and more on descriptions of impacts and by including more formal documentation of public involvement and feedback in the analysis. A summary of the evaluation criteria ratings for the US 2 – West of Leavenworth – Slope Stabilization Project VIA appears in Table 6.4.

Table 6.4. Evaluation criteria ratings for the US 2 – West of Leavenworth – Slope Stabilization Project Visual Discipline Report.

Criteria	Rating
Objective	√√
Valid	√
Reliable	√√
Precise	√√√
Versatile	√√
Pragmatic	√√√
Understood Easily	√√
Useful	√√√
Implemented consistently	√√√
Legitimate	√

Note: The more check marks given a particular criterion, the more that criterion is realized in the VIA examined.

6.2 United Kingdom

6.2.1 Scotland

Sources

Agency: Transport Scotland (UK)
Project: Forth Replacement Crossing (FRC)
Citations: *Forth Replacement Crossing: Environmental Statement* (Chapter 12, "Landscape," and Chapter 13, "Visual," plus Chapters 1 through 4 describing the scheme and Chapter 21, "Cumulative Effects.")
Web Addresses of Reviewed Materials:

- Forth Replacement Crossing: Environmental Statement. Available at: http://www.transportscotland.gov.uk/strategy-and-research/publications-and-consultations/j11223-000.htm.
- Chapter 12 available at: http://www.transportscotland.gov.uk/files/documents/reports/j11223/j11223-12.pdf.
- Chapter 13 available at: http://www.transportscotland.gov.uk/files/documents/reports/j11223/j11223-13.pdf.

Short Project Description

Highway/Bridge. To construct a new bridge to replace the existing bridge crossing the Firth of Forth. The FRC is a major road infrastructure project proposed by Transport Scotland, an agency of the Scottish government. The project is driven by uncertainty over the future viability of the existing Forth Road Bridge, to the northwest of Edinburgh, and is designed to safeguard a vital connection in Scotland's transport network. It comprises a new cable-stayed bridge across the Firth of Forth, to the west of the existing Forth Road Bridge, and associated new and improved road infrastructure to the north and south of the bridge.

Landscape Setting. The Firth of Forth is a maritime landscape of intertidal shores, islands, and harbors providing a dramatic setting for the iconic Forth Road Bridge and

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Forth (rail) Bridge. To the north, the landscape of Fife's coastal terrace is dominated by settlements and industry. Infrastructure is also prominent, with roads and railways cutting through the steep wooded cliffs and braes (hillsides). South of the Firth of Forth, the historic town of South Queensferry is surrounded by rolling arable farmland and the wooded estates of Dalmeny, Hopetoun and Dundas.

Alternatives Examined. A technical study showed that it would be possible to replace the bridge's cables. This would not be feasible, however, without a replacement bridge being put in place because of the severity of the impact on road users and the wider economy. A Forth Replacement Crossing Study (FRCS) was undertaken during 2006 and 2007 to identify the most favorable option for a replacement crossing. Five potential crossing corridors were identified from an original list of 65 potential crossing solutions. Each of the five corridors was appraised for its suitability for a tunnel or a bridge crossing. The appraisal process considered environmental issues alongside other factors and concluded that a bridge option in a corridor east of Rosyth and to the west of South Queensferry was the best option due to lowest construction costs, shortest construction program, lowest construction risk, and greatest economic benefit. Various connecting road options were also considered.

VIA Procedures

In common with most UK landscape and visual impact assessments (LVIAs), the procedure applied here dealt separately with landscape effects and visual effects, and applied well recognized methods for LVIAs in general, as set out in *Guidelines for Landscape and Visual Impact Assessment* (Landscape Institute and Institute of Environmental Management & Assessment 2002) and for LVIAs applied to transport projects as set out in the *Design Manual for Roads and Bridges* (DMRB), Volume 11, Section 3, "Landscape and Visual Effects." The national guidance was supplemented by specific Scottish guidance (Supplementary Guidance, Scottish Executive 2002) and the detailed methodology was also developed in consultation with Scottish Natural Heritage, the government agency in Scotland with responsibility for landscape matters.

The distinction between assessment of landscape and of visual effects can be summarized as follows:

- Assessment of landscape effects consists of assessing changes to the landscape as a resource in its own right, by answering these questions:
  - What is the nature of the landscape resource in the area potentially affected (overall character, key characteristics, elements, aesthetic/perceptual qualities, condition and value)?
  - What will happen to the landscape in the future without the proposal?
  - What will happen to the landscape if the proposal takes place? (What effects will it have?)
  - Taking all of this into account, are any of the effects the proposal will have on the landscape considered to be significant?
- Assessment of visual effects consists of assessing changes in specific views and in the general visual amenity experienced by particular people in particular places, by answering these questions:
  - From what viewpoints will the proposed project likely be visible, and what are the views like?
  - Who experiences the views from those viewpoints?
  - How will the views experienced at those viewpoints be changed by the proposal? (What effects will it have?)
  - Taking all of this into account, are any of the effects the proposal will have on the landscape considered to be significant?

Although landscape and visual effects are dealt with separately, there is some overlap in that the photomontages showing the appearance of the new bridge crossing are included in the chapter on landscape effects when usual practice is to include them in the visual effects section. There is also a broadly common approach to each assessment that includes the following steps:

Step 1: Scoping, in consultation with the competent authority and statutory consultees, to make an initial determination of possible effects, identify an appropriate study area, and set important parameters of the work to be done.

Step 2: Conducting baseline surveys to determine existing baseline conditions relevant to either landscape or visual effects.

Step 3: Identifying the effects that are likely to occur.

Step 4: Assessing the significance of the likely effects based on a standard procedure using judgments of the sensitivity of the resource and the magnitude of the effect.

Step 5: Identifying proposals for mitigation of the identified effects, in addition to any measures that have already been incorporated into the design of the scheme through an iterative design process.

Step 6: Stating the residual effects after mitigation and their significance.

Landscape Effects Assessment. The initial stage of landscape assessment involved the collection of baseline data related to the individual elements and characteristics of the landscape. As far as possible, use was made of existing landscape character assessments (LCAs) covering the study area, which have been carried out using the national Guidance on Landscape Character Assessment. These LCAs divide the

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study area into various areas of particular landscape character types. Further desk-based and field assessments—referred to as local landscape character assessments (LLCAs)—were undertaken to refine the boundaries of the landscape character areas and allow them to be considered at a more local scale. Once the LLCAs were identified, the sensitivity of each area to change as a result of the proposed scheme was assessed. In accordance with the Landscape and Visual Assessment Supplementary Guidance (Scottish Executive 2002), evaluation of sensitivity to change combines a review of "susceptibility" (i.e., the vulnerability of the area to change arising from the proposed scheme) and "value" as applied to the main elements of the landscape. Susceptibility and value take into account information about the various factors considered in arriving at the sensitivity evaluation, such as key features and characteristics, quality, and value/importance, which together create a sense of place.

Assessing the Significance of the Effects. This part of the assessment combined the sensitivity of the receptors with the magnitude of the proposed changes on the landscape. Judgments of magnitude involved a review of the nature and scale of the changes, together with the duration and degree of permanence.

Landscape effects of the different components of the scheme were identified and classified as positive, negative, or neutral, and the significance of each was assessed on a scale ranging from negligible to severe (or major). An initial indication of impact significance was obtained by combining the sensitivity to change and magnitude of change assessments using a cross-classification matrix that was adjusted, if necessary, using professional judgment. Moderate or greater adverse impacts were considered to represent key landscape changes, and mitigation would generally be required to reduce these where practicable.

The approach to mitigation followed the standard UK/European practice of identifying measures to prevent/avoid, reduce, or offset the significant adverse landscape effects. Measures include earthworks, rock cuttings, and sustainable drainage solutions, but perhaps most important from a landscape perspective, planting to enhance local landscape character based on species mixes typical of the immediate landscape context.

In the summary of significant residual landscape effects, tabular summaries and text are used to summarize the effects of the different scheme components on the local landscape character areas identified in the baseline surveys. The report concludes that on the north side of the Firth of Forth, the landing of the Main Crossing and northern road connections will have significant adverse impacts for the landscape of Ferry Hills and St. Margaret's Marsh, an area of reclaimed coastal flat west of North Queensferry. South of the Forth, the landscapes of South Queensferry and the farmland to the west will be adversely affected by the Main Crossing landing and southern connecting roads. The impacts of the Main Crossing are considered to be adverse in this location because of the presence of the bridge abutment and approach road structures. The designed wooded landscape of the Dundas Estate will also be adversely affected by significant impacts from the proposed scheme. Elsewhere, impacts on the surrounding landscape will not be significant.

Visual Effects Assessment. The visual effects assessment starts with baseline studies, primarily desk-based Zone of Theoretical Visibility (ZTV) mapping to identify land from which the development can theoretically be seen. In this case, separate computer-generated ZTVs were prepared, using a model of the existing topography "surface" based on contours at 5-m intervals, represented by a high resolution grid of 5-m^2 cells, to identify areas from where the proposed scheme would be visible or where the Main Crossing would be visible to an observer with an assumed eye-level height of 1.75 m within a 5-km radius. Adjustments were made for the assumed height of existing buildings and woodland. Associated gantries were included as key elements in the production of ZTVs to reflect their potential contribution to the proposed scheme day and night as illuminated, elevated features. In agreement with guidance from Scottish Natural Heritage (SNH) the potential visibility of the Main Crossing towers was considered to be comparable with the potential visibility of wind turbines. Guidelines developed for windfarm assessment (SNH 2007) were therefore applied. This guidance indicates that the tallest wind turbines of 130 m require ZTVs with a radius of 35 km to include all those areas within the wider landscape where visual impacts are likely to occur. This principle was therefore applied to determine the extent to which the Main Crossing towers (a 207-m high central tower and 200-m high towers to the north and south) would potentially be visible, and a 35-km ZTV was produced exclusively for the Main Crossing. To allow comparison, the relevant ZTVs were combined and mapped. A series of ZTVs for nine scenarios were prepared, based on daytime and nighttime views, in winter and summer, in the year of opening and 15 years after opening, for the Main Crossing only and the full scheme. This selection ensured that the worst-case scenario (winter in the year of opening) was covered as well as less adverse scenarios.

The baseline assessment also identified both built and outdoor visual receptors. Within the study area, all identified receptors that would gain views of the proposed scheme were assessed in the field by teams of two or more landscape architects. Photographs from key viewpoints representing the views of different visual receptors (although appearing in the landscape effects section) provided the base for wireframe images and photomontages of the proposed

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development. The sensitivity of different visual receptors to changes in their views was evaluated based on (1) the nature and context of the viewpoint; (2) the expectations of users/receptors; and (3) the importance and value of the view to the receptor.

The changes in views as a result of the proposal were identified and classified as positive, negative, or neutral. Most visual effects were considered to be adverse, but the presence of the Main Crossing was assessed as neutral because of the aesthetic qualities of the bridge structure and the likelihood that there would be both positive and negative opinions of its merits. The significance of the change to views resulting from the Main Crossing was still noted. The magnitude of visual change affecting receptors was assessed by considering the scale of change in the view due to the addition or loss of features, change in character, and the amount/extent of the view affected, and also by considering:

- The extent of the receptor's available view affected by the development, including the distance from the proposed scheme,
- The angle of view relative to the main activity of the receptor.
- The level of integration or contrast created by the crossing or road and the associated elements within the view.

The overall significance of the visual effects was judged by combining the sensitivity of the receptor and the magnitude of the effect using a cross-classification matrix.

It was noted that this matrix represents thresholds on a continuum. It provides an initial guide, but the significance assigned may be adjusted using professional judgment. Impacts assessed as being of moderate or greater significance were considered to represent clearly perceptible changes to views, and where practicable, mitigation was taken into account. It was also noted that mitigation of adverse landscape and visual impacts are closely related and inter-dependent, thus, mitigation of visual impacts will generally be incorporated in the specific landscape mitigation measures, which have been developed in consultation with other disciplines as part of the iterative approach to the design of the proposed scheme. The assessment noted several landscape mitigation measures that will also mitigate visual effects, including:

- Application of a high standard of aesthetics for the proposed scheme, particularly the sensitive design of the Main Crossing to avoid visual confusion and complement views of the Forth Road Bridge and Forth Rail Bridge.
- Integration of the alignment and earthworks with the surrounding topography.
- Formation of new rock cuttings to achieve a natural appearance.
- Provision of false cuttings and noise barriers to screen or restrict views of the road. (False cutting is a means of screening the road from properties in the surrounding landscape. It is particularly appropriate in gently undulating ground where a natural cutting cannot be achieved. It has the added benefit of reducing the impact of noise. See www.dft.gov.uk/ha/standards/dmrb/vol10/section1/ha5592.pdf.)
- Provision of stone walls, hedges and standard trees to provide screening and reinstate field boundaries.
- Planting mixed or scrub woodland to screen views, integrate new cuttings and embankments and reflect the character of the existing landscape.

The summary of visual effects concludes that open views across the Firth of Forth are currently dominated by the existing Forth Road Bridge and Forth Bridge, which are visible from a wide area, including many of the small coastal settlements along the Firth of Forth and from more distant viewpoints. The Main Crossing will also be the most visually prominent element of the proposed scheme and will feature as an additional structure in both local and distant views.

The Main Crossing has been designed to be an aesthetically pleasing structure, sympathetic to the visual character of the area. The simple, elegant design of the bridge is intended to complement the existing views, including those where the Main Crossing would be viewed directly in front of or beyond the Forth Road Bridge and Forth Bridge. The measures described in the landscape section will also help to reduce the visual impacts of the scheme. For the majority of receptors, views toward the Main Crossing will not be significantly changed. Significant (moderate or greater) neutral impacts are predicted for 217 properties and 23 outdoor receptors. Adverse visual impacts will be significant for properties located in close proximity to the Main Crossing, while the transfer of traffic from the Forth Road Bridge to the Main Crossing will result in beneficial impacts for properties in South Queensferry.

Evaluation Criteria

Objective. The FRC LVIA work is objective in so far as it follows standard and widely agreed procedures set down in a variety of guidance documents. In common with the great majority of UK work, it does not use quantitative methods at all. The use of existing LCAs supplemented by refinement of them is good practice, as is the comprehensive analysis of ZTVs based on a variety of scenarios. The treatment of views and viewpoints as representative of visual receptors is not so clear, but detailed and lengthy appendices describe this work. The LVIA largely avoids very subjective judgments about aesthetic matters related to the value or quality of the landscape, although the supplementary LCA does record condition

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and scenic quality of the landscape at the local level, without explicitly using this in the assessment. The assessment of sensitivity otherwise relies on existing landscape designations, and the visual effects assessment uses reasonably well-accepted criteria for judging the importance/value of views and visual receptors. As with most methods, both landscape and visual effects assessments rely wholly on professional judgment in judging the sensitivity of landscape and visual receptors to change, the magnitude of the different effects, and the combination of these to indicate the overall significance of the different effects. The reasoning behind some of the judgments is not always explicit and the relationship of each step in the procedure is not always clearly tied to the overall purpose of the LVIA. Overall, the LVIA as applied to the FRC seems to be of medium objectivity.

Valid. The separation of effects on landscape as a resource from effects on views and visual amenity in the UK LVIA method is commonly accepted but still evolving. The FRC report fuses the two together to some extent, so that visual simulations of change appear under landscape effects whereas current practice is usually to place them in the discussion of visual effects. This feature of the study does not invalidate them, but may lead to a degree of confusion in interpreting the implications of the assessments. However, the overall adherence to generally agreed methods, both for LVIA in general and for transport-related LVIA in particular, adds to the validity of the method, as does the discussion of the method with Scottish Natural Heritage, who are the government advisors on landscape matters and agree with the method. The fact that fieldwork was conducted by more than one professional means that the judgments were not made by one person. However, there is still no actual engagement of the public in any of the assessments, other than through the normal consultation and public review procedures for the environmental impact assessment (EIA) as a whole. There is no benchmarking of the judgments against public opinion, although consultation will presumably have illuminated any major differences of opinion. The professional view is therefore taken as a surrogate for what viewer groups might think of the visual effects. In general, the work has high validity, in so far as it represents the common approach used throughout the UK in relation to highway proposals. Nonetheless, it does not benchmark visual impacts to public opinion, and slightly confuses the distinction between landscape and visual effects.

Reliable. The work was undertaken by a joint-venture consulting firm engaged by Transport Scotland to design, develop, and project-manage the FRC project. Although there is no specific reference to the fact, it is assumed that the assessment was undertaken by landscape architects. This in itself does not mean that those concerned were necessarily trained in the specific LVIA procedures used in the UK, since not all landscape architecture courses include such material. Some practitioners rely on experience gained on the job, drawing on the experience of senior staff and on the available guidance documents. It is therefore not clear whether other professionals might have reached the same conclusions or different conclusions. However, reliance on the national Landscape Character Assessment inventory and the use of more than one professional to conduct detailed fieldwork generally increases reliability. The possibility of differing opinions on aesthetic matters is recognized by the treatment of the effects of the main bridge crossing as neutral, rather than as either positive or negative, thus avoiding the need for the landscape architect to reach a conclusion on its aesthetic merits. The judgments on the sensitivity of receptors, especially the visual receptors, are not fully transparent in that the general reasoning is explained but not the application of the reasoning to the individual receptors. The scale of the scheme and the number of receptors may explain this, but it does raise questions about reliability.

Precise. The project covers an extensive area—the maximum ZTV for the bridge towers is judged to be at a radius of 35 km—and identifies all the visual receptors in this area. At the same time, the landscape effects assessment uses existing LCAs that cover the whole of the substantial Fife and Lothians area, but refines this with new survey work to give a greater level of detail suited to assessing the more local effects of the proposals. Overall, the LVIA is both sufficiently broad ranging and sufficiently precise to cover the range of possible effects. The documenting of landscape effects and visual effects is thorough and painstaking, including lengthy appendices of tables detailing assessments of all the receptors. While commendable, this can also make some of the material rather inaccessible and dense, which may be the price to be paid for precision. The level of precision is appropriate.

Versatile. The procedure is versatile and is designed to be applicable to all types of settings and all types of viewers. The FRC study demonstrates this and covers a very wide range of types of landscape and a wide range of visual receptors within the same basic procedure and evaluation framework. The procedure has been shown to be versatile over a wide range of projects.

Pragmatic. The procedure can be used easily and efficiently by someone with the right skills and experience. Having a national LCA to use as a baseline framework for the impact assessment enhances the pragmatism of the method, but applying it at the scale of this project inevitably poses problems. The ZTV work alone is quite demanding of resources of data, time, skill, and computer processing power, and may

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be beyond the resources of an individual or a small practice. Add to that the scale of the fieldwork needed to cover a very substantial study area and the difficulties and resource implications are clear. The emphasis in developing the guidance on these procedures nationally is therefore on ensuring that the work is realistic and proportional to the nature of the project, and is agreed in advance with the decision-making competent authority. If that can be achieved, then it is fair to describe the procedure as highly pragmatic.

Understood Easily. The method used for the FRC study is readily available to stakeholders through the published documents, which are fully available on-line. As required by the European EIA Directive and associated country regulations, a non-technical summary of the whole EIA, including the work on landscape and visual effects, must be widely available for public consumption. This LVIA is clearly articulated for a professional audience, but it is debatable whether the method is sufficiently clearly articulated, either in national guidance or in the project outputs, to be understood easily. The principles are relatively clear, but whether or not their application is sufficiently transparent is perhaps debatable. However, the non-technical summary of the project is relatively accessible as a basic statement of the issues, including the landscape and visual matters. The visual simulations are relatively comprehensive and help understanding of what is proposed.

Useful. Not only is the assessment useful, it is required by law under obligations relating to the European Directive. LVIA is increasingly recognized as a key part of an integrated design process with landscape and visual issues contributing to different stages of the process, in considering alternatives, in scoping, in scheme design, and in successive inclusion of mitigation measures. These steps are demonstrated by the FRC project, although much of this relates to the whole of the EIA rather than specifically to the landscape and visual aspects. It is however clear that landscape mitigation measures have played a significant part in scheme design.

Implemented Consistently. This project follows the accepted UK method for LVIA and the specific interpretation of this for highway schemes.

Legitimate. As summarized in the literature review, in the UK the legal requirement for EIA comes from European Law. The EC Directive and associated UK regulations establish a requirement for description of the aspects of the environment likely to be significantly affected by the development, including landscape (see Chapter 2 for details).

It is therefore apparent that, unlike NEPA, with its specific references to aesthetics, the European legislation refers to "landscape" and does not mention the terms "visual" or "aesthetics." The current methods of LVIA in the UK have developed from this starting point, from the particular interpretation of landscape in the UK, and from the procedures that have emerged for addressing landscape and visual effects and which have been described in two previous editions of guidance, with a third edition in preparation. Debates remain about details of the procedure and especially the assessment of the significance of the effects, required by law, but the procedure as a whole is widely used and an accepted part of landscape practice.

Table 6.5. Evaluation criteria ratings for the Forth Replacement Crossing Report.

Criteria	Rating
Objective	√√
Valid	√√√
Reliable	√√
Precise	√√√
Versatile	√√√
Pragmatic	√√√
Understood Easily	√√
Useful	√√
Implemented consistently	√√√
Legitimate	√√√

Note: The more check marks given a particular criterion, the more that criterion is realized in the VIA examined.

Summary

The LVIA component of the FRC EIA, as expressed in the project's Environmental Statement, is a good example of the overall UK approach to LVIA applied to a very substantial project which has potentially far-reaching effects. Its failings are failings of the overall procedure rather than specifically of this project, and relate mainly to the reliance on professional judgments about the key components of judgments of significance, namely sensitivity of landscape and visual receptors and magnitude of the landscape and visual effects, and the lack of real input from the public to verify the validity of these judgments. Table 6.5 presents the evaluation criteria ratings for the FRC report.

6.3 Lessons Learned

6.3.1 Colorado

The VIA of the I–70 Mountain Corridor produced by the Colorado DOT provides selected insights into the development of a set of best practices for assessing the visual impacts of highway projects. Although the context of the assessment was essentially a managed wilderness and the process used

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was biased toward scenic attributes, it had several redeeming procedural features, including the use of VQM and the concept of contrast ratings.

The primary procedural feature worth incorporating into a set of best practices was the use of a set of segment-specific VQM goals. These goals had been previously established by the governmental authority responsible for managing the property adjacent to the highway. With regard to undeveloped segments of the roadway, that governmental authority frequently was a federal land management agency, such as USFS or the BLM. In already-developed areas, such as towns, the Colorado DOT identified those local ordinances and practices that defined a desired visual character. This thorough examination and identification of aesthetic goals was used to evaluate if the proposed project would contribute to or detract from the visual aspirations of the community.

This approach is a significant departure from the usual approach of trying to determine if a highway adversely impacts the existing scene. By adopting this method, the Colorado DOT strongly suggests that the real issue is not if the existing scene is adversely or beneficially impacted, but rather if the proposed project advances or abandons the aspirations the community has established for the visual quality of its surroundings. This approach seems to be even more in keeping with the overarching mandate of NEPA than a simple evaluation of how a highway project may affect the existing landscape and viewers.

By using VIA procedures from USFS and BLM, the Colorado DOT inadvertently focused its attention on scenic values and the tourists who travel to this corridor for its setting and the recreational opportunities the setting's landscape provides. The Colorado DOT justified this emphasis by claiming that it was only being responsive to those viewers who would be most sensitive to changes that a highway might bring to this landscape. Subsequently, they overlooked the needs of neighbors, commuters, and others not in the corridor as recreationists. Although local ordinances, municipal administrators, and even the public (through a series of public meetings) were consulted about visual issues, actual location, design, and mitigation decisions appear to have been little affected by the visual needs and aspirations of the permanent local population.

The Colorado DOT seems to have relied primarily on the expert opinion of one professional who assembled the project's VIA. The documentation did not specify that other parties contributed to the VIA or to the discussion of visual issues in the subsequent environmental documents, although given the complexity and size of the project other professionals may have been not only involved but substantially involved. The BLM VIA process would have required at least three professionals evaluating visual impacts to ensure validity.

The use of contrast ratings to define the extent and nature of visual impacts is a process, although used to define impacts to scenery in this example, is a concept that could readily be applied to other settings, including the urban and agricultural settings where most roads are constructed. The description of visual impacts as categorical levels of contrast between what will exist if the project is not constructed and what will exist if the proposed project is constructed appears to be particularly useful.

6.3.2 Minnesota

The Minnesota Department of Transportation (Minnesota DOT) has developed its own unique VIA process. Unlike most other VIA processes used in the United States, it is based on the transactional process of perception. As such, it conforms nicely with the science of environmental psychology which suggests that human perception of visual quality is an interaction between the environment and viewers and not an intrinsic quality of the landscape or simply a fabrication of the human mind. This is a fundamental strength of the Minnesota DOT process worth emulating.

In an effort to streamline documentation, however, the Minnesota DOT process does not require that all steps that an author of a VIA takes be recorded. This lack of evidence may hinder the ability of reviewers to check the accuracy of the assessment and develop an appreciation of what has contributed to the assessment's findings.

The Minnesota DOT VIA process divides the physical environment into three categories: natural, cultural, and highway. Having separate categories is a somewhat unique approach to conducting an inventory and analyzing impacts yet it assures that these elements are thoroughly examined. This gives the author of a Minnesota DOT VIA a reminder to thoroughly identify both natural and cultural features. Similarly by having a separate category for the highway environment, the contribution of the highway to visual quality is better defined than is typical of other VIA processes.

Although Minnesota DOT uses a narrative approach in determining visual quality and visual impacts, it augments the discussion with maps, illustrations, and photographs adding robustness and a better understanding of visual issues by using visual media.

Minnesota DOT is working on how to incorporate the concept of viewers into its VIA process. It acknowledges the arbitrariness and artificiality of the viewer groups it uses but makes a limited attempt at incorporating actual people in its assessment, relying solely on expert opinion to assess visual quality and visual impacts.

Minnesota DOT has conducted parallel research for establishing viewer preferences. By incorporating that process (which was conducted by one of the authors of this paper,

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Joan Nassauer), this issue may be overcome if viewer preference is to be used to establish a set of VQM goals for a particular segment of roadway similar to the reviewed work by the Colorado and Washington DOTs.

6.3.3 Vermont

Vermont's environmental review law, Act 250, requires evaluation of scenic impacts for commercial or industrial construction on more than 10 acres of land (1 acre in towns with appropriate subdivision and zoning laws), subdivisions with 10 or more residential units, or roads that are 800 feet long or provide access to 5 or more lots. The courts have established a series of questions that frame what has become known as a Quechee Analysis, named after the court case that established the precedent. It consists of two parts: (1) the determination of whether a scenic effect is adverse, and (2) if the effect is adverse, the determination of whether the adverse effect is "undue."

Under the Quechee Test, adverse effects are assessed by considering the harmony and fit of a project with its surroundings. If a project fits in its context, it will not have an adverse effect. In Vermont, the five criteria considered in the determination of whether an effect is adverse are: the context of the surrounding landscape; the project design; color and materials; project visibility; and effects on open space. If a project is determined to be adverse, three questions must be answered affirmatively for the adverse effect to be considered undue. The three questions are:

1. Does the project violate a clear, written community standard intended to preserve the aesthetics or scenic natural beauty of the area?
2. Does the project offend the sensibilities of the average person . . . when viewed as a whole is (it) offensive or shocking, because it is out of character with its surroundings, or significantly diminishes the scenic qualities of the area?
3. Has the applicant failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the proposed project with its surroundings (Vermont ANR 2007)?

The Quechee Analysis approach could be a significant contribution in how to conduct VIAs. In particular, the method does not require sophisticated quantitative measurements or analysis; rather it may be based on a largely qualitative response to the Quechee criteria. This results in a VIA that is particularly easy to understand by the public and is widely accepted as legitimate. In practice, the rigor and depth of a Quechee Analysis is easily scaled to the magnitude and significance of the potential scenic impacts, making it very pragmatic and versatile. However, the analysis does not include an established set of measurements or procedures, and it is normally based on the observations of a single landscape architect; both conditions reduce its objectivity, reliability and the consistency of implementation. Nonetheless, within the state there appears to be a wide consensus that the analysis is valid and legitimate.

6.3.4 Washington State

The completeness of the Washington State DOT's approach to visual issues is edifying. It supplies practitioners with several on-line sources of policy and procedural guidance. This includes a step-by-step outline of its VIA process and several instructive examples of well-constructed VIA documents. It is, however, the on-line access to its *Roadside Classification Plan* that sets the Washington State DOT apart from nearly every other state transportation agency. By this document, the Washington State DOT establishes visual quality goals for every segment of every state-managed transportation project, including highway projects. This effort provides the basis for evaluating potential impacts to visual quality that could be caused by a highway project, regardless of location, type, or scale.

Essentially, the Washington State DOT evaluates visual impacts from two baseline conditions: (1) existing visual quality and (2) the visual quality goals for the highway corridor. Visual impacts are determined not only by changes in the landscape but also as a measurement of how close the proposed project will be to helping the State of Washington achieve the level of visual quality that the corridor has been assigned as a preferred future condition. In its establishment of an aesthetic goal for every highway segment, the Washington State DOT has acknowledged that visual quality is an important component of the state's economic and social systems and that it is the responsibility of the state's transportation department to retain the recorded landscape character.

The Roadside Classification Plan would be a stronger document had it been produced in consultation with the public. Internal professional staff were consulted in the development of the document, but there is no evidence that it was ever reviewed by the public. An opportunity was lost to involve the public in identifying landscape character and establishing visual quality goals for every segment of state highway.

In defining existing visual quality and determining impacts to it, the Washington State DOT uses two approaches: (1) a descriptive narrative and (2) numerical ratings of visual quality before the project and as proposed after the project. The numerical ratings potentially add confusion in that the labels can appear to incorporate quantitative measurements when the numbers are not actual measurements of any physical attribute. Rather, they are substitutes indicating rankings within a narrative value. (The numbers 1 through 7 are cor-

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related to a narrative description of existing and proposed visual quality, usually stated as being from very low to very high.) The use of formulas that combine, average, and compare the assigned numerical labels magnifies the risk of confusion, because the resulting sums and averages do not follow the constraints conventionally placed on numbers that are used as labels rather than as measurements. Reliance on a narrative approach would have resulted in a sufficiently accurate and more robust document.

Regardless of these shortcomings, the Washington State DOT uses a project's VIA to affect decision-making, particularly with regard to decisions related to design, and mitigation. For the Washington State DOT, a VIA is an extremely practical and useful tool. In the example studied, the Washington State DOT used the results of the VIA to evaluate alternatives and used visual impacts as the primary selection criteria for determining mitigation strategies.

To ensure compliance with its VIA procedures, the Washington State DOT employs a checklist for the author to review the VIA for thoroughness and completeness. Other states (notably California) have a similar checklist and use standard reviewers, but most do not. By having these tools and procedures built into the process, reviews and reviewers can provide excellent quality assurance and quality control. The consistency with which the Washington State DOT has produced its VIAs can be credited to the state DOT's well-articulated procedures and effective quality control methodology, as well as to its consistent use of the same personnel to author and review many of its VIA documents for decades.

Interestingly, the Washington State DOT downplays what is usually considered a fundamental component of a VIA—the determination of viewsheds. Rather than use viewsheds, the Washington State DOT focuses its attention on landscape types, grouping its inventory and analysis around the character of the landscape rather than its spatial dimensions. This is a provocative approach and worth examining as a basis for defining the landscape units that form the basis for conducting any VIA.

The use of maps, photographs, and simulations was superlative and consistent in all of the examined VIAs produced by the Washington State DOT. The effective use of these types of illustrations, coupled with an explanatory narrative to communicate visual issues and potential impacts and mitigation, provides proof for how these items are essential for providing decision makers with useful and succinct information.

6.3.5 Scotland

Perhaps the most defining characteristic of the approach to VIA in the UK is the division of impacts into two major categories—landscape effects and visual effects—each with a distinct inventory and analysis. These dual paths for evaluating what in the United States is referred to singly as "visual impacts," provides a more responsive way of incorporating the transactional approach to perception that environmental psychology suggests is the basis of how humans perceive visual quality and visual impacts. The UK methodology divides the world into two realms—a realm of change to the physical environment or landscape; and the realm of human experience.

To determine effects on the landscape, Transport Scotland (Scotland's DOT) and their consultants determined the existing condition of the landscape using a national (Scottish) database of LCAs, which divides the landscape into landscape character types and/or areas. This database is augmented by additional field studies that make the inventory more exact and the fine-grain peculiarities of the landscape better understood. The additional detailed information could be valuable in judging alternatives and developing mitigation strategies.

The analysis of impacts to the landscape compares changes with and without the proposed project in the future. The UK VIA process avoids the mistake of comparing future impacts with existing conditions.

A major addition to the concept of determining impacts to the physical environment before determining impacts to the experience of perceiving visual quality is the final aspect of the landscape assessment, the determination of if impacts are significant, essentially a determination of the scale of the impact to the physical environment. This is similar to the Minnesota DOT process of inventorying the environment and determining the scale of the impact during the subsequent analysis of impacts.

The assessment of visual effects is premised on human experience. In addition to the physical characteristics of the landscape, it is the experience people have with their environment that matters to Transport Scotland. The visual effects portion of their VIA evaluates the visual experience of viewers, especially what do they consider in the view they see?

For Transport Scotland, determining where views are located and what a viewer experiences in that location is critical in determining the visual impacts of a proposed project. In assessing the significance of these visual effects, the sensitivity of viewers to the magnitude of the physical change is judged. Viewer sensitivity is determined by a model of the viewer, similar to the model used by Minnesota DOT, where the expectations of viewers are paramount in determining existing visual quality and impacts to it. Like Minnesota DOT, these judgments are typically made by professionals without direct input from the people who actually experience the views. For a UK VIA, what people actually value is key to determining visual impacts.

The geographic scope of visual impacts is determined by viewshed (there called Zone of Theoretical Visibility, or ZTV). Identification of key views, the use of photographs to document existing conditions, and the use of simulations are typical.

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Several aspects to the visual assessment are unique to the UK approach. For example, impacts for each alternative are determined for summer and winter and for day and night—a much more thorough approach than the typical "nice summer day" analysis done in the United States. Another difference is that key views are consciously sought, not only from the outside, but also from the insides of buildings. In an approach similar to that used by the Minnesota DOT, impacts are identified and classified into three categories: positive, negative, or neutral.

The striking similarities between the Minnesota DOT process and the process used in the UK are perhaps not unexpected, since both are premised on the transactional approach to perception and both prefer a narrative explanation over a numerical one. One major difference between the two processes is that the UK VIA process requires that a final analysis be done on the effectiveness of mitigation and to determine the extent to which the mitigation was successful or even if it will result in an enhanced visual experience.

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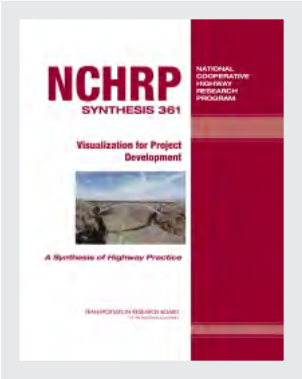

Visualization for Project Development

DETAILS

92 pages | | PAPERBACK
ISBN 978-0-309-09769-7 | DOI 10.17226/13986

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CHAPTER TWO

VISUALIZATION OVERVIEW

WHAT IS VISUALIZATION?

> Visualization is a simulated representation of proposed transportation improvements and their associated impacts on the surroundings in a manner sufficient to convey to the layperson the full extent of the improvement (*2*).

The use of visualization to understand complex issues such as proposed designs is not a new phenomenon. It has been used in maps and drawings for centuries. A famous example of this is Charles Joseph Minard's map of Napoleon's invasion of Russia in 1812 (Figure 1). This map clearly conveys troop movement, size, and loss of life during the campaign into Russia (*3*).

Visualization can accelerate conceptual approvals, identify less-than-obvious design flaws or opportunities, and ultimately reduce development costs before commencement of construction. It has the ability to help with the analysis of multiple design elements, such as proposed buildings, roadways, and underground utilities. Seeing the proposed design in three-dimensional (3-D) instead of a series of two-dimensional (2-D) plans and elevations increases overall understanding, which can translate into schedule and budget savings. The nature of the technology provides the capability for quicker response times in implementing design changes. The technology can be used throughout the life cycle of a project plan—from the process flow of value engineering, to the project development and environment study phase, to design and construction. Visual tools can provide greater communication and concise understanding, which in turn can lead to quicker acceptance or approvals.

A major strength of visual tools is their ability to clearly convey design issues. Designers will have the ability to view their concepts from multiple viewpoints, including viewpoints that are not feasible with standard photographic methods. Critical issues such as roadway aesthetics, vertical and horizontal alignment fit, traffic flow, and line of sight can be identified. The general public can also obtain a greater understanding of the project by viewing the proposed changes from a potentially unlimited number of viewpoints. Public outreach and support can be more effectively achieved. Although traditional methods of presenting 2-D design plans and charts for high-profile projects have often created additional misunderstanding because these methods do not fully convey impacts in basic terms that the average person can visually understand, 3-D and other new visualization tools allow participants to better view specific locations and their proposed alternatives to obtain greater understanding.

HISTORY OF VISUALIZATION WITHIN TRANSPORTATION DESIGN COMMUNITY

As the transportation design community matured during the 20th century, visuals were used to convey proposed roadway designs. Before the advent of computers, traditional artist hand renderings and physical models (Figure 2) were created and used primarily for stakeholder approvals. Although effective, hand renderings only provided a limited number of viewpoints for the project. They were also based on artistic interpretation and thus were only approximate in their accuracy. Physical (i.e., scaled) models provided an excellent and accurate representation of the overall project site, but lacked the detail necessary to fully comprehend the design. They were also time consuming to create, expensive to build, and inflexible to deal with the changes of a typical project.

Since the inception of CADD (computer-aided design and drafting), computerized visuals have been created by the transportation design community. The CADD discipline can trace its beginnings to the Sketchpad system developed by Ivan Sutherland in 1963 (*4*). Sutherland was able to connect the display capabilities of the cathode ray tube with the computational abilities of the computer, and the interactive process with the light pen made it possible to create a system for designing mechanical parts. Sutherland's system prompted automotive and aerospace companies to take notice and start their own projects to try to harness the power of the computer for their design needs. The late 1960s saw a flurry of activity in the CADD-related sector. Turnkey companies such as Calcomp, Computervision, and McAuto started creating and marketing software or hardware for this industry. These CADD-based visuals ranged from simple 2-D plots of plans and sections to 3-D renderings of proposed elevations.

By the mid to late 1970s, CADD modeling was available through such programs as Intergraph's Interactive Graphics Design Software (Figure 3). These applications ran on expensive mainframe systems. Because of the limitation of hardware processing speeds (68k), software capabilities, and the expense to operate these systems, 3-D visuals were difficult to achieve. The results were simple, shaded models that

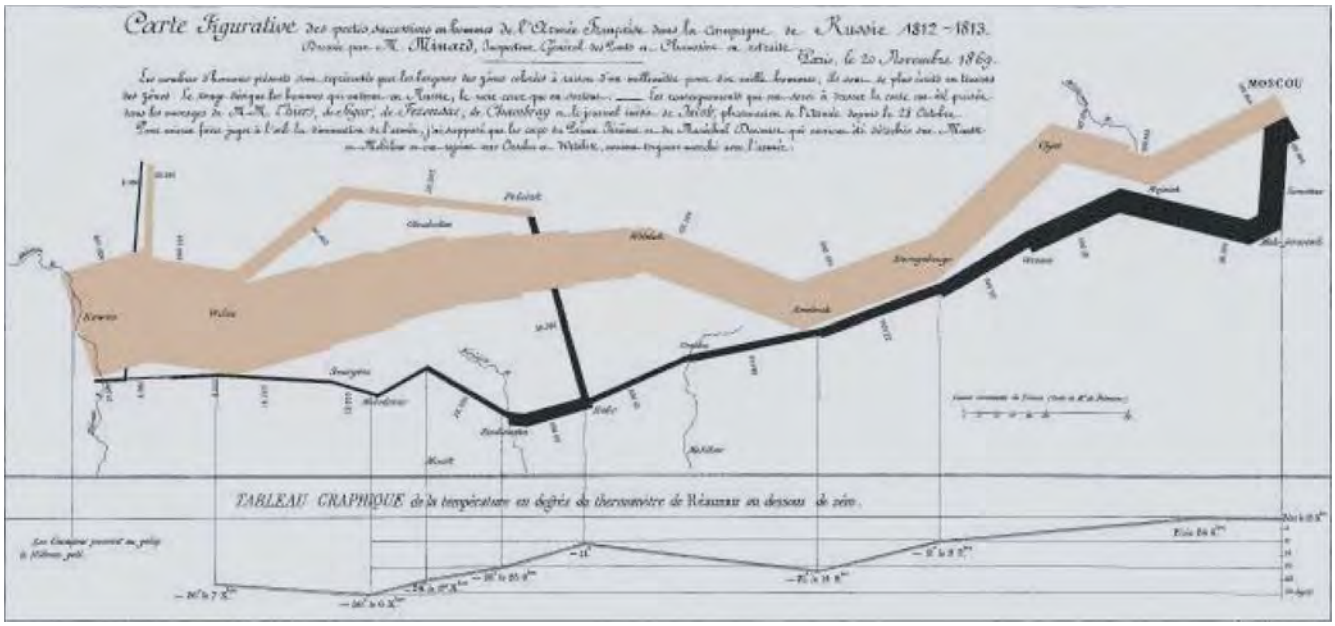

FIGURE 1 Charles Joseph Minard's map of Napoleon's march to Moscow during the invasion of Russia in 1812. (*Courtesy*: Graphics Press.)

could only be created by an experienced CADD operator. Throughout the 1980s, CADD primarily ran on mainframe computers.

In the early 1990s, hardware and software technologies rapidly advanced. Personal computers (PCs) were slowly replacing the mainframe-based workstations. PCs primarily used the Microsoft Windows operating systems, which helped enable software manufactures such as Autodesk and Bentley Systems to develop CADD applications for the PC. For the first time, designers and engineers could create CADD drawings and renderings on an affordable workstation platform. As the hardware technologies for desktop PCs advanced, new software tools were being developed that made it easier to create computerized visuals. By the early 2000s, CADD applications became more sophisticated, allowing users to design and model much more effectively in 3-D. Autodesk's 3-D Studio and Bentley Systems' MicroStation, combined with other vendors, now offered integrated and affordable advanced 3-D modeling and rendering capabilities.

To complement the CADD modeling, rendering, and animation capabilities of transportation agencies, other software applications have been written. Presentation graphic programs have simplified and improved how presentations are created and shown. For example, they have simplified the process of creating 35-mm slides and presenting them in a slide presentation. The steady advancement of other programs such as photo-editing applications has enabled visualization specialists to create seamless photo-simulations that blend the

FIGURE 2 Physical model of the Corning Bypass project. (*Courtesy*: Bergmann Associates.)

FIGURE 3 Intergraph workstation—1978.

3-D CADD model into a photograph. Today's transportation planner has an extensive portfolio of affordable hardware and software applications to use for computerized visualization.

WHY THE NEED FOR VISUALIZATION?

The need for visualization within the transportation community can be traced back to two factors: (1) improvement to the design process and (2) public and stakeholder involvement. Both of these issues have driven the advancement and use of the technology.

Improvement to Design Process

CADD technology was initially devised to improve the drafting process by automating mundane routines such as border creation and text input. Vendors strived to improve the process so that higher-quality work could be produced with less labor. In the mid-1980s, cost–benefit analyses were conducted to justify the up-front expense of hardware and software needed to implement CADD. The investment for mainframe computers, workstations, and software utilities regularly exceeded $100,000 (*5*). To justify these expenses, analyses were conducted that measured and compared the performance of design production on a drafting table with the performance of a CADD system. The testing proved that using CADD, even with the sizable up-front costs, was warranted. Two-dimensional CADD (see Figure 4) greatly improved the drafting and design process. Benefits included the following:

- Elimination of the need for tedious redraw (CADD could be used for productive design and analysis functions);
- A common electronic database;
- Reduced retrieval and print times for documents through a document management solution;
- Improved information flow with workflow and e-mail tools;

FIGURE 4 2-D CADD roadway alternative plan.

- Improved conformance with the ISO 9000 or Occupational Health and Safety Administration regulations through better document control procedures;
- Fewer lost, damaged, and misfiled documents;
- Immediate availability of accurate information;
- Streamlining of the change process;
- Improvement in time to market; and
- Improved quality.

The success of 2-D CADD has led developers to improve CADD capabilities by incorporating 3-D tools within the software. Three-dimensional design was the next evolution of the CADD process. By initially generating the design in 3-D, the process of design can be improved, achieving better quality control, improved process flow, and a natural extension to developing visuals from the design. If the project is initially designed in 3-D, then creating renderings, animation, or simulation will be a logical progression rather than an add-on application. Incorporating 3-D into the design process will lead to increased demand in the use of visualization tools. These visual tools translate into a variety of potential cost savings, including the following:

- Increased quality control, which leads to fewer construction changes and improved production schedules.
- Better and more cost-effective design. Because visual tools help to understand the design alternatives more effectively, better design decisions can be made.
- Increased communication and understanding. It is far easier to convey design ideas or options with visuals. The old adage "A picture is worth a thousand words" holds true with visualization.
- Improved timetables for approvals. When the understanding of a project is improved, acceptance by stakeholders or the public can be obtained more efficiently. Garnering rapid approvals or reducing approval times can be invaluable to costs savings on transportation design projects.

Public and Stakeholder Involvement

Public and stakeholder involvement is seen as a major reason for the need for visualization tools. The general public, resource agencies, and other stakeholders are continually exposed to 3-D computerized renderings and animation. Computerized visuals are used in the daily activities of most people, from the entertainment community (in which visualization is used for television commercials, print advertisement, movies, and much more) to industrial uses such as computer numerical control (*6*) machining and geographic information system (GIS) applications. Computerized visuals dominate the public eye today. With this mindset, the public expects and demands to see similar visuals at public presentations. This pressure has driven transportation agencies to develop and implement visual tools for public outreach.

USES OF VISUALIZATION WITHIN TRANSPORTATION DESIGN COMMUNITY

People use visualization in ways that vary widely from discipline to discipline. Within the transportation agency community, several uses of visualization are in application today.

- **Design.** As shown in the case studies in this synthesis, visualization enables planners and engineers to design more effectively and efficiently. Critical issues such as line-of-sight and site impacts can be better understood through the use of visual tools. Because engineers are currently charged with the task of designing 3-D projects, it seems particularly practical to use 3-D tools (see Figure 5). Completing the design using 3-D visualization tools enables engineers to better understand the design and construction process and to identify design flaws early in the process instead of during the construction phase, where expensive overruns usually occur or where it may be too late to remedy the design flaw.
- **Human factors assessment.** Visuals assist planners and designers in identifying the full range of human factors and interfaces (e.g., cognitive, organizational, physical, functional, and environmental) necessary to achieve an acceptable level of design and meet the functional requirements of the project. Results are realized in improved acquisition decisions, reduced training and maintenance costs, fewer human errors, improved safety, a higher probability of system success, and improved user acceptance.
- **Impact analysis.** Visuals allow planners and designers to "see" project impacts before anything is built. Visuals that help explain or justify certain aspects of a project are usually incorporated into one of two documents: (1) the environmental impact statement (EIS), which is a document produced during the project development and environment process that describes all likely impacts that will result from the project, or (2) the project-specific aesthetic guidelines or visual quality manuals that some agencies have, such as the guidelines of the Mn/DOT (*7*).
- **Construction sequencing.** Visualization can be used to help planners comprehend complex construction sequencing issues (see Figure 6). Construction overruns are common and affect project budgets significantly. Almost all construction claims for overruns are based on design problems, usually because contractors claim that their jobs required more work than was outlined in the original plans. These design problems lead to more work and can be reduced or even eliminated through the use of 3-D CADD design and visualization.
- **Interference detection.** If the design process is being completed in 3-D, a variety of visualization tools can automatically identify interferences during the CADD process. This process can be complicated, involving a significant number of plan sheets. Often it is difficult for the designer and decision maker to fully understand the impacts of a project because many plan sheets need to be cross-referenced. Three-dimensional applications can improve the overall understanding of the design by automating the process of identifying interferences

FIGURE 5 3-D rendering. (*Courtesy*: Bergmann Associates.)

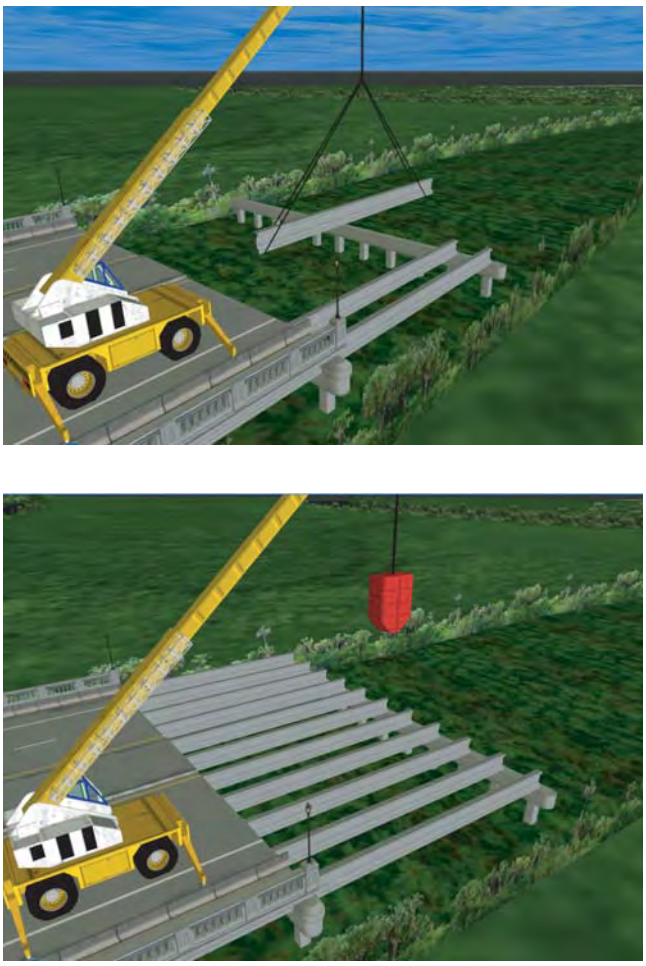

FIGURE 6 Construction sequencing.

and conflicts. For example, often details for piping or electrical components can reside on one set of plan sheets whereas the overall structural components for the project reside on another sheet. Traditional methods require constant referencing between those sheets. Three-dimensional interference detection improves this process. Three-dimensional software applications can also automatically call out constraints for interference detection or calculate sequencing processes. These visual tools assist the engineer in providing real-time feedback on the design. This visual feedback tool greatly improves the quality and accuracy of the design.

- **Funding and approval.** To start the project planning process, transportation agencies need to garner funding and support from state agencies, such as metropolitan planning organizations, and federal agencies, such as FHWA. To assist in the funding process, visuals can be used to help stakeholders and decision makers better understand the overall project goals and impacts.
- **Public and stakeholder involvement.** Used during the public involvement process, visualization can play a key role in acquiring support for the project; help citizens and stakeholders to make informed decisions; and foster enhanced relationships between transportation agencies, stakeholders, and the public. Many projects are ultimately decided by public acceptance. Because a significant portion of public opinion is driven by a misunderstanding of the project or by apprehension, it is important to make sure the public understands the design. Visualization improves understanding by better conveying to the public complicated design issues (see Figure 7). This improved understanding often leads to project consensus and approval.
- **Homeland security.** Homeland security is a relatively new use for visualization. It has been greatly accelerated since September 11, 2001. Visuals created for a project can assist planners and security agencies in understanding security issues such as line-of-sight and structural integrity. Three-dimensional visuals combined with database applications such as GIS add a level of intelligence and detail to visual data. Visuals are now being used as vital planning tools instead of being a byproduct of the design process.

FIGURE 7 Visual rendering of proposed site improvements at a U.S. Coast Guard Border Crossing Facility in Buffalo, New York.

VISUALIZATION TOOLS

Key Factors in Determining What Tools Are Used

The foundation of most computerized visualization tools is CADD data. CADD data can be derived from a variety of sources, such as survey data and field measurements. The data can be in 2-D or 3-D formats and can be simple or complex in design. Visual tools are used to enhance the CADD design and to convey it in a variety of formats. Key factors in deciding which visual tool to use include, but are not limited to, the following:

- **Project goals.** The most important factor in deciding which visual tool to use is the project goals. Visuals need to have a purpose or else they do not serve a viable function. For example, if the project requires an interactive public outreach tool, web development tools would be used instead of static photo-simulations. The right tool is needed for the right job. Visualization can be critical to addressing conflicting objectives and/or values between the agency, stakeholders, and the public.
- **Project schedule.** Another important factor in deciding which visual tool to use is the project schedule. The shorter the schedule, the less complex the visual tool needs to be. However, having a short schedule does not mean that the visual tool will be less effective; it simply implies that a different approach to conveying the design is required.
- **Project budget.** Once the project schedule and goals have been determined, project budgets can be set. These budgets are normally determined by the project manager. Currently, little to no formal information exists for project managers to access to help determine the visualization portion of the overall project budget. Project managers rely on information obtained either from experienced transportation agency members or through consultants associated with the project.
- **In-house knowledge and experience.** To successfully create visuals for a project, experienced visualization specialists are required. These specialists need to have a diverse array of knowledge about a variety of visualization tools. Project goals cannot be met unless the staff available has the correct skill set.

Types of Visual Tools

Hand Rendering

Hand rendering is the oldest visual tool used within the transportation design community. A hand rendering can be created

by drawing or painting freehand images or tracing over existing CADD plans or elevations (see Figure 8). Although considered a "low-tech" visual solution, hand rending is still quite an effective tool. Many engineers and architects would argue that the traditional method of hand rendering gives the drawing a human touch, whereas computerized rendering tends to look somewhat plastic. This argument has some validity, and only an experienced individual can produce electronic renderings that will satisfy the preferences of an experienced traditional renderer.

Two-Dimensional Graphics

Two-dimensional CADD data, graphics, and photography can be applied to a variety of visual applications (see Figure 9). Most meetings and public presentations rely on 2-D graphics to convey everything from demographics to budgets. This visual tool can be output to print mediums, web development, or electronic multimedia presentations. Two-dimensional graphic models may combine geometric models (also called vector graphics), digital images (also known as raster graphics), text to be typeset, mathematical functions, and more. These components can be modified and manipulated by 2-D geometric transformations such as translation, rotation, and scaling. Two-dimensional simulations or photo montages can be very efficient and effective on some projects.

Computer Renderings

Computer rendering can be used after the 3-D model has been completed. Once completed, the model is inserted into a rendering program, where it is assigned variables that assist in adding realism to the model. Elements such as color, texture, lighting, reflectivity, and shadow are defined within the model. The rendering program then computes these elements and produces a realistic rendering (see Figure 10). Inserting these variables into a rendering program and creating realistic output takes an artistic eye and can be one of the most time-

FIGURE 8 Hand rendering; the oldest visual tool used within the transportation design community.

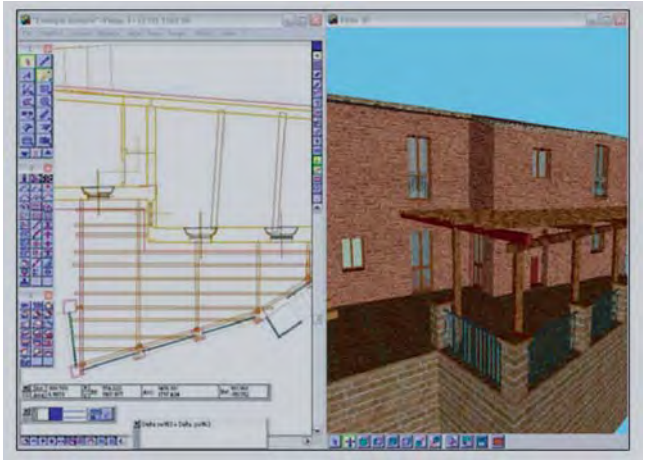

FIGURE 9 2-D CADD file and associated rendering.

consuming portions of creating visuals. Often, multiple versions of the rendering are created until the proper "look" is achieved. The final product is a realistic rendering that can include environmental elements such as particles, lens flare, and subtle lighting and shading.

Photo-Simulation

Once the 3-D rendering has been created, it can be incorporated into an existing photograph using a photo-editing package (see Figure 11). The goal of the photo-simulation is to educate the observer while at the same time creating a seamless composite, whereby the computer graphics blend into the picture. Photo-simulation can provide the realism that the general public and the design industry expect to see in visuals.

Computer Animation

Computer animation is the art of creating moving images by using computers. It is a subfield of computer graphics and animation. Increasingly, computer animation renderings are

FIGURE 10 Toll plaza rendering. (*Courtesy*: SUNY at Buffalo.)

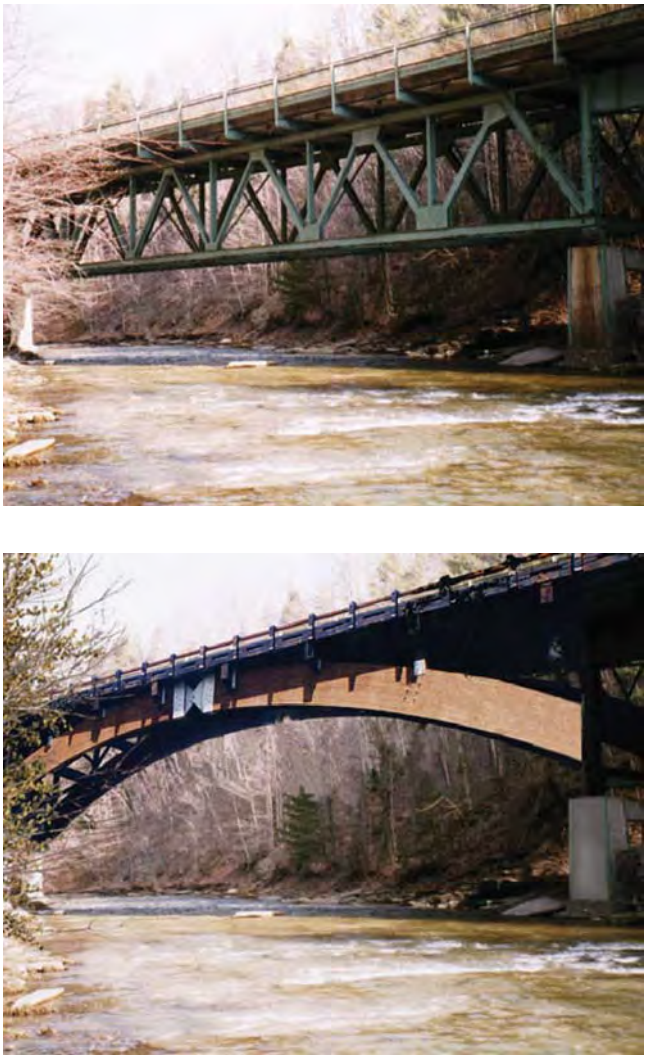

FIGURE 11 Photo-simulation of existing conditions (*top*) and proposed conditions (*bottom*).

created by means of 3-D computer graphics, although 2-D computer graphics are still widely used. Sometimes the target of the animation is the computer itself; sometimes the target is another medium, such as film.

Essentially, computer animation is a series of computer renderings that are strung together (see Figure 12). Time constraints need to be considered when deciding to use computer animation, because rendering can be a time-consuming process. The computer systems must generate all the renderings necessary to create an animation, and it takes 30 frames (that is, renderings) to generate 1 s of computer animation (see Figure 13). Thus, for example, if it takes 5 min to generate one rendering, it will take 150 min to generate 1 s of computer animation:

- 5 min to prepare each rendering.
- 30 renderings to create each second of computer animation.
- $5 \times 30 = 150$ min to prepare each second of animation.

FIGURE 12 Computer animation of Virgin River Arch Bridge. (*Courtesy*: Utah DOT.)

If the project requires 60 s of computer animation, then, based on the 5-minutes-per-frame calculation, it will take 9,000 min, or 150 h, to render all the frames necessary to produce the animation:

- 150 min to prepare each second of computer animation.
- 60 s of computer animation required for the project.
- $60 \times 150 = 9{,}000$ min to prepare computer animation.
- 9,000/60 min = 150 h.

Production houses, consulting firms, and some transportation agencies use render farms or network-distributed rendering to improve processing and production time. A render farm is a computer cluster that renders computer-generated imagery. The rendering of images is a highly parallelizable activity because each frame can be calculated independently. The main communication between processors is the upload of the initial models and textures and the download of the finished images. Network-distributed rendering is the process of aggregating the power of several desktop computer workstations to collaboratively run a single computational task in a transparent and coherent way so that the workstations function as a single, centralized system. This form of rendering is used when a render farm is not practical or feasible. Instead of purchasing and maintaining a render farm, desktop workstations available on a network are used. Usually these workstations are accessed during the evening hours so as not to prohibit other uses of the workstations during the day.

Overall, when using computer animation, careful consideration needs to be given for the production schedule owing to the amount of potential rendering time.

Real-Time Simulation

Based on virtual reality, real-time simulation is a graphical database technology that allows for interactive navigation

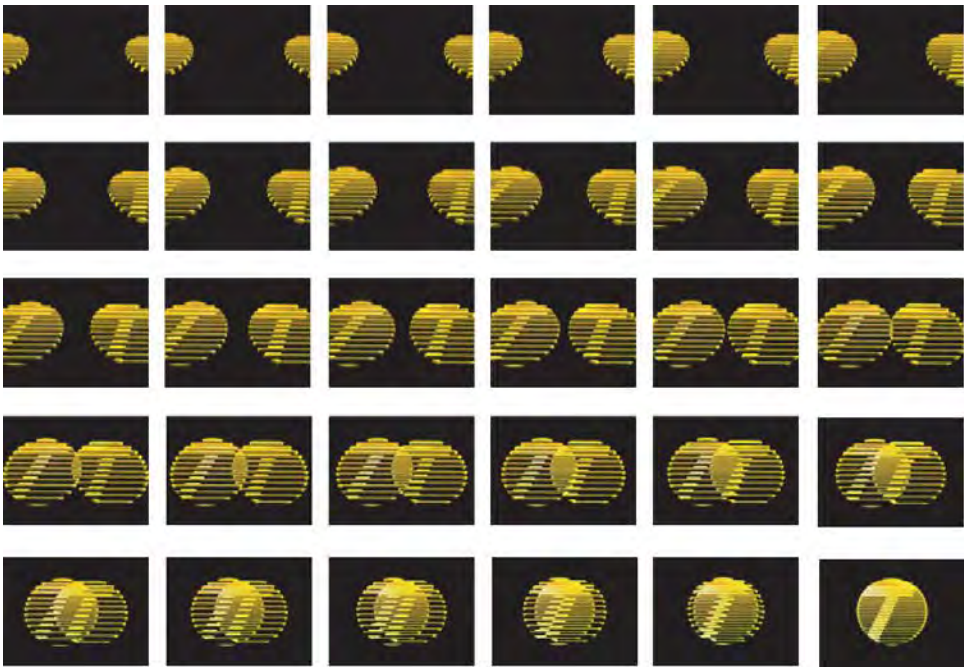

FIGURE 13 Frame count needed to generate 1 s of computer animation.

throughout a digital model. This visual database has the ability to foster rapid conceptual approvals, help identify design flaws, and reduce development costs before the commencement of construction. This technology has been pioneered by the U.S. military for flight and combat simulation and is rapidly becoming a key tool for the urban design and planning community. Cities such as Las Vegas, Nevada, and Cerritos, California, are currently using the technology to help with planning and design issues (*8*). Although traditional visualization methods have been used as a presentation tool, real-time simulation streamlines the complex phases of planning and designing a project by integrating multiple sets of plans and elevations and allowing the viewer to see them simultaneously instead of one sheet at a time.

Being a database itself, real-time simulation can be linked to other databases, such as GIS applications, traffic simulation utilities, or facility management utilities. Without real-time simulation, these other databases are stand-alone and cannot be linked together. However, real-time simulation can view these database formats simultaneously and allow the user to navigate interactively throughout the digital model, thereby making the database "intelligent." By dynamically linking real-time simulation to other databases, decision makers will have the ability to analyze various types of information. If the simulation is set up properly, it can interactively display tax base information, utility and building statistics, traffic simulations, and more.

Real-time simulation technology has the added ability to interactively analyze multiple design options. Objects such as proposed buildings, roadways, and underground utilities can be toggled on and off. This ability increases overall understanding, which can translate into schedule and budget savings. The nature of this technology allows for quicker response times in implementing design changes.

Real-time simulation can be a key master planning tool. Because it is a database, it can be modified for years to come. As changes occur to the project, the database can be updated. Additional features, such as a proposed building or roadway conditions, can be incrementally added to the database. Ultimately, the database can be expanded to contain large metropolitan areas. The technology can be used throughout the life of a master plan, providing greater communication and concise understanding, which in turn will lead to quicker acceptance or approvals.

The strength of real-time simulation lies within its interactivity. Designers will have the ability to view their concepts interactively. Critical issues such as building aesthetics and line of sight, which are security issues, can be easily identified. The general public can also obtain a greater understanding of the study by viewing the proposed changes from many perspectives. Public outreach and support can be more effectively achieved. Other visualization tools for high-profile projects have often created additional misunderstanding because these methods do not fully convey impacts in basic terms that the average person can understand. With real-time simulation, participants can interactively move around a site to see every angle and obtain greater understanding (see Figures 14–17).

Real-time simulation is a unique planning tool that can produce greater levels of communication and understanding. Users of this technology need to be aware that, unlike

FIGURE 14 One angle of a 3-D simulation model of a building.

FIGURE 16 One angle of a real-time 3-D simulation model of a proposed public safety building.

computer animation, real-time simulation cannot render multiple light sources, shadows, or reflectivity. These capabilities are currently available only with computer rendering or animation. They are commonly used to provide greater realism to the computer model or when lighting or shadow studies are required for a project. Therefore, if the goal of the project is to show any of these details visually, real-time simulation should not be used.

Web Development

The Internet has revolutionized how information is conveyed and shared. The transportation design community has recognized web development as an important part of the overall project development process. Several categories of websites can be produced, including, but not limited to, the following:

- **Promotional sites.** These sites typically serve as an online brochure to help increase public awareness for pending, upcoming, or active projects. They are usually static in content, but may involve some dynamic elements, such as information-gathering forms and database-driven elements.
- **Project-based sites.** These sites allow the project to be managed from multiple and even remote locations by means of the Internet. Management tools such as project scheduling, e-mail, and file management can all take place on the Internet. Various levels of security can be assigned to ensure data integrity and accuracy. With one common site, data for the project can be located quickly. Past problems of multiple file versions can also be eliminated by a common project-based website.
- **Public outreach.** These sites enable the general public to both access up-to-date project information and voice its opinions and concerns (see Figure 18). As the project progresses, the website can be updated with such information as project milestones, present and future traffic impacts, alternative transportation solutions, published meeting reports, and schedules.

Multimedia Development

Multimedia systems support the interactive use of text, audio, still images, videos, and graphics. Each of these elements must

FIGURE 15 One angle of a real-time 3-D simulation model of a proposed roadway.

FIGURE 17 One angle of a real-time 3-D simulation model of a proposed building.

FIGURE 18 Public outreach website.

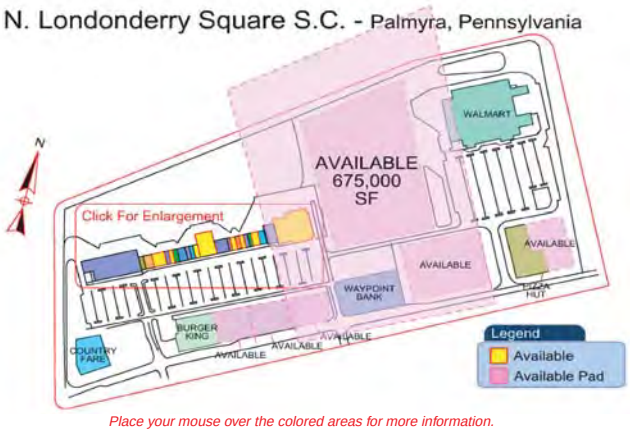

FIGURE 19 Multi-media graphic with “roll-over” capabilities. Roll-over capabilities allow the viewer to select an image within the graphic to see alternative images and text.

FIGURE 20 Scene from a video production that combines photo-simulation, 3D digital modeling and animation, and computer-generated graphics.

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be converted in some way from analog form to digital form before they can be used in a computer application. Thus, the distinction of multimedia is the convergence of previously diverse systems. Commonly, multimedia elements are considered applications that are executed from a CD-ROM. The key advantage of this visual tool is its interactivity. The user has the ability to navigate at will throughout the multimedia system, using such features as "roll-over" capabilities to access alternative images, audio, or text (see Figure 19). Examples of multimedia tools include self-paced tutorials, informative project pieces, and outreach tools for stakeholder or public involvement.

Video Production

Video production combines the visual tools of photo-simulation, 3-D digital modeling and animation, and computer-generated graphics to create an informative depiction of a project (see Figure 20). The final product is an effective outreach tool that can be shown multiple times and from most locations. Video productions can be aired on local cable access, and copies can be made available at various municipal facilities in a variety of formats, including VHS, DVD, CD-ROM, and Beta-SP. Video production is the art and service of producing a finished video product to a customer's requirement. Videos can satisfy a wide range of demands, from demonstrating safety features in dangerous environments to providing training. An example of a more everyday application is a television news article. Video producers take an outline, produce a script, create storyboards, and begin production. This process often includes experts ranging from CADD staff to computer graphics technicians. The production is created, put on broadcast-quality tapes, edited, and presented in a draft or "guide" form. Sound tracks and visual effects are then added, and the final video is presented. With the increasing use of video in a wide range of commercial and government functions, video production is a fast-growing industry.

ATTACHMENT
E-1

Building a Foundation for Meaningful and Active Participation

I-70 East Project, Denver Area, Colorado

Case Highlights

Description: The construction of Interstate (I)-70 near Denver, Colorado, in the 1960s, and the resulting split of predominantly minority and low-income surrounding neighborhoods, left a legacy of distrust for the Colorado Department of Transportation (CDOT). When CDOT set out to improve the I-70 East corridor in 2003, they knew they had to work proactively and collaboratively with these same communities to build their trust and ensure their active and meaningful participation in the environmental study. The outreach conducted for the project set new ground for the CDOT. The emphasis of the outreach process was on gaining maximum participation from the local communities. This also meant educating the communities about technical areas such as noise and transportation design and how they affect lives. The case also included an extensive air-quality analysis, analysis of health-related impacts, and the evaluation of a community-based alternative.

Key Concepts: Effective practices in addressing environmental justice include: fully addressing impact-areas of concern to environmental justice communities (in this case air-quality and health-related impacts), the evaluation of a community-based alternative, and extensive public outreach conducted to build trust and create a truly inclusive process.

Building a Foundation for Meaningful and Active Participation

I-70 East Project, Denver Area, Colorado

Introduction

The construction of Interstate (I) 70 near Denver, Colorado, in the 1960s, and the resulting split of predominantly minority and low-income surrounding neighborhoods, left a legacy of distrust for the Colorado Department of Transportation (CDOT). When CDOT set out to improve the I-70 East corridor in 2003, they knew they had to work proactively and collaboratively with these same communities to build their trust and ensure their active and meaningful participation in the environmental study. The public-outreach process conducted for I-70 East resulted in meaningful participation from environmental justice communities and helped to re-build trust in CDOT.

Project Context

I-70 and I-25 are main thoroughfares in the Denver, Colorado, metropolitan area, intersecting just north of the city (see Figure 1). Planning for the initial construction of I-70 started nearly 60 years ago. During the development of I-25, it was recommended that Denver's major east-west thoroughfare be located along 46th Avenue, east of I-25 and along 48th Avenue west of I-25. In 1947, Denver formally requested that the 46th/48th Avenue corridor be designated as a State highway from Sheridan Boulevard to Colorado Boulevard. Detailed studies and design efforts continued in the 1950s and 1960s, with I-70 construction completed in 1964.

In July 2003, CDOT and Denver's Regional Transportation District (RTD) began a joint study for the I-70 East Corridor Environmental Impact Statement (EIS). An overview of the environmental study process is shown in Figure 2.

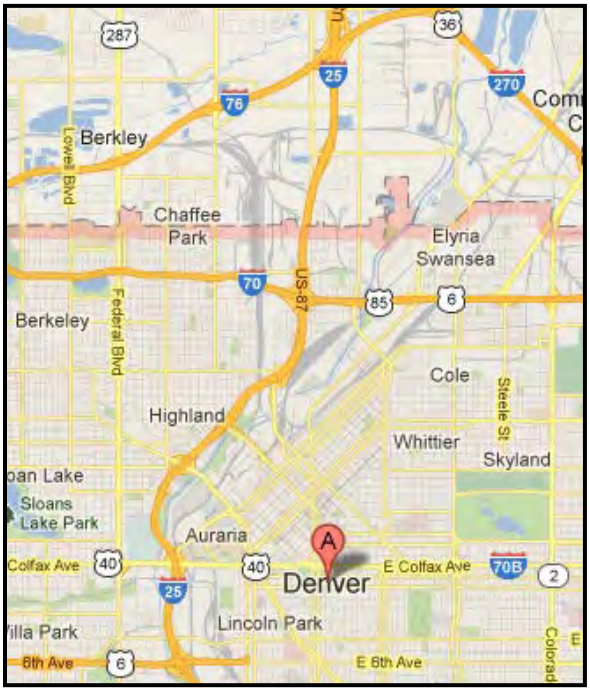

Figure 1. I-70 East project region in Denver, CO.

The need for this project resulted from: increased transportation demand, limited transportation capacity, safety concerns, and transportation infrastructure deficiencies. The purpose of the project was to improve transportation along the I-70 corridor from I-25 to Tower Road and explore potential rapid transit options from downtown Denver to Denver International Airport.

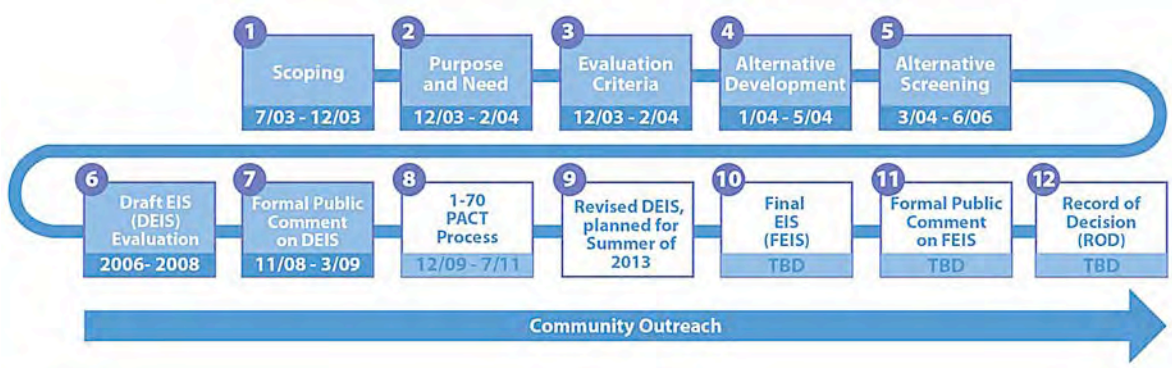

Figure 2. Overview of the I-70 East Corridor Environmental Impact Statement Process.

The project limits extend approximately 17 miles along I-70 between I-25 and Tower Road. The project area encompasses established neighborhoods on the west end of the corridor and emerging residential and commercial areas on the east. It includes portions of Denver, Commerce City, Aurora, Adams County, and several Denver neighborhoods, including Globeville, Five Points, Elyria and Swansea, Cole, Clayton, Northeast Park Hill, Stapleton, Montbello, Green Valley Ranch, and Gateway (see Figure 3).

In June 2006, the highway and transit elements of the I-70 East Corridor EIS were separated into two independent projects, reflecting that they serve different travel markets, are located in different corridors, and have different funding sources. The intent of the I-70 East study is to identify highway improvements along I-70 between I-25 and Tower Road that would improve safety, access, and mobility, and address congestion. The transit study, the East Corridor EIS, is focusing on transit improvements between downtown Denver and Denver International Airport. The transit project would also affect the same study area affected by the highway project.

The draft EIS was made available to the public for comment from November 14, 2008, to March 31, 2009. As of June 2012, a recirculated draft EIS was being considered to study additional alternatives in greater detail and obtain public input.

The Region and the Community

Demographics

CDOT used 2000 Census data to identify minority and low-income populations in the project study area. The study area consisted of 65 block groups in Denver, Aurora, and Commerce City. More than 77 percent of the study-area residents were minorities (see Figure 4). Among the 63 block groups in the study area with non-zero populations, all had a minority population percentage greater than Colorado (25.5 percent) and the Denver Primary Metropolitan Statistical Area (PMSA) (29.6 percent). Approximately 40 percent of the residents in the study area were Hispanic/Latino and 30 percent were Black/African American, with approximately 5 percent representing other minority populations.

Data on income were available for 62 of the block groups in the study area. Among these block groups, 45 had a percentage of low-income

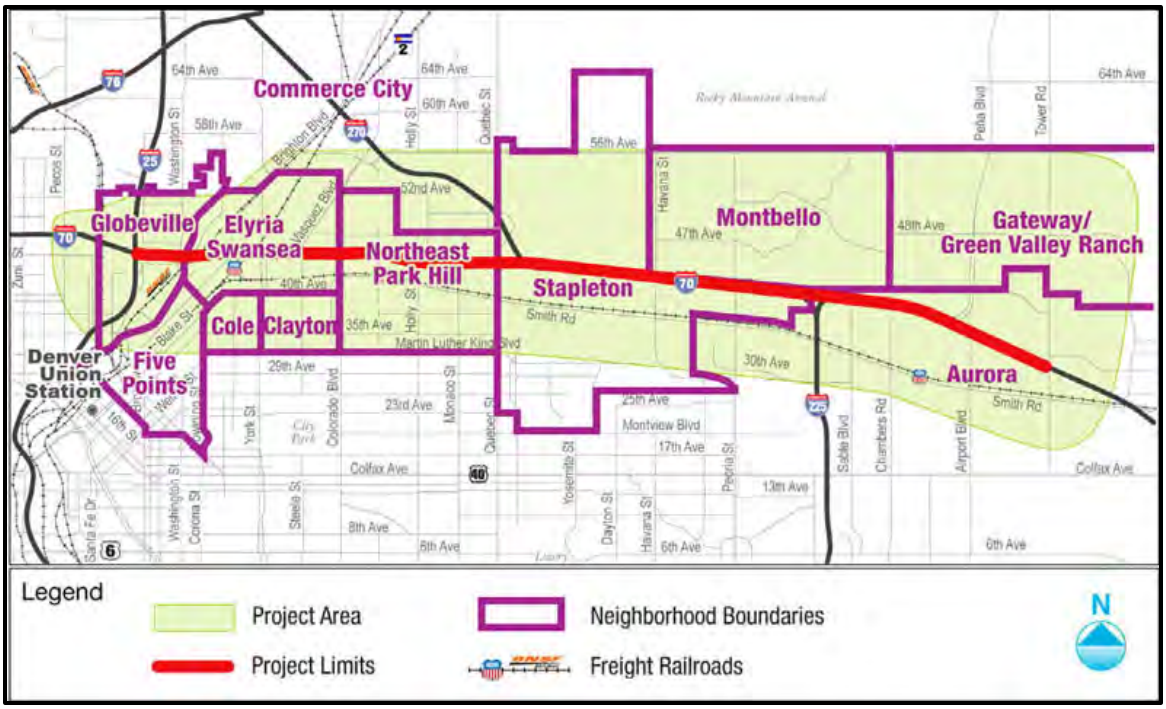

Figure 3. Neighborhoods making up the I-70 East project area.

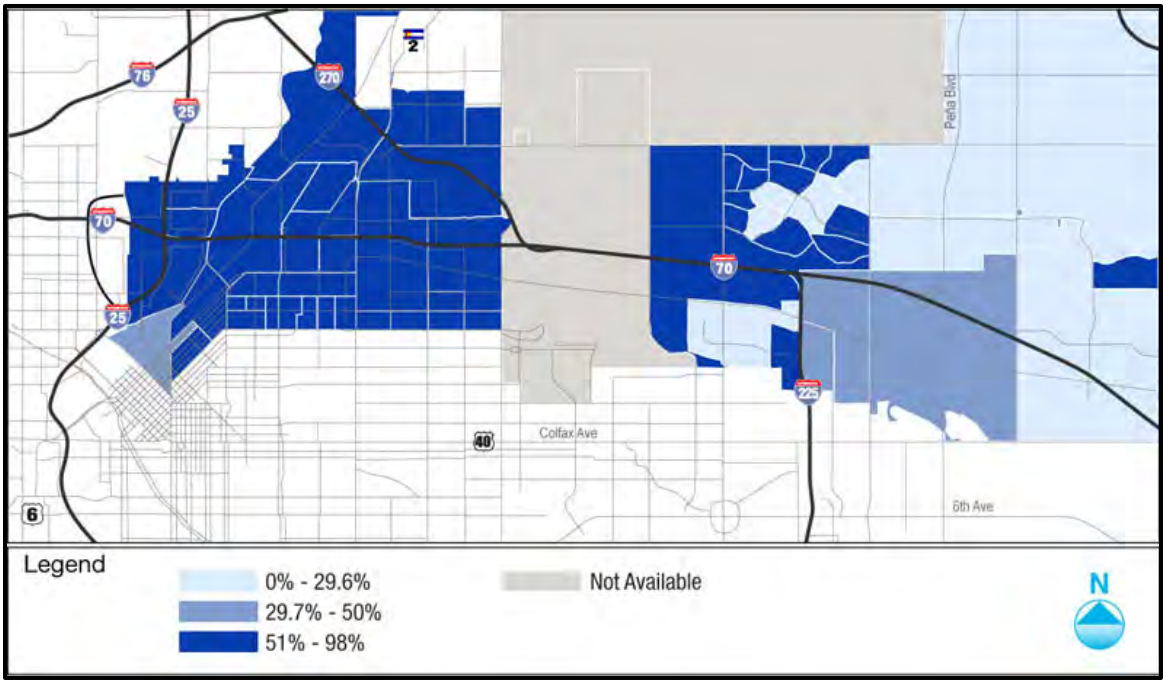

Figure 4. 2000 Census data on minority population in the I-70 East project area.

households that exceeds the State average (14.8 percent), and 50 had a percentage of low-income households that exceeds the PMSA average (14.6 percent). Overall, about 21.2 percent of the households in the study area were low income.

Land Use

When I-70 was constructed in the 1960s, several neighborhoods were divided. The largely minority neighborhoods of Elyria and Swansea were most adversely affected at the time. The history of industrial use in the Elyria and Swansea neighborhood has had lasting effects. Present-day Elyria and Swansea is composed of residential enclaves surrounded by large areas of industrially zoned land. Small sections of well-maintained single-family homes are interspersed with larger areas of commercial and industrial development, areas with heavy truck traffic. In addition, one of the long-standing neighborhood issues in Elyria and Swansea is the presence of a large number of salvage yards and landfills, primarily related to auto parts recycling businesses. Eighty-three percent of the residents in Elyria and Swansea were Hispanic/Latino, 5 percent were Black/African American, and 31.5 percent were identified as low income.

Community cohesion was disrupted by the presence of I-70, which bisects the neighborhoods, the interspersed industrial uses and residential areas, and the railroad lines and spurs (including the Union Pacific Railroad which runs directly between residential areas) that interrupt direct street access between major thoroughfares and destination points.

Another low-income and minority neighborhood that was bisected by highway construction is Globeville. Globeville is located in the northwest part of the project area. The construction of I-25 and I-70 left Globeville somewhat isolated from the rest of Denver and bisected the community. This split left only two local roads, Lincoln and Washington Streets, open to north-south vehicular traffic. At present, Globeville is described as a residential island surrounded by industry. Seventy-seven percent of the residents in Globeville were Hispanic/Latino, 3 percent were Black/African American, and 34.2 percent were identified as low income.

Given the history and location of industrial uses and the presence of a major freeway (I-70) in proximity to these residential neighborhoods, these populations are considered disadvantaged. Many of these industries are non-conforming land uses that are difficult to relocate. Therefore, these neighborhoods continue to bear the burden of cumulative impacts resulting from various types of industrial and transportation uses.

What Happened

A unique approach to working with the public was used throughout the I-70 East environmental study, and is depicted in Figure 5. That approach was developed through the scoping process and was a part of every aspect of the study, from identifying alternatives to analyzing impacts and mitigation strategies. Particular tools and strategies incorporated in the public outreach approach are described in detail in the section on Effective Practices and Lessons Learned. How the information gathered was used in each part of the NEPA process is explained here.

Scoping Process

The public scoping process began with an analysis of the neighborhoods and businesses within the project area in an effort to develop a logical community-outreach boundary (see Figure 6). Based on available information about

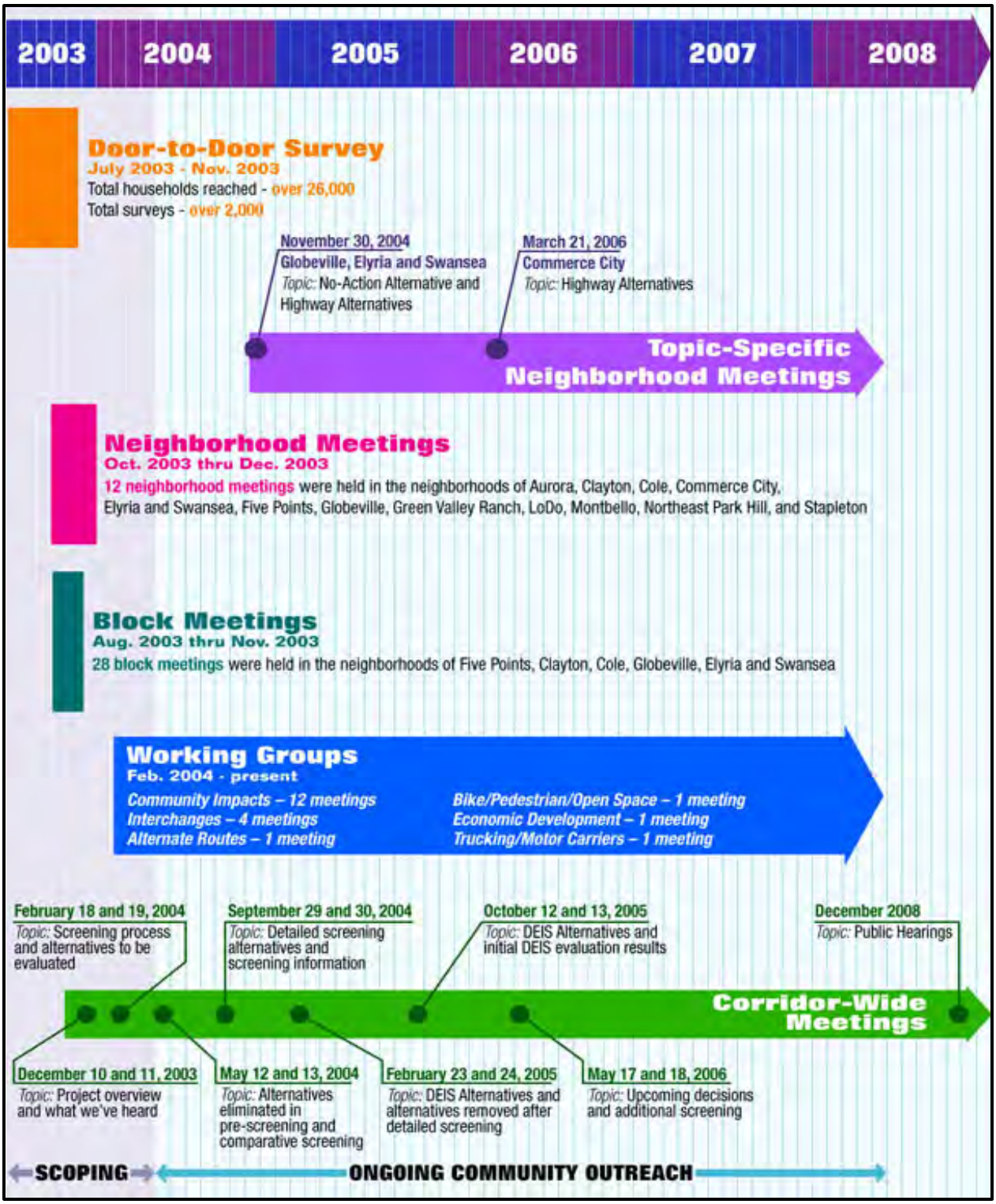

Figure 5. I-70 East project community-outreach activities and timeline.

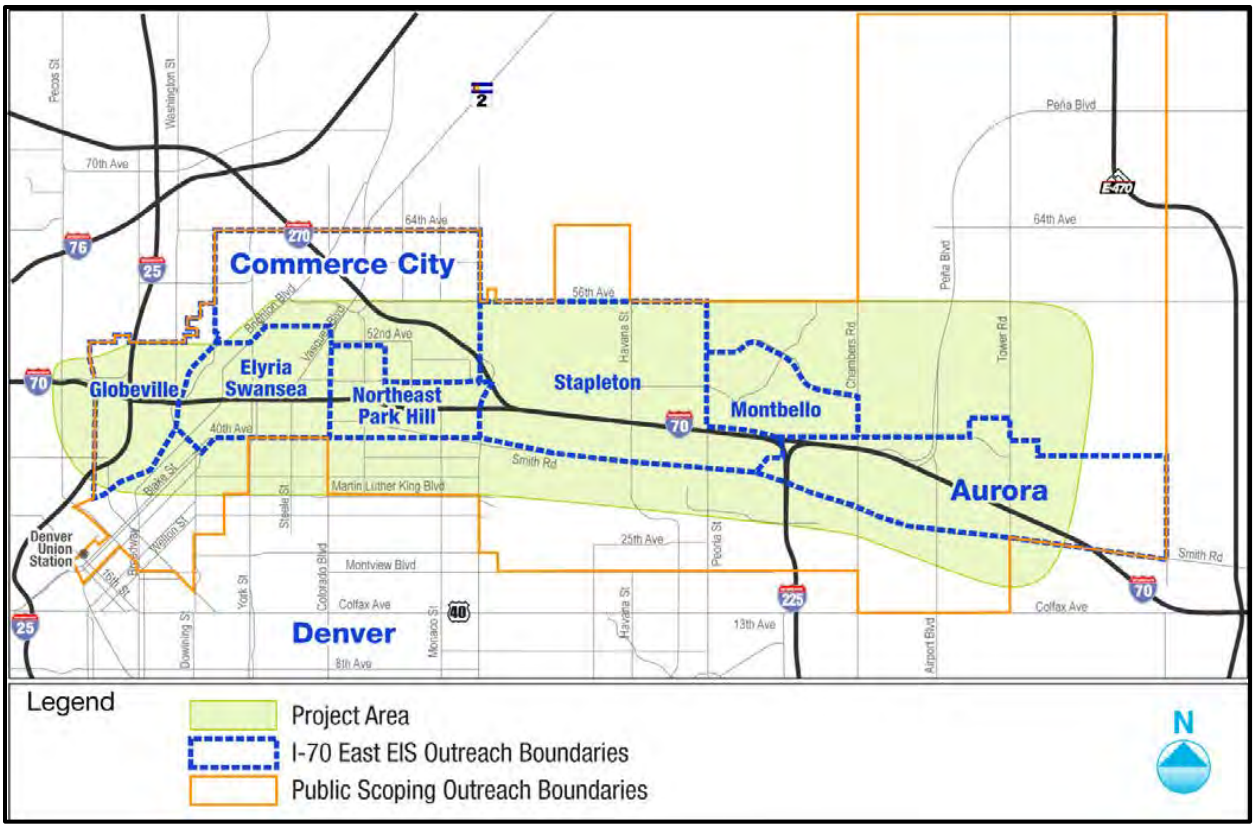

Figure 6. I-70 East project public-outreach boundaries.

the demographic make-up of the corridor and familiarity with communities and neighborhoods in the corridor, specific outreach programs were designed to reach Hispanic/Latino and Black/African American populations and neighborhoods. A comprehensive public-scoping process was developed that ensured every neighborhood within the project area would have ample opportunities to provide input to the study. Several techniques were used during the public scoping process conducted from July to December 2003, including door-to-door outreach to more than 26,000 households, followed by 28 block meetings, 12 neighborhood meetings, eight business meetings, 12 stakeholder meetings, and 2 corridor-wide meetings (see Effective Practices and Lessons Learned for more details on these meetings). Total attendance at the public scoping meetings exceeded 1,000, with an overwhelming participation by the environmental justice populations.

The project team also conducted several driving/walking surveys and collected data from area residents as part of the public-outreach process. During this outreach process, the project team identified specific neighborhood features, properties of interest, information on the social organization of the community, and perceptions of existing neighborhood transportation problems.

Issues of concern identified by the public in the scoping process included health and safety, availability of funding for construction, toll roads, noise, congestion, bus routes, alternate routes, environmental justice, construction

timing and impacts, interchanges, accommodating growth and local plans, and drainage on highways and existing bridges.

The results of the public- and agency-scoping processes helped CDOT and RTD define the corridor purpose and need as well as understand the values expressed by residents and employees within the corridor. Nine major project goals were established related to providing reasonable access to transportation facilities: (1) providing realistic capacity expansion; (2) supporting community plans; (3) avoiding, minimizing, and mitigating adverse effects on neighborhoods and the natural, social, and cultural environment; (4) providing a cost-effective and implementable transportation solution; (5) addressing deteriorating infrastructure; (6) enhancing mobility; (7) addressing safety needs and upgrading to current safety standards; and (8) providing a secure transportation system. The ninth objective of the project specifically called out minimizing adverse effects on minority and low-income populations.

Identification of Alternatives

Initially, alternatives considered included those identified through previous studies as well as new concepts developed by the project team.

The results of a comparative screening evaluation defined the alignments, lane types, and local system improvements that would be studied further as part of detailed screening. The results of the initial and comparative screening were approved by the agency committees in April 2004 and presented to the public in May 2004 at corridor-wide meetings (see Figure 7).

The initial draft EIS examined four build alternatives that ranged from building general-purpose lanes on the existing alignment, tolled express lanes on the existing alignment, general-purpose lanes on realignment, and tolled express lanes on realignment. Different horizontal and vertical shifts and cross sections were considered.

Environmental justice and community concerns were considered throughout the development of alternatives. Community input during the alternative-development process led to the identification of the realignment alternatives

Public-Involvement Protocols

Prior to beginning the community-outreach process, individual community leaders, stakeholders, advocates, and activists provided input that allowed the study team to gain a practical overview of neighborhood concerns and sensitivities.

The input collected during public-scoping meetings as well as during one-on-one conversations with project team members produced several recommended procedures that served as the foundation of overall public-involvement protocols, including:

- Providing food and child care at public meetings to make them more accessible
- Placing meeting announcements in church bulletins and attending church services to address their congregations
- Providing a translator at all public meetings
- Having the working-group members define topics for the sessions
- Providing a comment period at the beginning and end of every committee meeting
- Adding three health experts to the Air Quality Compliance Committee

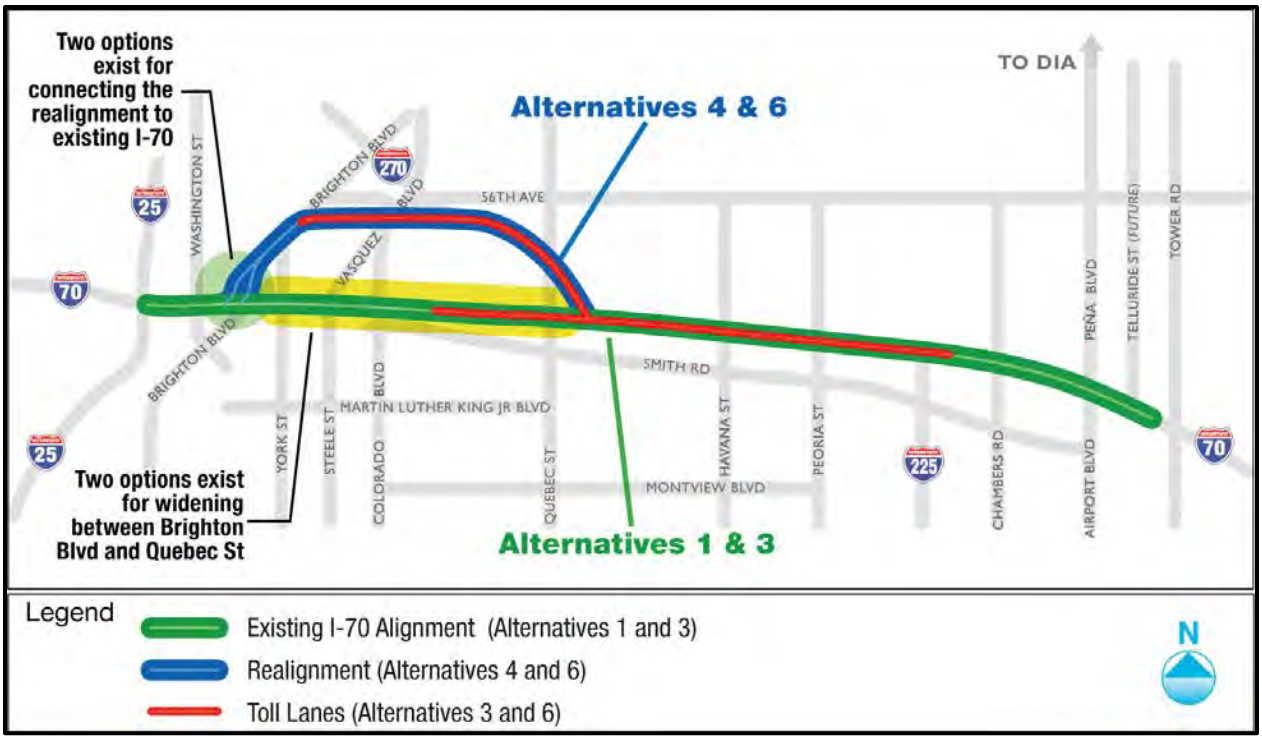

Figure 7. I-70 East Alternatives considered and presented to the public.

(Alternatives 4 and 6) analyzed in the draft EIS, after some community members suggested realigning I-70 in the vicinity of the current viaduct between Brighton Boulevard and Colorado Boulevard.

Community concerns related to safety, noise, and other issues were also incorporated into the project objectives and screening criteria.

Analysis of Impacts

Approach Overview

In the analysis of impacts reported in the EIS, a separate section addressed environmental justice. The effects of each alternative relative to low-income and/or minority populations were reviewed, then the following three questions related to impacts to low-income or minority populations were addressed:

1. Are there elements of adverse impacts that would have particular effects on low-income and/or minority populations? For example, property would be acquired for all alternatives. Acquisition of property from Swansea Elementary School, could have particular impacts on low-income and minority populations.

2. Would adverse impacts be predominantly borne by low-income and/or minority populations, or would adverse effects be appreciably more severe or greater in magnitude than any adverse effects that would be suffered by the non-minority and non-low-income population? (In other words, would the effects on low-income and minority populations be disproportionately high and adverse compared to the effects on the general population?)

To determine the distribution of adverse effects for the draft EIS, the project team mapped the project construction limits for each alternative and determined, using Census data, the percentage of low-income and minority populations within 300 feet. The team also considered whether particular impacts would be concentrated in a specific area (e.g., relocations in Elyria and Swansea), and whether those areas have high percentages of low-income and/or minority populations.

3. Would the benefits provided by an alternative be equally available to low-income and/or minority populations, at the same time as other populations? For the draft EIS, the analysis of the distribution of benefits was qualitative, but took into account input received from the public. The project team also considered whether benefits were widespread or directed to particular areas with high concentrations of low-income and/or minority populations (Elyria and Swansea).

To reduce repetitive discussion, the analysis also described effects that are common to all alternatives or to particular sets of alternatives (e.g., existing alignment versus realignment). In the environmental justice analysis, CDOT considered impacts prior to any proposed mitigation measures (e.g., noise barriers), although standard construction and operation measures, such as dust suppression measures to reduce particulate emissions, were incorporated.

For each alternative, the discussion included a summary of effects, effects on low-income and/or minority populations, distribution of adverse effects, and access to benefits. Input gathered at the various meetings was used to inform the discussion of impacts on low-income and/or minority populations. Some of the key issue areas that had the potential to affect environmental justice communities are summarized below:

Effects of Tolled Express Lanes

Effects of tolled express lanes on minority and low-income populations were analyzed in accordance with CDOT's 2006 guidelines *Possible Environmental- Justice Issues Related to Express Lanes.*

The topics addressed were (1) financial equity of express lanes on low-income populations, (2) physical access to express lanes for low-income and/or minority populations, (3) redistribution of traffic into low-income and/or minority neighborhoods, and (4) proportional sharing of the benefits of the tolling revenue to low-income and/or minority populations.

The draft EIS noted that equity studies conducted on managed-lane projects implemented in other States show that low-income drivers do voluntarily use express lanes and are not necessarily excluded, although more frequent use is often exhibited by high-income drivers. Equity studies revealed that low-income drivers approved of the "high-occupancy toll" concept (under which vehicles would be allowed in express lanes if they either paid a toll or carried two or more people [i.e., high-occupancy vehicles]) as well as the "express toll" concept, similar to the opinions of high-income households. Therefore, CDOT did not consider equity to be a major issue or obstacle in implementing pricing on the express lanes. Nonetheless, CDOT will consider options to reduce initial enrollment costs for low-income drivers so as not to exclude low-income drivers from participating in the managed-lane program. CDOT will also consider the means for

electronic toll collection and provide arrangements for individuals who may not have a credit card or bank account. If a preferred alternative includes tolled express lanes, the design of these lanes will take into account access to and exit in a way that ensures low-income and/or minority communities have equitable access. Detouring traffic on local streets (also known as "spilling") due to motorists attempting to avoid tolling corridors was not expected to be an issue along I-70 East because of the nature of the corridor. If the preferred alternative includes tolled express lanes, the final EIS would include a detailed financial analysis of the ability of the toll revenue to pay the capital and operating expenses due to the tolling system. If this analysis suggests there would be disproportionately high and adverse effects on low-income and/or minority populations resulting from any discrepancy between toll revenues and the incremental costs of implementing toll lanes, then CDOT would propose appropriate mitigation measures. CDOT would also examine whether the benefits of establishing tolled lanes, such as improved reliability, reduced travel time, and improved incident management response, would be equitably received.

Construction-Period Impacts in Low-Income Communities – Duration of Construction Noise, Light, Glare, Dust, and Traffic Disruptions in the Vicinity of Viaduct in Elyria and Swansea

The draft EIS found that noise and dust during construction could be particularly problematic for people who do not have air conditioners and would most likely ventilate their homes by opening windows. Given that construction could go on for three to five years in the Elyria and Swansea neighborhoods, depending on the alternative, the ambient noise from construction could generate concern among the residents in the vicinity of the construction zone. For other neighborhoods, construction noise would be less of an issue because there would be few or no residences in proximity to the construction zones (with the exception of a small portion of Commerce City for the realignment alternatives). For families with air conditioners or central cooling, closing windows is an option to reduce indoor noise, but families that rely on window ventilation could be forced to trade off ventilation and noise, at least during hours of construction. For these households, construction dust could also be an issue on windy days. Most large dust particles (greater than 100 microns in diameter) settle within 30 feet of their source, but smaller particles can travel as far as several hundred feet depending on wind conditions. The analysis concluded that, under some of the alternatives, adverse impacts would be borne predominantly by low-income and minority populations. As mitigation, dust suppression measures (e.g., stabilizing and covering loads of soil and debris during transport and storage, stabilizing and revegetating exposed areas after construction) were proposed to control dust impacts. In addition, it was proposed that nighttime construction be minimized and fuel specifications adhered to so that emissions from construction equipment would be reduced.

Long-term Noise

For operational noise in the vicinity of residential areas and parks, noise walls were provided as mitigation. Noise walls were provided under various alternatives for low-income and minority communities. In addition, noise barriers were considered for schools and parks in the environmental justice communities.

Neighborhood Amenities Displacement and Neighborhood Cohesion

Effects to local amenities in the environmental justice neighborhoods were evaluated. Four main neighborhood amenities were identified: neighborhood markets, Denver Rescue Mission Ministry Outreach Center, Swansea Elementary School, and Stockyards Post Office. Alternatives were evaluated based on impacts to these amenities. The analysis concluded that, under some of the alternatives, adverse impacts would be borne predominantly and disproportionately by low-income and minority populations. Relocation of these amenities was considered as potential mitigation.

Effects of the new noise walls, viaduct, and traffic diversions on neighborhood cohesion were also considered. To reduce these effects, holding urban-design workshops and encouraging local residents and businesses to provide input and advice on the design of nonstructural design elements of the highway during the final design stages of the project were considered as mitigation. In response to community concerns, CDOT has developed a new alternative that puts I-70 below grade, with local streets crossing over. In addition, the freeway would be partially covered to create connectivity between neighborhoods north and south of the freeway. This cover could be located near the school to provide safer crossings for schoolchildren or near residential areas to create green space. Details have yet to be worked out, but community members have been receptive so far to the first designs to reunite the communities.

Air Quality

One of the concerns frequently mentioned in scoping meetings and public comments was the effects of each alternative on air quality. Coordination among the Federal Highway Administration (FHWA), Environmental Protection Agency (EPA), CDOT Air Quality Specialist, Colorado Air Pollution Control Division, and other air quality agencies was required to establish the methodology for evaluating air-quality issues associated with the project area.

An Air Quality Compliance Committee was formed and met seven times to guide the analysis process. The committee was comprised of a combination of local and national consultant and regulatory agency experts to provide a broad perspective. Committee members consisted of agency staff from Colorado Department of Public Health and Environment, the City and County of Denver, Denver International Airport, EPA, the National Jewish Medical Research Center, and three members of the public. Based on this process, the air-quality analysis was focused on carbon monoxide, ozone, particulate matter, and mobile-source air toxics (MSATs).

Mobile source air toxics are pollutants emitted from mobile sources such as cars and trucks. The typical process by which MSATs are studied was enhanced as a response to community concerns. In short, the analysis used certain pollutants within the MOBILE6.2 model run as indicators of MSAT emissions. This information provided the community an estimate of the emissions that could be expected with each of the alternatives.

For all alternatives, the draft EIS concluded that annual emissions of nitrogen oxides and sulfur dioxide will decline through 2030, despite increases in total vehicle usage. The decline is due to the replacement of older, higher polluting vehicles with newer, lower polluting vehicles. In terms of MSATs emissions of volatile organic chemicals would decrease by 55 to 65 percent, and emissions of diesel particulate matter would

decrease 87 to 88 percent between 2001 and 2030. The reduced emissions of air toxics would occur despite increased vehicle use of I-70; this would be caused primarily by new EPA emissions standards. The draft EIS noted that motor vehicle emissions in the study area would not result in any exceedance of the established air-quality threshold; therefore, no direct project air-quality mitigation is necessary.

Current Health Conditions

Due to concerns expressed by the public during project scoping, the project team investigated studies of current and recent health conditions within and near the project area. This information was included in the EIS in the "Social and Economic Conditions" chapter. The project team identified peer-reviewed works that have been performed using information from the study corridor and that have been conducted by major agencies responsible for public health, including the Colorado Department of Public Health and Environment (CDPHE), the EPA, and the Center for Disease Control's Agency for Toxic Substances and Disease Registry. The EIS summarized findings of the CDPHE study for differences in cancer rates and cancer-related behaviors between North Denver, the remainder of the Denver PMSA and the State. In general, the report suggested that behavioral risk factors were a significant contributor to the increased cancer incidence rate detected in North Denver. The report did not make any findings with respect to environmental exposure as a contributor to the increased incidence of cancer in North Denver. Additionally, the review of CDPHE's cancer studies suggested that within the general vicinity of the project area, the occurrence of some cancers is higher than in the Denver PMSA as a whole. In general, CDPHE also found that behavioral risk factors such as smoking, dietary habits, and alcohol consumption as well as viral infections or other predisposing genetic factors or family history might be significant contributors to the observed elevated incidence rates. Additionally, CDPHE noted that other factors, such as exposure to carcinogens in the occupational, indoor, and ambient air, may also contribute to the overall individual and population risk.

Community Outreach Techniques

Community outreach to environmental justice communities for the I-70 East EIS used a variety of techniques, including:

- Hiring residents from the neighborhoods to help share project information
- Conducting and requiring extensive training for anyone who will be interacting with the public
- Using flyers to notify residences and businesses of meetings
- Conducting door-to-door outreach as a first contact in many neighborhoods
- Holding block meetings within neighborhoods
- Attending neighborhood-association meetings and business meetings
- Conducting neighborhood meetings and larger corridor-wide meetings
- Providing translation, child care, and meals at meetings
- Establishing working groups to address specific issues
- Involving the media in a proactive manner

Relocations

Home prices in the Globeville, Elyria, and Swansea neighborhoods are relatively low compared with other neighborhoods in the study area. Thus, residents of these neighborhoods who are displaced may not be able to afford to move to other neighborhoods in Denver after receiving fair market value for their property, or

they would be forced to trade off location for individual house characteristics (e.g., a smaller house). Depending on the alternative, anywhere from 8 to 93 units could be displaced. It was determined that relocation assistance provided under the Uniform Relocation Act would be adequate to address these concerns, using FHWA's housing-of-last-resort provisions. Under the Uniform Relocation Act, financial and other assistance is provided to displaced residents and/or businesses. The relocation program must, at a minimum, (1) determine the needs of the displaced persons for relocation advisory services and make a sincere offer to help in any way possible; (2) provide information concerning federal and state housing programs, federal loan programs, and other governmental programs offering relocation assistance to displaced persons; and (3) provide relocation advisory services commensurate with the needs of each displaced person to minimize hardship associated with adjusting to a new location. In addition, CDOT right-of-way staff would make every effort to relocate people within their current neighborhoods (if desired). CDOT would also provide assistance to people who are relocated to find services in their new communities.

Access to Construction Alerts

Some people in the corridor do not speak English, and some may not be able to read in any language. To address this issue, information about road closures, access restrictions, and construction progress would be distributed through the use of several different channels (many of which are standard practice). These would include: fixed and variable signage to mark closures and alternate routes; a project-construction phone "hotline" for questions and concerns; notifications of closures and access disruptions in regional and local/neighborhood newspapers, on the radio, and through the Internet; notices at churches and local community facilities (e.g., libraries, schools, recreation centers); publicly available DVDs; and ongoing updates using the project newsletter as well as flyers for children in school to take home to their parents. All of these forms of notification would be in English and Spanish, except for variable signage.

In summary, the draft EIS noted that some adverse effects would affect all populations equally, and only affect low-income and/or minority populations to the degree that they are geographically specific and located close to low-income and/or minority populations. Other adverse effects would affect predominantly low-income and/or minority populations. The nature and extent of impacts varied among the alternatives, but no alternative was completely without adverse effects that affect predominantly low-income and/or minority populations. It was also noted that all alternatives would entail construction spending that would lead directly to creation of construction jobs. These jobs would be available to people regionally, including low-income and minority populations. Mitigation measures would reduce impacts, but some adverse impacts would remain. Refinements to the alternatives and identification of impacts and mitigation would continue following the draft EIS.

Evaluation of a Community-Based Alternative

Since completion of the initial draft EIS, the lead agencies have been working to develop a preferred alternative. As part of this analysis, input was received from a Preferred Alternative Collaboration Team (PACT). The PACT included representatives from various public agencies in the area, local business, and community representatives, including some from environmental justice communities. After

considering input from the PACT and additional outreach conducted within the community by the City and County of Denver (CCD), the project team has taken a closer look at the options that may be feasible along the current alignment. The team also reexamined the reasons previous alternatives were eliminated and examined a suggested alternative from the environmental justice communities of Elyria and Swansea.

The Elyria and Swansea alternative would realign the highway to avoid extensive residential effects and impacts to an existing school that would result from a wider highway. No viable options to relocate the school were available. The affected environmental justice communities urged that the school not be relocated and other design alternatives be considered. This additional analysis has resulted in two build alternatives, the Revised Viaduct (North and South) and Partial Cover (North), in addition to the No-Action Alternative. These alternatives will be evaluated in a recirculated draft EIS, which was underway at the time this case study was prepared.

Effective Practices and Lessons Learned

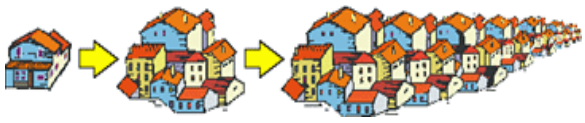

Figure 8. A micro to macro strategy was used for outreach on the I-70 East project.

Use a micro to macro outreach strategy. A variety of techniques were used to ensure meaningful involvement from the community. The outreach process was designed to be personal and extensive. It began on a one-on-one level and then expanded to bring together the many interests in the corridor. The process started with door-to-door surveys in affected neighborhoods (which were also predominantly low-income and minority) then expanded into block meetings, neighborhood meetings, and corridor-wide meetings.

Door-to-Door Survey: A door-to-door survey was used in specific neighborhoods that were directly affected by the project. Neighborhoods were selected for the focused door-to-door outreach approach based on identification of areas with the highest percentages of minority and/or low-income populations and proximity of residential areas to I-70. Outreach specialists used the survey to gather information from the residents as part of the scoping process. A standard dialogue was used to ensure that all of the outreach specialists were communicating the same message to the residents. Spanish-speaking outreach specialists were also made available. A canvas bag was offered to every person who agreed to complete a survey.

Surveys were collected at the end of each day and input into a database to track the results. The information was used to develop a summary of the transportation characteristics and issues disclosed by each neighborhood. Summary reports for each neighborhood were also developed.

Block Meetings: In neighborhoods where door-to-door outreach was conducted, block meetings were also held. The purpose of the meetings was to inform residents of the EIS process, introduce the project team, and provide an intimate setting to develop a better understanding of specific concerns in certain areas. Meetings began with a short presentation followed by an open forum to answer questions and solicit input. Translation services and meals were provided.

Neighborhood Meetings: Following the block meetings, neighborhood meetings were conducted to focus on broader neighborhood issues. These meetings were held in all of the

neighborhoods throughout the corridor and included short presentations and an open forum to allow the community to interact with the project team. Meeting materials were available in both English and Spanish. Summaries of the questionnaires and block meetings from within each neighborhood were discussed. Translation services, meals, and child care were provided at each neighborhood meeting. During the development of alternatives and analysis of impacts, additional neighborhood meetings were conducted to focus on issues that affected sub-areas of the overall project area.

Figure 9. Photo taken during a public event for the I-70 East project.

Corridor-wide Meetings: Following the neighborhood meetings, corridor-wide meetings were conducted to discuss all of the issues from the various neighborhoods and provide a corridor-wide understanding of similarities and differences. Meeting notes were produced, including a summary of the questions that were asked. Each round of corridor-wide meetings provided two opportunities for the public to attend. The meetings were held back-to-back on a Wednesday and Thursday evening at strategic locations within the project area to make it as convenient as possible for the public to attend. Translation, meals, and child care were provided at each corridor-wide meeting.

The traditional audience-style format with informational boards, presentation, and question–and-answer period was used for the corridor-wide meetings during the scoping process. The format of subsequent community outreach meetings was modified to an open-house format by substituting the formal presentation and question-and-answer period with small topic-specific discussion groups moderated by technical consultants. Each discussion group had a scribe who recorded comments and questions. Comments received during the open house were recorded and posted on comment boards to be reviewed by all participants. Overall summaries of the post-scoping meetings were prepared and posted on the project website along with all of the meeting exhibits and handouts.

Figure 10. Photo taken during a public event for

the I-70 East project.

Educate communities about environmental justice and the environmental process. After the scoping phase, six working groups were established to provide an opportunity for residents, businesses, stakeholders, and property owners to continue their participation and learn more about how the scientists, engineers, and planners would evaluate specific resources. Working groups were composed of members of

the community who expressed interest in joining the groups at neighborhood and corridor-wide meetings held in predominantly environmental justice communities or signed up on the project website.

The working groups were used to solicit input, establish dialogue about specific issues (e.g., alternate routes; bicycle/pedestrian/open space; community impacts, including environmental justice; economic development; interchanges; trucking/motor carriers), and educate the members about the resources that would be considered in the EIS. Innovative exercises were incorporated into the meetings, such as monitors on local streets to get readings on traffic noise, puzzles that helped participants gain an understanding of alternative packaging, and an exercise designed to help participants understand how the various alternatives would be screened by comparing the process to buying a car (see Figure 12). Issues from each working group were then communicated back to project management.

The Community Impacts Working Group focused on the potential for impacts on affected communities. One meeting of this group, in May 2004, addressed environmental justice specifically. At this meeting, the project team showed an environmental justice video from the EPA. In addition, the project team gave a verbal presentation on environmental justice laws and regulations, provided a handout, and described how environmental justice would be addressed in the EIS. Members of the community also participated in an exercise that illustrated the use of population data similar to what is included in the draft EIS document.

Educate staff about environmental justice and the community. All lead-agency representatives and consultants who would be engaged with the public at any of the meetings were asked to commit to walking the neighborhoods to gain familiarity with the community. Also, they had to participate in door-to-door surveys for a day. Engineers and lead-agency representatives speaking to the public were trained to reduce the use of acronyms and use terminologies easily understandable to the public—for example, using the word "ramp" instead of "interchange."

Figure 11. A puzzle was used to explain the packaging of elements into an alternative.

Maintain a consistent face for the project. To build trust in the community and build rapport, key members assigned to the project were asked to commit their time and come out to all meetings consistently. These people became the face of the project from start to finish.

Build trust and a consistent message. To facilitate the initial phase of the community-outreach process, individuals living within the

Explaining how alternative elements are screened

During community working groups the decision-making process that was used to screen alternatives was related to a process that most people have experienced. The process for I-70 East was explained through an exercise that simulated the decision-making process for buying a car. Relating the process to something that many people have experienced resulted in a clear understanding on how decisions are made in the EIS process.

Vehicle buying alternatives exercise

Vehicle type	Initial Screening			
	Size	Use	Gas mileage	Maintenance
	Does the vehicle seat 6?	Does the vehicle have the ability to go camping?	Does the vehicle use regular unleaded?	Is the vehicle easy to maintain?
1. Subaru Outback	YES	YES	YES	YES
2. Bicycle	NO	YES	NO	YES
3. Dodge Caravan	YES	YES	YES	YES
4. Ford Excursion	YES	YES	YES	YES
5. Prius Hybrid	YES	NO	YES	YES
6. Lexus	NO	NO	YES	NO
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Vehicle type	Comparative Screening			
	Size	Use	Gas mileage	Maintenance
	Seats 6 comfortably	Ability to go off road	Miles per gallon	Ability to maintain at home
1. Subaru Outback	○	◑	●	●
2. Bicycle				
3. Dodge Caravan	●	○	◑	◑
4. Ford Excursion	●	◑	○	○
5. Prius Hybrid				
6. Lexus				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Vehicle type	Detailed Screening			
	Size	Use	Gas mileage	Maintenance
	Number of car seats that will fit	Clearance	Highway compared to local gas mileage	Number of oil changes required yearly
1. Subaru Outback	2	14"	30/27	4
2. Bicycle				
3. Dodge Caravan	4	10"	20/17	4
4. Ford Excursion				
5. Prius Hybrid				
6. Lexus				
7.				
8.				
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Figure 12. I-70 East "buying-a-car" training tool as a project alternative comparison.

community were hired to assist with outreach efforts, including door-to-door outreach, block meetings, and neighborhood meetings. These individuals leveraged their existing relationships and community understanding to gain credibility and trust, and encouraged their neighbors to get involved in the project. All individuals were required to go through an extensive one-day training program to understand the project and their roles better. Each individual was provided a script regarding the project to ensure that everyone working in community outreach provided a consistent message. This training was also required for any member of the project team involved in community outreach.

Use a high-touch/low-touch approach to understand your audience. The outreach team employed various techniques to reach out to the representative communities. Because of the prevalence of low-income and minority populations, a "high-touch" approach was employed. A high-touch approach means that meeting reminders and project information are provided in more than one way. Whereas, for some non-environmental justice populations, an email blast or a flyer (low-touch approaches) may do; for the environmental justice population in the study area, it was determined best to post project or project-meeting information at various locations, such as recreational centers, churches, barber shops, beauty salons, or similar locations to encourage dissemination of information through word of mouth.

Conduct meetings for maximum participation. For corridor-level meetings, a "snake" formation was developed. This involved attendees signing in, being handed a package of project information, having a concierge explain the purpose of the meeting, and being helped with food service and escorted to a table for a discussion of the issues. At the table, attendees would be surrounded by neighbors and friends, and the facilitator would listen to their input and combine everything that was said. Community outreach staff members were dressed in orange T-shirts with name tags and could be pulled aside to ask for assistance. Staff members would also clean the tables so that the community could focus solely on the issues discussion.

Establish a community-outreach process feedback loop. Representatives from local jurisdictions, as well as business owners and members of the public including representatives from environmental justice communities, attended the Community Outreach Process Forum. The purpose of the forum was to solicit insights and suggestions on how to improve the community-outreach process. As a result of the forum, the study team began posting working-group minutes on the project website.

Be responsive to addressing impact-areas of concern. For the I-70 East project, air quality and health effects were two impact-areas of concern. The draft EIS discussed the air-quality impacts for each alternative relative to construction-related fugitive emissions, criteria pollutants, CO "hot spot" analysis, PM10 hot-spot analysis, and MSATs.

The MSAT analysis was accomplished by using EPA's MOBILE 6.2 emission inventory model. The years analyzed included the baseline year (2001), the long-range planning horizon for the project (2030), and interim years 2010 and 2020. In addition, MSAT emission factors were also calculated for 1990 to provide a long-term perspective that includes the year in which air toxics were first identified in the 1990 Clean Air Act. FHWA noted that even though reliable methods do not exist to estimate accurately the health impacts of MSATs at the transportation-project level, it is

possible to assess the level of future MSAT emissions for the project qualitatively. The qualitative assessment presented in the draft EIS was derived in part from a study conducted by FHWA entitled *A Methodology for Evaluating Mobile-Source Air-Toxic Emissions among Transportation Project Alternatives*.

Benefits

For the Community

The benefits of including the environmental justice community as part of this project are several. On a project-level basis, the community has chosen alternatives that would reduce impacts on their community. The viaduct option that was reintroduced into the EIS process after the draft EIS was circulated was because of the local environmental justice community's demand for reducing impacts. Beyond the project level, the education and information about the environmental process, various resource areas, and alternatives-selection process will help the community become more engaged in the environmental process in the future.

For the Agency

Since the 1960s, the community has distrusted CDOT and the FHWA because of freeway projects that affected the study area. However, the public-outreach process conducted for I-70 East has helped build trust, and the environmental justice communities came out in large numbers for all the meetings.

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ATTACHMENT
E-2

CHAPTER 9: PREFERRED ALTERNATIVE MITIGATION COMMITMENTS

This chapter describes the mitigation commitments for the Preferred Alternative, the Partial Cover Lowered Alternative with Managed Lanes. This mitigation-tracking spreadsheet is used by CDOT to follow the project through the design, construction, and maintenance phases. The table will be updated as the project progresses.

Since the Supplemental Draft EIS was published in August 2014, additional analyses and content review have been performed for many of the resources discussed in this document. These updates, along with changes resulting from the comments received on the Supplemental Draft EIS, have been incorporated into this Final EIS.

This Chapter is a new inclusion for the Final EIS and was not included in the Supplemental Draft EIS.

Per the *CDOT NEPA Manual*, prior to mitigation, CDOT always makes best efforts to:

- Avoid the impact altogether by not taking a certain action or parts of an action
- Minimize impacts by limiting the degree or magnitude of the action and its implementation

However, if avoidance or minimization is not feasible, then mitigation measures may be implemented, including:

- Rectifying the impact by repairing, rehabilitating, or restoring the Affected Environment
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
- Compensating for the impact by replacing or providing substitute resources or environments (CEQ, 40 CFR § 1508.20)

FHWA regulations require that mitigation measures presented as commitments in the EIS be incorporated into a project (FHWA and FTA, 23 CFR § 771.109[b] and 23 CFR § 771.125[a][1]). Monitoring conducted during project construction and operation is the means to ensure mitigation measures are implemented effectively. If monitoring identifies any deficiencies in mitigating the impact, adjustments to the level, timing, and/or procedure of mitigation must be made accordingly.

Mitigation commitments are specific and include information regarding responsibility, monitoring, performance standards, and schedules for implementation. The Record of Decision makes commitments about implementing and monitoring the proposed mitigation measures. (CDOT, 2013b, Chapter 4)

Exhibit 9-1, on the following pages, includes impacts and mitigation measures for the Preferred Alternative, the Partial Cover Lowered Alternative with Managed Lanes. This mitigation-tracking spreadsheet is used by CDOT to follow the project through the design, construction, and maintenance phases. The table will be updated as the project progresses.

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
1	Transportation	Temporary road closures and traffic detours may have impacts on access to certain public services	Coordinate with RTD for phasing of improvements to minimize disruptions to transit operations	CDOT Engineering/ Developer	Pre-construction/ during construction	Chapter 4 4-56
2	Transportation	Temporary road closures and traffic detours may have impacts on access to certain public services	Coordinate with RTD more than 30 days in advance during construction to minimize disruptions to service areas and schedules and notify transit users in advance of any closures, delays, or modifications in bus or rail routes; and on modifications or relocation of transit stops or signage along the affected routes since accessibility is required to be maintained	CDOT Engineering/ Developer	Pre-construction/ during construction	Chapter 4 4-56
3	Transportation	Temporary impacts to rail facilities will result from the construction of railroad bridge structures and/or the relocation of track operations	Coordinate with UPRR, BNSF, and DRIR for phasing of improvements to minimize disruptions to railroad operations	CDOT Engineering/ Developer	Pre-construction/ during construction	Chapter 4 4-56
4	Transportation	Impacts to local traffic volumes caused by removal of the York Street interchange and changes to the Steele Street/Vasquez Boulevard interchange and the Colorado Boulevard interchange	Coordinate with Denver to determine appropriate truck routes on city streets	CDOT Engineering/ Developer	Pre-construction/ during construction	Chapter 4 4-56
5	Social and Economic Conditions	56 residential relocations 18 business relocations (includes 1 non-profit relocation)	Compensate any person(s) whose property needs to be acquired according to the U.S. Constitution and the Uniform Act of 1970, as amended	CDOT Right of Way	During property acquisition	Section 5.2 5.2-51
6	Social and Economic Conditions	Temporary road closures and traffic detours may have impacts on access to certain public services	Provide safe and efficient connections through neighborhoods during construction for all modes of transportation, including bicycles and pedestrians	CDOT Engineering/ Developer	During construction	Section 5.2 5.2-51

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
7	Social and Economic Conditions	Temporary road closures and traffic detours may have impacts on access to certain public services	Coordinate with emergency service providers during construction to minimize effects on response times	CDOT Engineering/ Developer	During construction	Section 5.2 5.2-51
8	Social and Economic Conditions	Temporary effect to the regional economy from construction-related traffic congestion	Use standard measures—such as phased construction, advance notice of road closures and detours, and fixed and variable signage—to reduce effects on local residents, businesses, and services and on I-70 motorists	CDOT Engineering/ Developer	During construction	Section 5.2 5.2-51
9	Social and Economic Conditions	Temporary road closures and traffic detours may have impacts on access to certain public services	Use standard measures—such as phased construction, advance notice of road closures and detours, and fixed and variable signage—to reduce effects on local residents, businesses, and services and on I-70 motorists	CDOT Engineering/ Developer	During construction	Section 5.2 5.2-51
10	Social and Economic Conditions	Temporary road closures and traffic detours may have impacts on access to certain public services	Provide a robust and context-sensitive communications and outreach plan throughout construction to ensure residents are kept informed	CDOT Public Involvement/ Developer	Pre-construction/ during construction	Section 5.2 5.2-51
11	Social and Economic Conditions	Temporary road closures and traffic detours may have impacts on access to certain public services	Coordinate with RTD more than 30 days in advance during construction to minimize disruptions to service areas and schedules and notify transit users in advance of any closures, delays, or modifications in bus or rail routes; and on modifications or relocation of transit stops or signage along the affected routes since accessibility is required to be maintained	CDOT Engineering/ Developer	Pre-construction/ during construction	Section 5.2 5.2-51
12	Social and Economic Conditions	Temporary road closures and traffic detours may have impacts on access to certain public services	Use signs and notifications to reduce adverse effects on access to homes, businesses, and services during the construction period from detours	CDOT Engineering/ Developer	During construction	Section 5.2 5.2-51

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
13	Social and Economic Conditions	Temporary road closures and traffic detours may have impacts on access to certain public services	Use the *Aesthetic and Design Guidelines* (see Attachment O) developed during the EIS process with Denver and the community during final design to help CDOT identify appropriate aesthetic design elements to ensure compatibility within the community and each viewshed; CDOT is committed to following the guidelines and continued community involvement during final design and construction	CDOT Public Involvement and Environmental/ Developer	Final design/ during construction	Section 5.2 5.2-51
14	Social and Economic Conditions	Acquisition of right of way from the buffer area between 46th Avenue and the field to the south of Swansea Elementary School	Removing the viaduct, lowering the highway, and covering portions of the highway to include space for community and neighborhood activities	CDOT Engineering/ Developer	Pre-construction/ during construction	Section 5.2 5.2-52
15	Social and Economic Conditions	Acquisition of right of way from the buffer area between 46th Avenue and the field to the south of Swansea Elementary School	Redesign and reconstruct the school playground; this will include the adjacent parcels as part of the elementary school site and will eliminate Elizabeth Street between 46th Avenue and 47th Avenue and 46th Avenue between Clayton Street and Columbine Street will be removed to allow for a seamless connection between Swansea Elementary School and the landscape on the highway cover	CDOT Engineering	Final design	Section 5.2 5.2-52
16	Environmental Justice	18 business relocations (includes 1 non-profit relocation)	Provide targeted assistance to encourage businesses that are crucial to low-income and minority populations to find new locations in the same neighborhoods	CDOT Right of Way	During property acquisition	Section 5.3 5.3-41
17	Environmental Justice	56 residential relocations 18 business relocations (includes 1 non-profit relocation)	Provide funding to CRHDC to assist residential and business displacees with financial counseling and procurement of financing for replacement property and securing business and residential loans; CDOT has already provided funding to CRHDC as early mitigation	CDOT Right of Way and Engineering	During property acquisition/ pre-construction (complete)	Section 5.3 5.3-41

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
18	Environmental Justice	Potential for disturbing hazardous material sites during construction	Collect representative soil samples of three or four recently cleaned-up residential properties pre-, during, and post-construction to test for lead and arsenic to ensure that the properties aren't re-contaminated due to construction activities	CDOT Environmental/ Developer	Pre-construction/ during construction/ post-construction	Section 5.3 5.3-41
19	Environmental Justice	Increasing noise and dust during construction	Provide residents close to the highway construction—between 45th Avenue and 47th Avenue from Brighton Boulevard to Colorado Boulevard—two free portable or window-mounted air conditioning units with air filtration and assistance for the potential additional utility costs during construction	CDOT Engineering/ Developer	Pre-construction/ during construction	Section 5.3 5.3-41
20	Environmental Justice	Increasing noise and dust during construction	Provide residents close to the highway construction—between 45th Avenue and 47th Avenue from Brighton Boulevard to Colorado Boulevard—two free portable or window-mounted air conditioning units with air filtration	CDOT Engineering/ Developer	Pre-construction	Section 5.3 5.3-42
21	Environmental Justice	Increasing noise and dust during construction	Provide residents close to the highway construction—between 45th Avenue and 47th Avenue from Brighton Boulevard to Colorado Boulevard—assistance for the potential additional utility costs during construction to run the two free portable or window-mounted air conditioning units with air filtration	CDOT Engineering/ Developer	During construction	Section 5.3 5.3-41
22	Environmental Justice	Increasing noise and dust during construction	Provide residents close to the highway construction—between 45th Avenue and 47th Avenue from Brighton Boulevard to Colorado Boulevard—interior storm windows	CDOT Engineering/ Developer	Pre-construction	Section 5.3 5.3-41
23	Environmental Justice	18 business relocations (includes 1 non-profit relocation)	Facilitate opportunities to promote hiring individuals from the communities, such as job fairs with contractors	CDOT Public Involvement/ Developer	Pre-construction/ during construction	Section 5.3 5.3-44

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
24	Environmental Justice	18 business relocations (includes 1 non-profit relocation)	Execute geographic-based hiring preferences (CDOT has submitted an application and received approval under Special Experiment Project 14 (SEP-14) for the US DOT pilot program)	CDOT Civil Rights and Engineering/ Developer	Pre-construction/ during construction	Section 5.3 5.3-41
25	Environmental Justice	18 business relocations (includes 1 non-profit relocation)	Research opportunities to invest funds in a local workforce development program aimed at job readiness training prior to construction	CDOT Civil Rights and Engineering/ Developer	Pre-construction/ during construction	Section 5.3 5.3-41
26	Environmental Justice	Increasing noise and dust during construction at the school	Provide a new HVAC system, doors, and windows for Swansea Elementary School	CDOT Engineering	Pre-construction	Section 5.3 5.3-41
27	Environmental Justice	Moving the highway closer to Swansea Elementary School	Prior to the start of roadway construction, build two new classrooms at Swansea Elementary School to enhance the overall quality of the school	CDOT Engineering	Pre-construction	Section 5.3 5.3-41
28	Environmental Justice	Limiting north-south pedestrian and bicycle connectivity compared to the existing conditions	Remove the viaduct, lower the highway, and covering portions of the highway to include space for community and neighborhood activities	CDOT Engineering/ Developer	Final design/ during construction	Section 5.3 5.3-44
29	Environmental Justice	Displacing Stop N Shop and Pilot Travel Center truck stop	Provide contributions to existing programs that facilitate access to fresh food	CDOT Environmental and Engineering	Pre-construction/ during construction	Section 5.3 5.3-41
30	Environmental Justice	Moving the highway closer to Swansea Elementary School	Redesign and reconstruct the school playground; this will include the adjacent parcels as part of the elementary school site and will eliminate Elizabeth Street between 46th Avenue and 47th Avenue and 46th Avenue between Clayton Street and Columbine Street will be removed to allow for a seamless connection between Swansea Elementary School and the landscape on the highway cover	CDOT Engineering/ Developer	Final design/ during construction	Section 5.3 5.3-44
31	Environmental Justice	Relocating 56 residences	Provide $2 million in funding to develop affordable housing units in the Elyria and Swansea Neighborhood through available programs	CDOT Environmental and Engineering	Pre-construction/ during construction	Section 5.3 5.3-44

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
32	Environmental Justice	Creating a financial burden to the low-income community, who may not be able to afford to use the managed lanes	Research ways to provide assistance for low-income populations within the area (such as free transponders) to use the managed lanes	CDOT HPTE	Post-construction	Section 5.3 5.3-44
33	Land use	68.3 acres converted to transportation use	Continue to coordinate with local jurisdictions to ensure compatibility with land use plans and to address any inconsistency that may arise	CDOT Engineering/ Developer	Final design	Section 5.4 5.4-18
34	Relocations and displacements	56 residential relocations 18 business relocations (includes 1 non-profit relocation)	Compensate any person(s) whose property needs to be acquired according to the U.S. Constitution and the Uniform Act of 1970, as amended	CDOT Right of Way	During property acquisition	Section 5.5 5.5-20
35	Relocations and displacements	56 residential relocations 18 business relocations (includes 1 non-profit relocation)	Provide all impacted owners notification of the acquiring agency's intent to acquire an interest in their property, including a written offer letter of just compensation specifically describing those property interests; assign a right of way specialist to each property owner to assist them with this process	CDOT Right of Way	During property acquisition	Section 5.5 5.5-20
36	Relocations and displacements	56 residential relocations 18 business relocations (includes 1 non-profit relocation)	Provide bilingual services for any of the relocated and displaced businesses or households that need them	CDOT Right of Way	During property acquisition	Section 5.5 5.5-20
37	Relocations and displacements	56 residential relocations 18 business relocations (includes 1 non-profit relocation)	Meet directly with those owners and occupants who would be relocated as a result of the proposed project; conduct multiple meetings with these individuals to provide an introduction and overview of the process associated with the Uniform Act; provide information on resources available, including assistance from local, state, and federal agencies, and private agencies in the community; identify individual eligibility for benefits	CDOT Right of Way	During property acquisition	Section 5.5 5.5-20
38	Historic preservation	Adverse Effect—13 historic resources	Establish a Programmatic Agreement with SHPO and consulting parties	CDOT Environmental	Pre-construction (complete)	Section 5.6 5.6-17

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
39	Historic preservation	Adverse Effect—13 historic resources	Provide Level II archival documentation for adversely affected resources	CDOT Environmental	Pre-construction/ during construction	Section 5.6 5.6-17
40	Historic preservation	Adverse Effect—13 historic properties	Provide funding and participate in the creation of a documentary covering the history of I-70 East and its relationship to the Elyria and Swansea and Globeville Neighborhoods (mitigation has been completed, and is available to view at www.i-70east.com)	CDOT Environmental	Pre-construction (complete)	Section 5.6 5.6-17
41	Historic preservation	Adverse Effect—13 historic properties Temporary impacts may include dust and debris, visual and auditory degradation related to construction activities, and decreased access	Implement other mitigation measures, as identified, in consultation with SHPO and consulting parties as described in the Programmatic Agreement	CDOT Engineering and Environmental	Pre-construction/ during construction	Section 5.6 5.6-17
42	Historic preservation	Adverse Effect—13 historic properties Temporary impacts may include dust and debris, visual and auditory degradation related to construction activities, and decreased access	Cease work during construction if unidentified historic resources are encountered and notify CDOT and SHPO immediately	CDOT Engineering and Environmental/ Developer	Pre-construction/ during construction	Section 5.6 5.6-17
43	Historic preservation	Adverse Effect—13 historic properties Temporary impacts may include dust and debris, visual and auditory degradation related to construction activities, and decreased access	Contact consulting Indian tribes if Indian cultural materials are identified at any time during construction	CDOT Engineering and Environmental/ Developer	Pre-construction/ during construction	Section 5.6 5.6-17
44	Paleontological	Increased potential for encountering paleontological resources in excavated bedrock of the Denver and Arapahoe Formations	Perform an intensive preconstruction paleontological survey	CDOT Environmental	Pre-construction	Section 5.7 5.7-7

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
45	Paleontological resources	Increased potential for encountering paleontological resources in excavated bedrock of the Denver and Arapahoe Formations	Perform spot-checking of excavations by a qualified paleontologist in areas of high paleontological potential during all phases of construction until bedrock is reached, then perform continuous paleontological monitoring	CDOT Environmental/ Developer	During construction	Section 5.7 5.7-7
46	Paleontological resources	Increased potential for encountering paleontological resources in excavated bedrock of the Denver and Arapahoe Formations	Cease work immediately upon discovery of any paleontological resources, fence off the area, and allow the paleontologist to conduct sampling or excavation of specimens by hand or with mechanized equipment; do not resume work in the area until receiving formal notification from the paleontologist allowing work to resume	CDOT Environmental/ Developer	During construction	Section 5.7 5.7-7
47	Visual resources and aesthetic qualities	Ground-level noise walls or safety barriers are less intrusive to viewers' eyes compared to the No-Action and Revised Viaduct Alternatives, but they also introduce a new visual impact by blocking the view across the highway	Use the *Aesthetic and Design Guidelines* (see Attachment O) developed during the EIS process with Denver and the community during final design to help CDOT identify appropriate aesthetic design elements to ensure compatibility within the community and each viewshed; CDOT is committed to following the guidelines and continued community involvement during final design and construction	CDOT Environmental and Engineering/ Developer	Final design/ pre-construction/ during construction	Section 5.8 5.8-25
48	Visual resources and aesthetic qualities	Views for drivers traveling eastbound and westbound will be entirely different from the existing conditions	Use the *Aesthetic and Design Guidelines* (see Attachment O) developed during the EIS process with Denver and the community during final design to help CDOT identify appropriate aesthetic design elements to ensure compatibility within the community and each viewshed; CDOT is committed to following the guidelines and continued community involvement during final design and construction	CDOT Environmental and Engineering/ Developer	Final design/ pre-construction/ during construction	Section 5.8 5.8-25

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
49	Visual resources and aesthetic qualities	Additional visual barriers will be created with the direct connections at I-270, I-225, and Peña Boulevard Managed lanes infrastructure will create new visual impacts along the project corridor	Use the *Aesthetic and Design Guidelines* (see Attachment O) developed during the EIS process with Denver and the community during final design to help CDOT identify appropriate aesthetic design elements to ensure compatibility within the community and each viewshed; CDOT is committed to following the guidelines and continued community involvement during final design and construction	CDOT Environmental and Engineering/ Developer	Final design/ pre-construction/ during construction	Section 5.8 5.8-25
50	Parks and recreational resources	South Platte River Greenway (Section 6(f) resource) temporary impacts may occur during construction	Provide adequate notice and signing to Greenway users prior to construction	CDOT Environmental/ Developer	During construction	Section 5.9 5.9-22
51	Parks and recreational resources	South Platte River Greenway (Section 6(f) resource) temporary impacts may occur during construction	Return Greenway to pre-construction or comparable state following construction	CDOT Environmental/ Developer	Post construction	Section 5.9 5.9-22
52	Parks and recreational resources	0.95 acre of impact to Swansea Elementary School	Use remnants of adjacent parcels obtained for right-of-way expansion to reconfigure the school site plan and replace all the playground facilities; this includes closing Elizabeth Street between 46th Avenue and 47th Avenue	CDOT Engineering/ Developer	During construction	Section 5.9 5.9-22
53	Parks and recreational resources	Minor realignment of Sand Creek Greenway Trail, Sand Creek Greenway Trail closures may occur during construction	Provide trail detours and ADA-compliant detour signage during construction	CDOT Engineering/ Developer	During construction	Section 5.9 5.9-22
54	Parks and recreational resources	Minor realignment of Sand Creek Greenway Trail, Sand Creek Greenway Trail closures may occur during construction	Return trails to pre-construction or comparable state following construction	CDOT Engineering/ Developer	Post construction	Section 5.9 5.9-22
55	Parks and recreational resources	Part of Globeville Landing Park will be closed during construction	Return to pre-construction or comparable state following construction	CDOT Environmental/ Developer	Pre-construction	Section 5.9 5.9-22

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
56	Parks and recreational resources	Utility easement/access permit required and 0.3 acre will be converted to a drainage outfall/spillway in Globeville Landing Park (Section 6(f) resource)	Replace 0.3 acre of land converted to a non-recreation use by the construction of the spillway in Globeville Landing Park and the utility easement/access permit area with in-kind land of at least current fair market value and reasonable equivalent usefulness and location and investigate the acquisition of land identified by Denver near Milstein Park for this replacement Conditional approval from CPW and NPS is anticipated before the ROD is completed. FHWA has indicated that approval, or lack of objection, at this point is sufficient for NEPA clearance. Near the end of construction, but before closing the project, a formal Section 6(f) conversion proposal will be submitted to the NPS by CPW. CDOT will prepare the request for CPW with their approval.	CDOT Environmental and Right of Way/ Developer	During construction	Section 5.9 5.9-22
57	Air quality	Construction fugitive dust could cause temporary impacts	Monitor for PM_{10}, which will allow for the real-time modification or implementation of various dust control measures during construction	CDOT Environmental/ Developer	During construction	Section 5.10 5.10-47
58	Air quality	Construction fugitive dust could cause temporary impacts	Cover, wet, compact, or use chemical stabilization binding agent to control dust and excavated materials at construction sites	CDOT Environmental/ Developer	During construction	Section 5.10 5.10-47
59	Air quality	Construction fugitive dust could cause temporary impacts	Use wind barriers and wind screens to prevent spreading dust from the site	CDOT Environmental/ Developer	During construction	Section 5.10 5.10-47
60	Air quality	Construction fugitive dust could cause temporary impacts	Have a wheel wash station and/or crushed stone apron at egress/ingress areas to prevent dirt being tracked onto public streets	CDOT Environmental/ Developer	During construction	Section 5.10 5.10-47
61	Air quality	Construction fugitive dust could cause temporary impacts	Use vacuum-powered street sweepers to remove dirt tracked onto streets	CDOT Environmental/ Developer	During construction	Section 5.10 5.10-47
62	Air quality	Construction fugitive dust could cause temporary impacts	Cover all dump trucks leaving sites to prevent dirt from spilling onto streets	CDOT Environmental/ Developer	During construction	Section 5.10 5.10-47

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
63	Air quality	Construction fugitive dust could cause temporary impacts	Minimize disturbed areas, particularly in winter	CDOT Environmental/ Developer	During construction	Section 5.10 5.10-47
64	Air quality	MSAT emissions could increase temporarily during construction	Prohibit unnecessary idling of construction equipment	CDOT Environmental/ Developer	During construction	Section 5.10 5.10-47
65	Air quality	MSAT emissions could increase temporarily during construction	Locate construction diesel engines as far away as possible from residential areas	CDOT Environmental/ Developer	During construction	Section 5.10 5.10-47
66	Air quality	MSAT emissions could increase temporarily during construction	Locate construction staging areas close to work sites, while situating them as far away as possible from residential uses	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.10 5.10-47
67	Air quality	MSAT emissions could increase temporarily during construction	Require heavy construction equipment to use the cleanest available engines or be retrofitted with diesel particulate control technology	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.10 5.10-47
68	Air quality	MSAT emissions could increase temporarily during construction	Use alternatives to diesel engines and/or diesel fuels, such as biodiesel, liquefied natural gas, or compressed natural gas, fuel cells, and electric engines, if applicable.	CDOT Environmental/ Developer	During construction	Section 5.10 5.10-47
69	Air quality	MSAT emissions could increase temporarily during construction	Install engine pre-heater devices to eliminate unnecessary idling for wintertime construction	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.10 5.10-47
70	Air quality	MSAT emissions could increase temporarily during construction	Prohibit tampering with equipment to increase horsepower or to defeat an emission control device's effectiveness	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.10 5.10-47
71	Air quality	MSAT emissions could increase temporarily during construction	Require construction vehicle engines to be properly tuned and maintained	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.10 5.10-47
72	Air quality	MSAT emissions could increase temporarily during construction	Use construction vehicles and equipment with the minimum practical engine size for the intended job	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.10 5.10-47

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
73	Air quality	Construction fugitive dust could cause temporary impacts	Continue the "sweepbox" program on the highway to achieve the current level of fugitive dust reduction; and enhance street sweeping after snow events to reduce the particulate matter accumulation during operations	CDOT Maintenance/ Developer	Post construction	Section 5.10 5.10-47
74	Air quality	MSAT emissions could increase temporarily during construction	Optimize signal timing at intersections and along arterial streets near the freeway to reduce vehicle delay and tailpipe emissions	CDOT Engineering/ Developer	Post construction	Section 5.10 5.10-47
75	Air quality	MSAT emissions could increase temporarily during construction	Implement congestion pricing and commuter incentive programs that reduce peak-period highway congestion and emissions	CDOT HPTE/ Developer	Post construction	Section 5.10 5.10-47
76	Air quality	MSAT emissions could increase temporarily during construction	Encourage TDM options, such as high-occupancy vehicle lanes and agreements with major employers to promote and implement flexible work programs	CDOT Engineering/ Developer	Post construction	Section 5.10 5.10-47
77	Energy	7,698 billion Btu consumed during construction	Limit idling of construction equipment	CDOT Environmental and Engineering/ Developer	During construction	Section 5.11 5.11-7
78	Energy	7,698 billion Btu consumed during construction	Encourage employee carpooling and vanpooling for construction workers	CDOT Engineering/ Developer	During construction	Section 5.11 5.11-7
79	Energy	7,698 billion Btu consumed during construction	Encourage use of closest material sources	CDOT Environmental and Engineering/ Developer	During construction	Section 5.11 5.11-7
80	Energy	7,698 billion Btu consumed during construction	Locate construction staging areas close to work sites, while situating them as far away as possible from residential uses	CDOT Environmental and Engineering/ Developer	Pre-construction/ during construction	Section 5.11 5.11-7
81	Energy	7,698 billion Btu consumed during construction	Encourage use of cleaner and more fuel-efficient construction vehicles (for example, low sulfur fuel, biodiesel, or hybrid technologies)	CDOT Environmental and Engineering/ Developer	Pre-construction/ during construction	Section 5.11 5.11-7

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
82	Energy	7,698 billion Btu consumed during construction	Encourage use of alternative fuels and asphalt binders	CDOT Environmental and Engineering/ Developer	During construction	Section 5.11 5.11-7
83	Energy	7,698 billion Btu consumed during construction	Implement traffic management schemes that minimize delays and idling	CDOT Engineering/ Developer	During construction	Section 5.11 5.11-7
84	Energy	70.0 billion Btu consumed per day	Implement energy conservation measures where appropriate, such as energy-efficient electrical system specifications, lighting, mechanical equipment, and building insulation in accordance with CDOT's *Lighting Design Guide* (CDOT, 2006)	CDOT Engineering/ Developer	Final design/ during construction	Section 5.11 5.11-7
85	Energy	70.0 billion Btu consumed per day	Encourage energy-efficient options for the cover facilities	CDOT Engineering/ Developer	Final design/ during construction	Section 5.11 5.11-7
86	Noise	Construction noise will present short-term effects to those dwelling units located along the corridor and along designated construction access routes	Implement BMPs to minimize noise during construction, as per FHWA's *Highway Construction Noise Handbook* (2006)	CDOT Environmental/ Developer	During construction	Section 5.12 5.12-62
87	Noise	Construction noise will present short-term effects to those dwelling units located along the corridor and along designated construction access routes	Conduct a benefited receptor survey prior to construction to determine if the recommended noise wall is desired; if the survey results show that the majority of benefitted receptors who respond to the survey desire the noise wall, the noise wall will be optimized and built	CDOT Environmental/ Developer	Final design/ pre-construction	Section 5.12 5.12-62

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
88	Noise	Number of noise receptors exceed NAC threshold: • Globeville: 18 to 24 • Elyria: 55 (11 that increase by 10 dBA or more) • Swansea: 50 • Stapleton: 0 • Peoria Street: 0 • Montbello: 29 to 34 • Aurora: 3	Location and height of feasible and reasonable walls: Elyria: 12 to 20 feet	CDOT Environmental/ Developer	Final design/ during construction	Section 5.12 5.12-62
89	Biological resources	368.3 acres of permanent, direct impact to wildlife habitat; 1.298 acres of permanent impacts and 0.253 acre of temporary impacts to riparian areas	Comply with Senate Bill 40, CDOT Impacted Black-Tailed Prairie Dog Policy, and CDOT Standard Specifications for protection of migratory birds	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.13 5.13-26
90	Biological resources	368.3 acres of permanent, direct impact to wildlife habitat; 1.298 acres of permanent impacts and 0.253 acre of temporary impacts to riparian areas	Monitor disturbed sites during construction to identify and treat any noxious weed invasion	CDOT Environmental/ Developer	During construction	Section 5.13 5.13-26
91	Biological resources	368.3 acres of permanent, direct impact to wildlife habitat; 1.298 acres of permanent impacts and 0.253 acre of temporary impacts to riparian areas	Reclaim disturbed areas in phases throughout construction with native grasses and forbs	CDOT Environmental/ Developer	During construction	Section 5.13 5.13-26
92	Biological resources	1.298 acres of permanent impacts and 0.253 acre of temporary impacts to riparian areas	Replace riparian trees at a 1:1 ratio and riparian shrubs at a 1:1 square foot ratio	CDOT Environmental/ Developer	During construction	Section 5.13 5.13-26

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
93	Biological resources	368.3 acres of permanent, direct impact to wildlife habitat	Conduct a Burrowing Owl survey following CPW protocols no more than 30 days prior to construction if construction in prairie dog colonies will occur between February 1 and August 31; if a nesting pair is discovered, no construction activity will occur within 150 feet of the nest between March 15 and October 31	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.13 5.13-26
94	Biological resources	368.3 acres of permanent, direct impact to wildlife habitat	Remove or trim vegetation outside of the April 1 to August 31 migratory bird-breeding season	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.13 5.13-26
95	Biological resources	368.3 acres of permanent, direct impact to wildlife habitat	Survey areas to be cleared and grubbed, as well as areas within 50 feet of these areas, between April 1 and August 31 for active migratory bird nests within seven days of the work being performed	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.13 5.13-26
96	Biological resources	368.3 acres of permanent, direct impact to wildlife habitat	Remove existing nests from structures after August 31 and prior to April 1	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.13 5.13-26
97	Biological resources	368.3 acres of permanent, direct impact to wildlife habitat	Monitor structures at least once every three days for any nesting activity between April 1 and August 31	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.13 5.13-26
98	Biological resources	368.3 acres of permanent, direct impact to wildlife habitat	Prepare and implement an Integrated Noxious Weeds Management Plan	CDOT Environmental/ Developer	Pre-construction	Section 5.13 5.13-26
99	Biological resources	1.298 acres of permanent impacts and 0.253 acre of temporary impacts to riparian areas	Perform botanical surveys for Ute ladies'-tresses orchid and Colorado butterfly plant	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.13 5.13-26
100	Floodplains and drainage/ hydrology	Impact to potential ponding areas due to the increased width of the highway, which may increase runoff from I-70	Create detention ponds and implement storm drainage for onsite drainage system improvements	CDOT Engineering and Environmental/ Developer	Final design/ during construction	Section 5.14 5.14-11

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
101	Floodplains and drainage/ hydrology	The potential ponding areas between Brighton Boulevard and Dahlia Street will be substantially impacted due to lowered profile of the highway	Build an offsite drainage system to reduce the risk of flooding within the lowered section of I-70, as well as the portion of the watershed between I-70 and the South Platte River	CDOT Engineering and Environmental/ Developer	Final design/ during construction	Section 5.14 5.14-11
102	Floodplains and drainage/ hydrology	Impact to the Sand Creek floodplain with the proposed bridge construction and new bridge structures will cross this waterway	Design proposed bridge structures to cause no adverse impact to the Sand Creek floodplain	CDOT Engineering/ Developer	Final design	Section 5.14 5.14-11
103	Wetlands, open waters, and other waters of the U.S.	4.442 acres of permanent and 0.244 acre of temporary wetland impacts 0.771 acre of permanent and 0.080 acre of temporary impacts to other waters of the U.S. and open waters	Mitigate unavoidable, permanent impacts at a 1:1 ratio in a wetland mitigation bank in the South Platte River watershed	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.15 5.15-13
104	Wetlands, open waters, and other waters of the U.S.	4.442 acres of permanent and 0.244 acre of temporary wetland impacts 0.771 acre of permanent and 0.080 acre of temporary impacts to other waters of the U.S. and open waters	Obtain and follow requirements of Section 404 permitting and Senate Bill 40 certification	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.15 5.15-13
105	Wetlands, open waters, and other waters of the U.S.	4.442 acres of permanent and 0.244 acre of temporary wetland impacts 0.771 acre of permanent and 0.080 acre of temporary impacts to other waters of the U.S. and open waters	Install temporary erosion control and sediment control BMPs before ground-disturbing activities; permanently stabilize completed areas within seven days	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.15 5.15-13
106	Wetlands, open waters, and other waters of the U.S.	4.442 acres of permanent and 0.244 acre of temporary wetland impacts 0.771 acre of permanent and 0.080 acre of temporary impacts to other waters of the U.S. and open waters	Restore wetlands temporarily affected during construction to pre-construction conditions	CDOT Environmental/ Developer	During construction	Section 5.15 5.15-13

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
107	Water quality	Stormwater runoff can create erosion and degradation of water quality during and after construction	Implement the following BMPs for erosion and sediment control, dust control, stormwater control, and expansive soils during and after construction: • Silt fences, erosion control blankets • Sediment traps, sediment basins • Soil stockpile management • Temporary diversion structures • Spill prevention and control measures • Regrading • Seeding and revegetating soils and slopes • Mulch protection for new plantings • Stormwater control channels	CDOT Environmental/ Developer	Pre-construction/ during construction/ post-construction	Section 5.16 5.16-17
108	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Prevent over-treating by commencing liquid de-icer application at the beginning of snowfall and no longer pre-treating roads	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-17
109	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Apply sand/salt mixtures (30 percent/70 percent, respectively) at rates of 105 pounds to 115 pounds per lane mile, which is roughly one-third of the maximum allowable amount of 300 pounds per lane mile	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-17
110	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Use liquid de-icer products, such as magnesium chloride and Caliber (a mixture of magnesium chloride, cornstarch, alcohol, and tree sap); apply these products at rates of 40 pounds to 80 pounds per lane mile	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-17

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
111	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Completely remove sand/salt within the "core" sweeping area within four days of snow events, as per DRCOG and CDOT regulations; only 35 percent removal outside the "core" areas is required; for the past two years, it has been CDOT practice to remove all remaining sand/salt from the study area even though it is not in the "core" sweeping area—and CDOT will continue to do so	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-17
112	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Perform fleet upgrades that include on-board computers to track the amount of mixture being applied, as well as rates of application of de-icing materials; this technology prevents over-treating; the majority of the CDOT Region 1 fleet is currently equipped with these computers	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-17
113	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Use Ice Slicer, another solid mixture; this product is a sand/salt mixture with anti-corrosive additives and is applied at a rate of 100 pounds to 150 pounds per lane mile; this product is preferred over regular sand/salt mixtures because it produces less fugitive dust	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-18
114	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Stockpile solid mixtures at the I-70 and Havana Street CDOT maintenance facility; the mixtures are kept under domes to protect them from precipitation, which prevents water high in salts from running off into receiving waters	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-18
115	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Perform quality assurance audits on de-icing mixtures several times per year to ensure elevated levels of harmful anti-caking compounds are not found in the mixtures	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-18

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
116	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Train snowplow drivers annually, stressing the importance of meeting or exceeding water quality and air quality permit requirements	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-18
117	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Use temperature gauges built into trucks and roadway surfaces to assist with making decisions related to de-icing application rates and mixes	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-18
118	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Use vacuum sweepers, not side-cast sweepers, as part of ongoing fleet upgrades; trash within the right of way is picked up prior to each sweeping	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-17
119	Water quality	Winter maintenance activities use solutions and compounds that could lead to water quality issues from runoff	Rely on cameras/ITS systems to determine problem areas during each storm event	CDOT Maintenance/ Developer	During construction/ post-construction	Section 5.16 5.16-18
120	Water quality	Increase in runoff TSS loads of 11 percent to the South Platte River Increase in runoff TSS loads of 37 percent to Sand Creek	Provide permanent water quality control features (i.e., extended detention pond) as part of the project to treat stormwater runoff from the highway	CDOT Engineering and Environmental/ Developer	Final design/ during construction/ post-construction	Section 5.16 5.16-17
121	Water quality	Increase in runoff TSS loads of 11 percent to the South Platte River Increase in runoff TSS loads of 37 percent to Sand Creek	Consider environmentally friendly techniques to provide water quality treatment	CDOT Environmental/ Developer	Final design/ during construction/ post-construction	Section 5.16 5.16-17
122	Water quality	Increase in runoff TSS loads of 11 percent to the South Platte River Increase in runoff TSS loads of 37 percent to Sand Creek	Treat runoff entering the South Platte River and Sand Creek in conformance with CDOT's MS4 Permit and New Development and Redevelopment Program	CDOT Environmental/ Developer	Final design/ during construction/ post-construction	Section 5.16 5.16-17

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
123	Geology and soils	Excavation is anticipated to extend below the depth of groundwater from approximately the UPRR to Columbine Street	Prevent groundwater infiltration into the lowered section of the highway; install underdrain pipes below the pavement to drain any additional groundwater that still enters the lowered section	CDOT Engineering/ Developer	Final design/ during construction/ post-construction	Section 5.17 5.17-9
124	Geology and soils	Temporary impacts to groundwater during excavation	Dewater during the construction process	CDOT Engineering/ Developer	During construction	Section 5.17 5.17-9
125	Hazardous materials	28 hazardous materials sites affected; 703 acres of land disturbed	Before right-of-way acquisition, conduct a Phase I Environmental Site Assessment (Phase I) or initial site assessment for those properties identified for acquisition; based on these assessments, additional subsurface investigation may be required depending on the recognized environmental conditions identified and potential risk to the project	CDOT Environmental/ Developer	Prior to property acquisition	Section 5.18 5.18-19
126	Hazardous materials	28 hazardous materials sites affected; 703 acres of land disturbed	Avoid contaminated sites wherever practical; where unavoidable, initiate further site investigation and coordination with affected property owners	CDOT Engineering and Environmental/ Developer	Final design/ during construction	Section 5.18 5.18-19
127	Hazardous materials	28 hazardous materials sites affected, 703 acres of land disturbed	Follow *CDOT Standard Specifications for Road and Bridge Construction*, Section 250, Environmental, Health and Safety Management	CDOT Engineering and Environmental/ Developer	During construction	Section 5.18 5.18-19
128	Hazardous materials	Extensive excavation through a known landfill that contains contaminants	Follow Tri-County Health Department *Health and Safety Practices during Construction on or Near Former Landfills*	CDOT Environmental/ Developer	During construction	Section 5.18 5.18-19

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
129	Hazardous materials	28 hazardous materials sites affected, 703 acres of land disturbed	Conduct appropriate surveys for asbestos, lead-based paint, and universal wastes prior to demolition of any building structures and bridges or elevated structures; if these materials are encountered, remove them in accordance with applicable regulations and guidelines; if ACM is encountered, including buried utilities, follow CDOT Specification 250.07, Asbestos-Containing Material Management and CDOT Asbestos-Contaminated Soil Management Standard Operating Procedure; additionally, depending on the type of ACM, clean up this material in accordance with either Section 5.5 of the Solid Waste Regulations, or Regulation No. 8 of the Air Quality Control Commission Regulations	CDOT Environmental/ Developer	During property acquisition/during construction	Section 5.18 5.18-19
130	Hazardous materials	28 hazardous materials sites affected, 703 acres of land disturbed	Update contaminated sites search databases to reflect most recent records	CDOT Environmental/ Developer	Pre-construction/ during construction/ post construction	Section 5.18 5.18-19
131	Hazardous materials	28 hazardous materials sites affected, 703 acres of land disturbed	Prepare and implement a project-specific Health and Safety Plan and Materials Management Plan to address potential hazardous materials that are encountered during construction; these plans will consist of specific measures to protect worker and public health and safety, as well as programs to manage contaminated materials during construction	CDOT Environmental/ Developer	Pre-construction	Section 5.18 5.18-19
132	Hazardous materials	Construction at hazardous materials sites also may affect the construction budget and schedule, particularly if previously unidentified contamination is found	In the event that unknown contaminated media is encountered during construction, stop working until the contamination is properly evaluated and measures are developed to protect worker health and safety in accordance with the project-specific Health and Safety Plan and Materials Management Plan	CDOT Environmental/ Developer	During construction	Section 5.18 5.18-19

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
133	Hazardous materials	Construction activities at hazardous materials sites have the potential to spread soil or groundwater contamination	Implement standard construction measures for fugitive dust control, as well as stormwater erosion and sediment controls, to minimize the spread of contaminated soil; during the construction phase, require the Developer to file and abide by a dust management plan to minimize the effects of dust on surrounding communities; additionally, conduct air monitoring to determine whether dust control efforts are successful in preventing violations of air quality standards	CDOT Environmental/ Developer	During construction	Section 5.18 5.18-20
134	Hazardous materials	Construction activities at hazardous materials sites have the potential to spread soil or groundwater contamination	Obtain a CDPHE CDPS Construction Dewatering Permit, Remediation Activities Discharging to Surface Water or Construction Activities Discharging to Ground Water, as required, utilizing readily available data; the selected Developer will follow the permit requirements	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.18 5.18-20
135	Hazardous materials	Construction activities at hazardous materials sites have the potential to spread soil or groundwater contamination	If this alternative requires permanent dewatering, obtain and follow the necessary CDPS Dewatering Permits; under the temporary construction and permanent feature dewatering permits, treat and discharge source water onsite in accordance with the permit or characterize and remove source water offsite to a permitted disposal facility	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.18 5.18-20
136	Hazardous materials	Construction at hazardous materials sites also may affect the construction budget and schedule, particularly if previously unidentified contamination is found	Properly abandon and close monitoring wells or septic systems disturbed during construction activities in accordance with applicable regulations and guidelines; if existing monitoring wells are impacted during construction, the project will replace them, as necessary	CDOT Environmental/ Developer	Pre-construction/ during construction	Section 5.18 5.18-20
137	Utilities	Impacts to utilities from project activities	Minimize service disruptions by connecting to active utilities, and scheduling to coincide with periods of lower demand	CDOT Utilities/ Developer	During construction	Section 5.19 5.19-26

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
138	Utilities	Impacts to utilities from project activities	Encase or provide protective cover over any impacted underground utilities	CDOT Utilities/ Developer	During construction	Section 5.19 5.19-26
139	Utilities	Impacts to utilities from project activities	Coordinate with utility owners and operators to identify construction requirements and financial responsibilities for relocations	CDOT Utilities/ Developer	Pre-construction/ during construction	Section 5.19 5.19-26
140	Utilities	Impacts to utilities from project activities	Identify and improve any utility concerns that can be addressed as part of project implementation	CDOT Utilities/ Developer	Pre-construction/ during construction	Section 5.19 5.19-26
141	Utilities	Impacts to utilities from project activities	Integrate above-ground utilities that are impacted by the project into the design, hide them from sight within the design, and/or design them to be aesthetically pleasing to the greatest extent practical	CDOT Utilities/ Developer	Final design/ during construction	Section 5.19 5.19-26
142	Utilities	Impacts to utilities from project activities	Move above-ground utilities underground to the greatest extent practical	CDOT Utilities/ Developer	Final design/ during construction	Section 5.19 5.19-26
143	Section 4(f) and Section 6(f) – Recreation Resources	South Platte River Greenway temporary impacts may occur during construction	Provide adequate notice and signing to Greenway users prior to construction	CDOT Environmental/ Developer	During construction	Section 5.9 5.9-22
144	Section 4(f) and Section 6(f) – Recreation Resources	South Platte River Greenway temporary impacts may occur during construction	Return Greenway to pre-construction or comparable state following construction	CDOT Environmental/ Developer	During construction	Section 5.9 5.9-22
145	Section 4(f) – Recreation Resources	Use of Swansea Elementary School Public Playground	Use remnants of adjacent parcels obtained for right-of-way expansion to reconfigure the school site plan and replace all the playground facilities; this includes closing Elizabeth Street between 46th Avenue and 47th Avenue	CDOT Engineering/ Developer	During construction	Section 5.9 5.9-22 Chapter 7 7-105

Exhibit 9-1 Preferred Alternative Mitigation Commitments

Mitigation #	Mitigation category	Impact from Final EIS	Mitigation commitment	Responsible branch	Timing/phase of construction mitigation	Final EIS page number
146	Section 4(f) and Section 6(f) – Recreation Resources	Part of Globeville Landing Park will be closed during construction	Return to pre-construction or comparable state following construction	CDOT Environmental/ Developer	Pre-construction	Section 5.9 5.9-22 Chapter 7 7-106
147	Section 4(f) and Section 6(f) – Recreation Resources	Utility easement/access permit required and 0.3 acre will be converted to a drainage outfall/spillway in Globeville Landing Park	Replace 0.3 acre of land converted to a non-recreation use by the construction of the spillway in Globeville Landing Park and the utility easement/access permit area with in-kind land of at least current fair market value and reasonable equivalent usefulness and location and investigate the acquisition of land identified by Denver near Milstein Park for this replacement Conditional approval from CPW and NPS is anticipated before the ROD is completed. FHWA has indicated that approval, or lack of objection, at this point is sufficient for NEPA clearance. Near the end of construction, but before closing the project, a formal Section 6(f) conversion proposal will be submitted to the NPS by CPW. CDOT will prepare the request for CPW with their approval.	CDOT Environmental and Right of Way/ Developer	During construction	Section 5.9 5.9-22 Chapter 7 7-107
148	Section 4(f) – Historic Resources	Use of 18 historic resources, which includes 5 *de minimis* impact determinations	Adverse Effects to historic resources will be resolved by the execution of the Section 106 Programmatic Agreement between FHWA, CDOT, SHPO and consulting parties	CDOT Environmental	Pre-construction	Chapter 7 7-106
149	Section 4(f) – Historic Resources	Use of 18 historic resources, which includes 5 *de minimis* impact determinations	Consultation has discussed mitigation measures such as documenting historic structures and ways to preserve the larger history of the project corridor	CDOT Environmental	Pre-construction/ during construction	Chapter 7 7-106

ATTACHMENT
E-3

Preserving Community Cohesion through Southend Park Neighborhood Redevelopment

NEWTOWN PIKE EXTENSION PROJECT, LEXINGTON, KENTUCKY

Case Highlights

Description: Davistown is one of the oldest Black/African-American communities in the Lexington, Kentucky, area. During the preparation of the environmental impact statement for the project, it was determined that indirect impacts associated with the Newtown Pike Extension would be expected to increase the land value in Davistown and surrounding neighborhoods, and would effectively force out low-income residents through increased redevelopment pressures. Davistown residents had been adversely affected by decades of discussions around a potential Newtown Pike Extension through their neighborhood, resulting in a sense of distrust at the outset of the environmental study. The project team hired a community liaison and included community members on project advisory and steering committees to gain the trust of the community as well as their participation in decision making. With community participation, an innovative mitigation option was developed based on the use of a Community Land Trust to provide long-term, sustainable, and affordable housing to community residents so that they could remain in the area even as land values increase.

Key concepts: Effective practices in addressing environmental justice include: intensive public involvement during corridor planning to define neighborhood visions, constraints, and opportunities; conducting a Community Impact Assessment and Socio-economic Baseline Analysis at the outset of the environmental study to help determine the level of analysis that would be needed and to identify potential issues early on; the use of a community liaison to facilitate communication between the project team and the affected community; and establishment of a land trust to ensure long-term, sustainable, and affordable housing for affected community residents.

Preserving Community Cohesion through Southend Park Neighborhood Redevelopment

NEWTOWN PIKE EXTENSION PROJECT, LEXINGTON, KENTUCKY

Introduction

Davistown is one of the oldest Black/African-American communities in the Lexington, Kentucky area. During preparation of an environmental impact statement (EIS) for the project, it was determined that indirect impacts would likely increase the land value in Davistown and surrounding neighborhoods, and would effectively force out low-income residents through increased redevelopment pressures. Davistown residents had been adversely affected by decades of discussions around a potential Newtown Pike Extension through their neighborhood, resulting in a sense of distrust at the outset of the environmental study. The project team hired a community liaison and included community members on project advisory and steering committees to gain the trust of the community as well as their participation in decision making. An innovative mitigation option was developed based on the use of a Community Land Trust to provide long-term, sustainable, and affordable housing to community residents.

Project Context

Newtown Pike is a major artery for north-south traffic through Lexington, Kentucky. Increased traffic congestion and pedestrian issues in downtown Lexington during the 1980s and 1990s stressed the urgency of routing traffic away from the downtown area. In the late 1990s, the Newtown Pike Extension gained high-priority status. Milestones in the environmental study are summarized in the Project Timeline on the next page. Led by the Kentucky Transportation Cabinet, the Newtown Pike Extension project is currently under construction and will connect the Newtown Pike to roads to the south of downtown Lexington, bypassing its busy business district and correcting a recognized inadequacy of the transportation network (Figure 1).

Figure 1. The Newtown Pike Extension will connect major roads north and south of Lexington's downtown, bypassing its busy business district.

Project Timeline

1931 – 1998
Various conceptualizations and proposals for a Newtown Pike Extension are not carried forward.

1998
Stakeholders Committee formed to determine what course of action was needed to reactivate the project. Committee included Lexington-Fayette Urban County Government (LFUCG), Kentucky Transportation Cabinet, Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Lexington Transit Authority, University of Kentucky, neighborhood associations, and American Consulting Engineers PLC. The committee's work resulted in drafting the project Purpose and Need Statement. LFUCG received concurrence from FHWA and FTA to proceed to the environmental studies required by NEPA for Federal funding.

1998 – 2000
The Newtown Pike Extension Main Street to Euclid Avenue or Limestone Street Engineering Environmental Overview Study was conducted with considerable public involvement. The southern terminus for the extension project at Limestone Street was selected.

2000
Advisory Committee formed to assist with gathering public input and to provide advisory direction. Members were selected by Council members of the LFUCG and included representatives of neighborhood associations, local businesses, and government representatives.

2002
Guiding Principles (for implementation of the Newtown Pike Extension) – document signed by the LFUCG, the Kentucky Transportation Cabinet, the FHWA, and the University of Kentucky. Among the guiding principles the document included the need to address environmental-justice issues and affordable housing for Davistown, Irishtown, and Pralltown as well as having no unfair burden on other areas.

2002 (continued)
The Newtown Pike Extension Corridor Plan study was conducted as part of the road-design process. The Corridor Plan intended to ensure that the roadway would be developed as an amenity for and in support of the surrounding neighborhoods. It included intensive public involvement to define neighborhood visions, constraints, and opportunities. The Corridor Plan recommended redevelopment of Davistown's Southend Park area.

A neighborhood liaison was hired to mediate communication between the project team and the Davistown neighborhood and the Southend Park area.

Community Impact Assessment and Socio-economic Baseline Analysis – this study identified low-income and minority residents who would be directly impacted in the Davistown area, described indirect impacts to communities, and identified the absence of replacement housing in the immediate neighborhood.

2003
Southend Park Urban Village Plan – established a framework for the mitigation of impacts to the Davistown's Southend Park area.

2004
Steering Committee formed to guide formation of a Community Land Trust. It included representatives from the Davistown Southend Park area, Lexington citizens, local and State agencies, and the Nathaniel Mission. The Steering Committee was to decide the details of the Community Land Trust and establish a mechanism for administering the trust. The Committee developed the Community Land Trust By-Laws.

2006
Social Needs Assessment – was conducted by a cultural anthropologist, aimed at better understanding the met and unmet needs of the Southend Park residents. Exposed need to further improve communication in connection with the Community Land Trust.

2007
Newtown Pike Extension ROD

The Region and the Community

The City of Lexington

Lexington is the second largest city in Kentucky and attracts residents from surrounding counties to work, shop, and recreate. Located at the intersection of Interstate Highways I-64 and I-75, it is the nearest major market for large portions of eastern and southeastern Kentucky. Lexington includes all of Fayette County. In 1974, the city and county governments merged to form the Lexington-Fayette Urban County Government (LFUCG). According to the U.S. Census Bureau, in 2000 Fayette County had a population of 260,512, 81.8 percent white, 13.8 percent Black/African American, and less than 5 percent of other or mixed races. Hispanic/Latinos were 3.3 percent of the population. Approximately 14.1 percent of households had incomes below the poverty level. The city is surrounded by farming areas – particularly horse farms – and its metropolitan area extends to five other counties. Lexington is a regional manufacturing, financial, and educational center, with the University of Kentucky as one of its largest employers.

The Newtown Pike Extension project was designed to divert traffic from the busy Central Business District running alongside the neighborhoods of Irishtown, Davistown, and Pralltown, with several other neighborhoods being indirectly impacted by the project. The greatest impacts would be felt by Davistown, one of the lowest income neighborhoods of Lexington (Figure 2).

The Davistown Neighborhood

The neighborhood of Davistown began in 1855 as a community of Black/African-American workers on the Lexington railway system. It soon became the residence of Black/African-Americans who moved to the city following emancipation in 1866. Davistown was once the most densely populated neighborhood in Lexington but is now relatively sparsely populated. Residents gradually left the neighborhood through the decades as some properties were converted to commercial uses.

A little over 40 percent of the residents of Davistown were Black/African American in 2000, with almost all the rest being White. Only 3 percent were Hispanic/Latino. Data from the 1990 Census, available for Davistown separately from the South Hill neighborhood, showed the poverty rate in Davistown as being 74 percent for the population and 100 percent for children under 18.

Because Davistown is one of the oldest sections of Lexington, it developed before Lexington's zoning regulations were in place. Residences are often adjacent to light industrial or commercial enterprises, and, although currently zoned for mixed residential, commercial, and industrial use, land use is often at odds with zoning. Residents of Davistown often walk to work in surrounding areas downtown, in the service or hotel industries, or at the University of Kentucky.

In 2000, approximately 75 percent of housing units in Davistown were renter occupied, with 25 percent being owner occupied. A windshield survey conducted as part of a 2002 Corridor Plan developed to address impacts of the road to surrounding neighborhoods identified 808 residential and commercial structures in the entire project area, classifying their maintenance condition according to several criteria. A little over 60 percent of the properties in Davistown were considered to be in good condition, the lowest rate among all the neighborhoods surveyed (Figure 3).

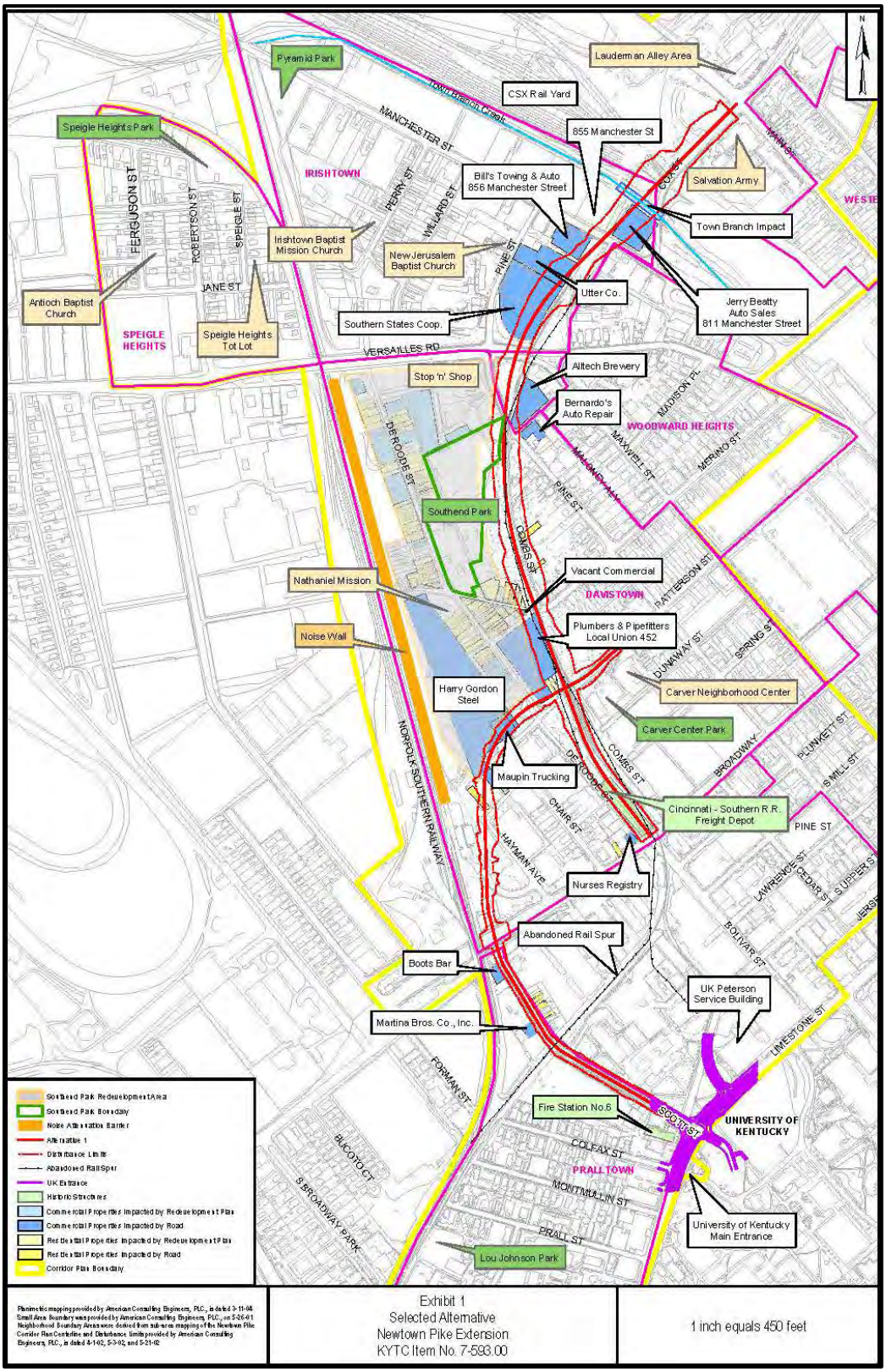

Figure 2. The Southend Park neighborhood (green boundary) of Davistown would be adversely impacted by the Newtown Pike Extension Project.

According to the U.S. Census, approximately 41 percent of residents in Davistown had no high school diploma in 2000, about 62 percent were in the labor force, and 6.4 percent were unemployed. These numbers were likely distorted by the presence of a portion of the South Hill neighborhood in the data. Based on data from the somewhat similar neighborhood of Irishtown, the actual share of residents with no high school diploma and unemployed was likely higher and the actual share of residents in the labor force much lower.

Figure 3. Homes on DeRoode Street, Davistown.

The Southend Park Area

Within Davistown lies the Southend Park area. Although part of Davistown, it has been recognized for decades as a distinct and impoverished area. Because of its lower altitude when compared to surrounding areas, it is also known as lower Davistown or Davis Bottom.

The Southend Park area occupies 25 acres. Like Davistown, there has been a gradual process of departure in the Southend Park area. In 2006 there were 27 households in Southend Park, down from 88 in 1980, 76 in 1990, and 48 in 2001.

A 2005 door-to-door survey of the Southend-Park area provided demographic data for comparison with State and county data and revealed much higher percentages of residents who are minority and low income in Southend Park than in the county and State: 40 percent of residents were minority and 90 percent low-income (Table 1).

Table 1. Minority and low-income residents in the Southend Park area.

	Kentucky	L-F County	Southend-Park Area
% minority	10	18.2	40
% low income*	15.8	12.9	90
% children below 18, low income	20.8	14.7	100**

* 80% were below median income for their family size for Fayette County.
**5 children below 18 were living in Southend Park.

A few commercial enterprises are present in the Southend Park area as well as Southend Park, a 5-acre section 4(f) facility. The neighborhood is also served by the Nathaniel United Methodist Mission, which provides health, education, and economic assistance to residents. Although the Southend Park area contains residential areas, public recreation, retail entities, and a semi-public facility (the Nathaniel Mission); it is zoned light industrial.

What Happened

Identification of Environmental Justice Populations

The Newtown Pike Extension was first conceptualized in the 1930s Comprehensive Plan of Lexington, Kentucky, & Environs, by L. Segoe; was recommended in the Master Plan Supplement of 1958 prepared by Ladislas Segoe & Associates; and was part of every LFUCG long-range transportation plan since the 1971 Urban Transportation Plan, 1964-1990. Since the early proposals, beginning with the 1930's Plan, the precarious conditions of the Southend Park area residences were recognized. When the Corridor Plan and the Community Impact Assessment for the Newtown Pike Extension were developed in the early 2000s, there was already an awareness that low-income residents were overrepresented in neighborhoods like Irishtown and Davistown, and that the Southend Park area was a particularly poor Black/African-American community.

U.S. Census Bureau data was used in the EIS to characterize minority and low-income presence in neighborhoods. Because data was not always available at the statistical subdivision required to match data to neighborhood boundaries (the Census-block level), and because the boundaries of some statistical subdivisions changed between the Censuses of 1990 and 2000, the EIS used Census data for various statistical subdivisions (Census tracts, Census block groups, and Census blocks) to try to best capture neighborhood characteristics. Information contained in the various transportation plans and studies that had been previously conducted helped interpret trends captured by the Census data.

In addition to Census data and previous transportation plans, the Newtown Pike Extension project team conducted studies that helped focus on the Southend Park area. The Corridor Plan conducted public meetings, focus groups, and a windshield survey; and identified the Southend Park area as in need of redevelopment. The Community Impact Assessment identified the specific residents that would be directly impacted by the project and their characteristics, and characterized neighborhoods/areas indirectly impacted by the Newtown Pike Extension. Later, the project team interviewed each person living in the Southend Park area to provide input to the social needs assessment. These studies helped focus on the Southend Park area and how it would be adversely impacted by the project.

Identification of Alternatives

Proposals from the 1960s and early 1970s ran the Newtown Pike Extension directly through the Southend Park area (Davis Bottom, along DeRoode Street) and displaced up to 140 families. In 1977, the Kentucky Department of Transportation (now Kentucky Transportation Cabinet) endorsed an alignment slightly to the east of previous alignments, bordering the Southend Park area along Combs Street, and with considerably fewer displacements (36 families). By 1997, when the project obtained new funding, the railroad spur that ran parallel to Combs Street had been abandoned, facilitating the use of the alignment along that street. The three build alternatives analyzed in the EIS are slight variations along that alignment and took into account project impacts on two 4(f) sites, one of which was the Southend Park, a recreational facility located on the western portion of the Southend Park area. So, the immediate considerations that led to the build alternatives considered were the abandoned rail

spur and the need to avoid the Southend Park 4(f) site. However, impacts to communities had been also taken into consideration, in the sense that alternatives crossing through the Southend Park area had been considered in the past and abandoned, at least in part due to the impact on neighborhoods such as Davistown and Irishtown.

Analysis of Impacts and Mitigation

The Corridor Plan recognized the lack of affordable housing in the project area, the poor conditions of existing housing, and recommended the development of new housing to accommodate existing and new residents. The Community Impact Assessment identified and described both the direct and indirect impacts of the road to the communities. Both studies made use of extensive public involvement in identifying impacts, including public meetings, focus groups, household surveys, and a housing finance study (see Effective Practices).

Impacts on Land Values and Development Opportunities

While the Newtown Pike Extension would result in some displacements of both residential and commercial properties in Davistown and two other neighborhoods, the main impacts identified were the indirect impacts of the road.

The Newtown Pike Extension build alternatives would generate development opportunities for the surrounding neighborhoods. Areas along intersections with the new road would have greater visibility and land value. Although increases in land value can have a positive impact on neighborhoods, in the case of the low-income community of Davistown, the Community Impact Assessment conducted in 2002 determined that it would likely displace residents, especially low-income renters. The Community Impact Assessment also identified the absence of replacement housing in areas neighboring the Southend Park area. Without mitigation, build alternatives would accelerate expulsion of Southend Park area residents through increased land values and redevelopment. At the same time, the no-action alternative would see the decline and eventual disappearance of the Southend Park area: uncertainty had been stifling housing and infrastructure improvements and imposing an unfair burden on the neighborhood.

Impacts on Community Cohesion

The Southend Park community expressed interest in remaining in the area. Project surveys had also identified the high level of interdependence among its members. Nearly half of the residents had family in the area and low-income neighbors often share resources. Both the build alternatives and the no-action alternative would result in the disruption of family and community ties. In addition, because of lack of replacement low-income housing in the neighborhood (as elsewhere in Lexington), residents would lose the opportunity to walk to major service-job providers in the downtown area and at the University of Kentucky, and would be forced to cut ties with a location where many had been residing for decades. Because these impacts would be largely concentrated in the low-income, minority area of the Southend Park neighborhood, the project team concluded that, without mitigation, the benchmark for disproportionate impacts had been met.

Re-Development Plan

The project team determined that a redevelopment option that was capable of keeping residents in the Southend Park area was

necessary. Due to the low-income level of the residents and the lack of affordable decent, safe, and sanitary replacement housing in the project area, last-resort housing provisions were adopted. These included:

- Rental assistance subsidy;
- Construction of a new replacement dwelling (through the Southend Park Urban Village Plan);
- Change in status of the displaced household from tenant to homeowner, when possible; and,
- Creation of a community land trust to protect neighborhood boundaries from undesired development and to remove the cost of land from the base house price to preserve affordability.

The unique urban village and community land trust strategies are described further in this section.

Southend Park Urban Village. With the intention of creating long-term, sustainable, affordable housing and preserving community cohesion, the project team developed the Southend Park Urban Village plan in close collaboration with the neighborhood liaison and residents. Three Urban Village concepts were developed by LFUCG planners and their consultants, and presented to residents in a series of three public meetings. Comments received by the residents led to the choice of one of the three concepts proposed.

The Urban Village consists of a redevelopment effort in the 25 acres that constitute the Southend Park area. While 27 residential structures and 4 active commercial enterprises in Davistown would be displaced by the Southend Park Urban Village; displaced residents, both from the urban village and from the road construction, would be offered affordable housing in the Urban Village. The Urban Village would include about 100 housing units. Replacement housing would be enough to accommodate all those displaced by the roadway and the Urban Village itself, as well as others wishing to return to or become new neighbors in the Village. The section 4(f) Southend Park would also be rebuilt as part of the Urban Village Plan and the Nathanial Mission would be accommodated. In addition to residential properties, commercial properties were included in the Urban-Village plan. Zoning for the area would change from light industrial to residential and mixed use.

Housing Finance Analysis

To complete the Urban Village Plan, a consultant team was hired to conduct a Southend Park Housing Finance Analysis. The survey was conducted between November 2004 and January 2005. The purpose of the survey was to assess housing needs and housing affordability to determine what relocation assistance would be necessary for the community.

Twenty-two (22) households on DeRoode, McKinley, Patterson, and Combs Streets were surveyed. The survey concluded that all existing housing units should be replaced and those families being displaced should have the opportunity to relocate back into the neighborhood in new housing.

Community Land Trust. The project team considered that affordability and community cohesion would be destroyed if a traditional

transfer of ownership to displaced residents took place. For this reason, a land ownership project team comprised of Federal, State, and LFUCG staff evaluated several alternatives for potential land ownership. The evaluation concluded that a community land trust was the best way to ensure long-term, sustainable, and affordable housing for the residents.

To guide the formation of the land trust, a steering committee was formed with representatives of the Southend Park area, Lexington citizens, local and State agencies, and the Nathaniel Mission. Through a series of 21 meetings, the steering committee developed the Community Land Trust By-Laws.[i] The Community Land Trust was structured so that resident owners will own their homes with a joint renewable 99-year lease on the land.

Many details regarding the Community Land Trust were gradually addressed by the project team. For example, land owners needed additional incentives to compensate for their loss of the land. Also, the Community Land Trust financial sustainability needed to be addressed since it would include both start-up and operating costs.

Preferred Alternative

All three proposed build facilities would have similar impacts on the Southend Park area, with 36-37 residential structures displaced and 13-16 commercial structures displaced. All three alternatives would have adverse indirect impacts on the Southend Park area, and all three would include the Southend Park Urban Village as mitigation (Table 2).

Table 2. Impacts of Newtown Pike Extension build alternatives.

	Alt. 1	Alt. 2	Alt. 3
Right-of-Way (estimated acres)	35.2	35.5	35.5
Residential structures displaced (road and urban village)	37	36	36
Commercial structures displaced (road and urban village)	13	15	16
Direct and indirect historic structures impacted	1; 2	0; 3	0; 3
Section 4 (f) properties directly and indirectly impacted	2; 0	1; 1	1; 1

The choice of build Alternative 1 was guided more by safety and traffic considerations, than by impacts on the Southend Park area. With the development of the Southend Park Urban Village Plan and the community land trust as mitigation for direct and indirect environmental justice impacts, the Newtown Pike Extension project would not have an unfair burden on any neighborhood.

Effective Practices and Lessons Learned

The use of multiple and varied methods for collecting community data can provide valuable information for decision making. Various surveys were conducted at different times during project design and implementation

Public-involvement Tools Used to support the Newtown Pike Extension Project

Various tools were used to reach out to the community in early planning and throughout design:

- **Committees involving Federal, State, and city agencies as well as community representatives:** An Advisory Committee helped develop the Corridor Plan early on in the project; and a Steering Committee was formed to develop the land trust by-laws. The Steering Committee met 21 times in order to develop the bylaws.

- **Public meetings and focus groups**: Numerous public meetings were held throughout the environmental study and included neighborhood associations meetings, open houses, property owner's meetings, and renter's meetings. Four public meetings were held to solicit input in developing the Corridor Plan. Small discussion groups or "break-out" sessions were held during the public meetings to foster a less intimidating environment and encourage more openness on the part of the residents. Residents were encouraged to gather in neighborhood-defined groups during these break-out sessions to discuss issues and provide input to the planning process. Focus groups covering specific projects were conducted for development of the Corridor Plan and for development of the Southend Park Urban Village Plan.

- **Community Unity Days:** An initial Community Unity day was held at Carver Neighborhood Center on June 28, 2003. Approximately 150 people attended to enjoy a cookout, play games, and hear more about the Southend Park Urban Village Plan concepts. Several former residents, and family members of current residents, came to the Community Unity Day and expressed interest in moving back into the neighborhood when homes become available. This first Community Unity Day was so successful that it was held annually.

- **Surveys**: Both the Community Impact Assessment and the Southend Park Urban Village Plan used community surveys to profile residents and community relationships. Development of the Urban Village Plan also included a household survey focused on assessing housing needs and housing affordability. Types of questions in the Community Impact Assessment survey included: length of residency, whether family lives in the neighborhood, likes and dislikes about the neighborhood, important community resources, mode of transportation to work, and familiarity with the project.

  In 2006, an additional survey was conducted as part of a social needs assessment, aimed at better understanding met and unmet needs of Southend Park area residents. The project team, under the supervision of an urban anthropologist, interviewed every person living in the Southend Park area. Questions were open-ended and respondents were encouraged to provide an oral history of the area. The interviews were recorded, but kept confidential with only the anthropologist reviewing the content. This process gave neighbors who might have been shy in other settings a real voice, it allowed team members to really know the neighbors they interviewed and, as a result, personal bonds developed. A business survey was also conducted with businesses in and near the project area to better understand the potential impacts of the Newtown Pike Extension on local businesses.

- **Neighborhood liaison:** A liaison from the community was added to project team in 2002 and acted as a facilitator between the project team and community residents. The liaison was instrumental in building trust with residents and getting them involved in the Southend Park Urban Village Plan process.

- **Newsletter and website:** Early in the process (2001-2002) newsletters were used to provide information to the public and solicit their participation. In 2002, a website was launched to disseminate information about the project.

that proved valuable for decision making. Surveys conducted for the Community Impact Assessment and the Southend Park Urban Village Plan were key to adequately characterize the communities impacted and their residents.

An important source of information on the community for the project team was the continuous interaction provided through the community liaison hired in 2002. The liaison was identified through the public outreach process. Meetings were held every 3rd Thursday of the month at the Carver Neighborhood Center, just outside the Southend Park area, often with dinner provided to facilitate informal interaction and provide an incentive for community participation.

Truly engaging the affected community requires building trust. A variety of public involvement tools were used at various stages of the planning and design process to make sure that the affected community not only understood plans and decisions made but participated in developing those plans and making those decisions. As the Corridor Plan was being developed, for example, four public meetings were held to educate the public about the road and the planning process, and to solicit input from the residents on their vision for the future. The Nathaniel United Methodist Mission was instrumental at this stage in reaching out to Davistown residents, and making sure that all those that sought the Mission were aware of the project and of the importance of their involvement. The Southend Park Urban Village Plan relied on a series of focus-group meetings and a door-to-door survey of neighborhood residents to collect their views on mitigation options.

In 2002, a neighborhood liaison was brought into the project to help with communication between the project team and the Southend Park residents. The project team faced a sense of distrust from people of the Southend Park area. This might have been partially the result of decades of neglect from public authorities, but might have also been partially the result of even more decades of discussion with inaction on the Newtown Pike Extension. The constant threat of the Newtown Pike Extension had created a climate of uncertainty that deterred property owners and city agencies from investing in the Davistown neighborhood. Between 1980 and 2000, the number of housing units in Davistown decreased 45 percent. There seems to be consensus among the project team and community members alike that if no action had been taken, the Southend Park area would have disappeared in the near future, against their will. The project team understood that to engage the community in discussions of mitigation options would require establishing trust in communication between the project team and the community and that a liaison could facilitate this process. A liaison that is able to take the time to listen to the community and understand their concerns and is not perceived as having interests other than the successful mediation of the process can help facilitate communication and community engagement.

Existing service providers to the community can help with community engagement. During the process of engagement of the community with the project, care should be taken to avoid displacement of existing service providers. Temporary community liaisons and communication structures can prove valuable in facilitating community participation and communication between the project team and

affected communities. However, these tools are temporary, and displacement of existing service providers could disrupt community support services that would otherwise be valuable resources to the community in the long run.

"Champions" for the project can help overcome obstacles. Adequately engaging communities and mitigating adverse impacts during the long process of design and implementation of transportation projects requires devoted personnel and considerable resources. Unexpected issues and challenges arise daily and can drag the process through unnecessary lengths of time. The Newtown Pike Extension benefited during several periods from "champions" of the project, personnel capable of moving the project forward through legal and procedural requirements. These "champions" were ideally housed in the Kentucky Transportation Cabinet. As the State transportation department, they were best positioned to interact with local governments and the community on one side, and Federal authorities on the other.

Proper identification and characterization of social ties is important for the identification of adverse impacts to communities. Neighborhoods were used as the geographic area of reference for identification of environmental justice populations and for characterization of disproportionately high and adverse impacts. The interactions and interdependence between neighbors are an important factor in determining the geographic extent of impacts and in understanding the impacts of displacement to the social cohesion of communities and the importance of keeping communities together. In the case of the Newtown Pike Extension, the project team found it important to take the analysis a step further and understand the characteristics of a community within the Davistown neighborhood: the area called Davis Bottom, lower Davistown or Southend Park area. This area had been identified in transportation plans as being a minority and low-income population.

To understand the extent of interdependence within neighborhoods or within areas of neighborhoods, the Newtown Pike Extension project team conducted a Community Impact Assessment in 2003 and surveyed the Southend Park area in 2005. These studies generated information about the area not available through Census data, whether because some of the data was not collected at the geographic level needed to characterize sub areas of the neighborhood (e.g., poverty data for the Southend Park area) or because the type of data needed to understand community cohesion and define community boundaries is not typically collected by Census instruments.

This care with properly identifying and characterizing interdependent communities allowed the project team to better understand the extent to which the Newtown Pike Extension would have disproportionately high and adverse impacts on the Southend Park area when compared to other communities.

Mitigating adverse impacts may require tailored solutions. The project team understood that Southend Park residents had the desire to remain in the area, and that they lived in a tight community, interdependent on each other for their daily needs. The main challenge in offering the community a feasible option to remain in the area was to guarantee affordable housing. The choice of a land trust was a way of achieving housing affordability. By not owning the land,

only the house, the housing costs would be reduced for residents. Use of the land would be guaranteed by a renewable 99-year lease. The choice did find some resistance by residents. The idea of not owning the land, particularly for resident owners that had previously owned their land, was not an easy idea to accept. However, residents have had a voice and a role in helping develop the redevelopment plan to address their concerns and gradually increased their acceptance of the proposed mitigation.

Benefits

For the Community

The Southend Park Urban Village Plan and the incorporation of a land trust to ensure housing affordability offered current residents an opportunity to maintain community cohesion and stay in the Southend Park area, potentially also benefitting from the expected revitalization of the area.

For the Agency

Previous attempts to develop the Newtown Pike Extension met with community resistance and often garnered political opposition. The development of a mitigation option capable of addressing the affected-community aspirations and developed with active community participation made community residents partners of the project rather than opponents.

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Contacts

David Whitworth
Federal Highway Administration
[redacted]

Pam Clay-Young
Kentucky Transportation Cabinet
[redacted]

Kenneth Demus
Southend Park neighborhood representative
[redacted]

[i] The Community Land Trust By-laws are incorporated in the Newtown Pike Extension Record of Decision, available through the project website at: http://www.newtownextension.com/project-overview

ATTACHMENT
F-1

HOUSTON TRANSTAR SPEED CHARTS

Yearly Comparision (speedcharts.aspx) Daily Comparision (dailyspeedcharts.aspx)

View a speed chart by selecting criteria from the menus below. Learn more about the Speed Charts here (/speedcharts/chartdesc.aspx).

Chart Settings

Roadway: IH-10 Katy

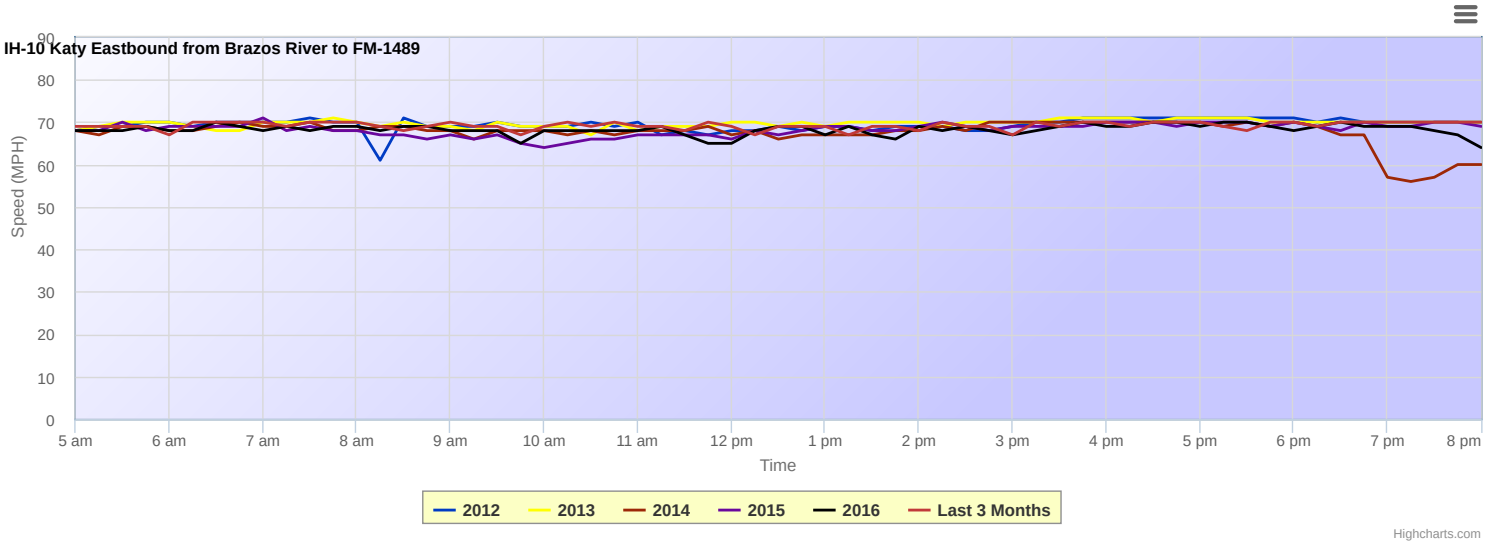
Direction: Eastbound

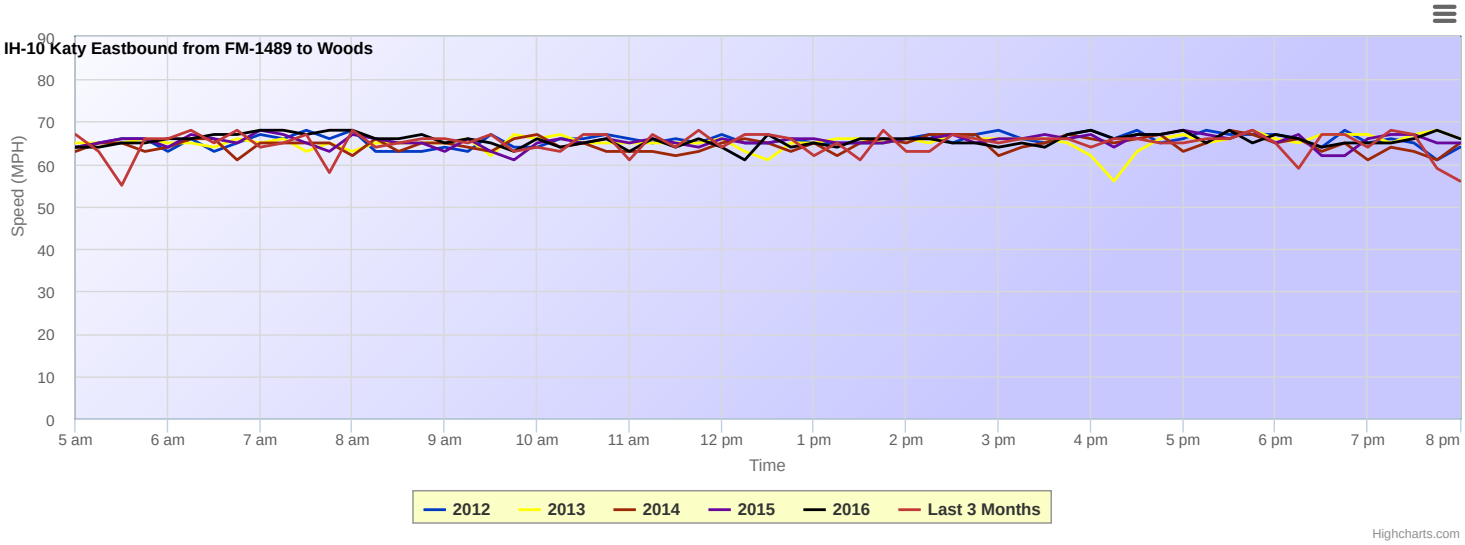
Segment: All Segments

Timeframe

☑ 2012 ☑ 2013 ☑ 2014 ☑ 2015 ☑ 2016 ☐ Last 6 Months ☑ Last 3 Months ☐ Current Day

Generate Chart

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Time
2012
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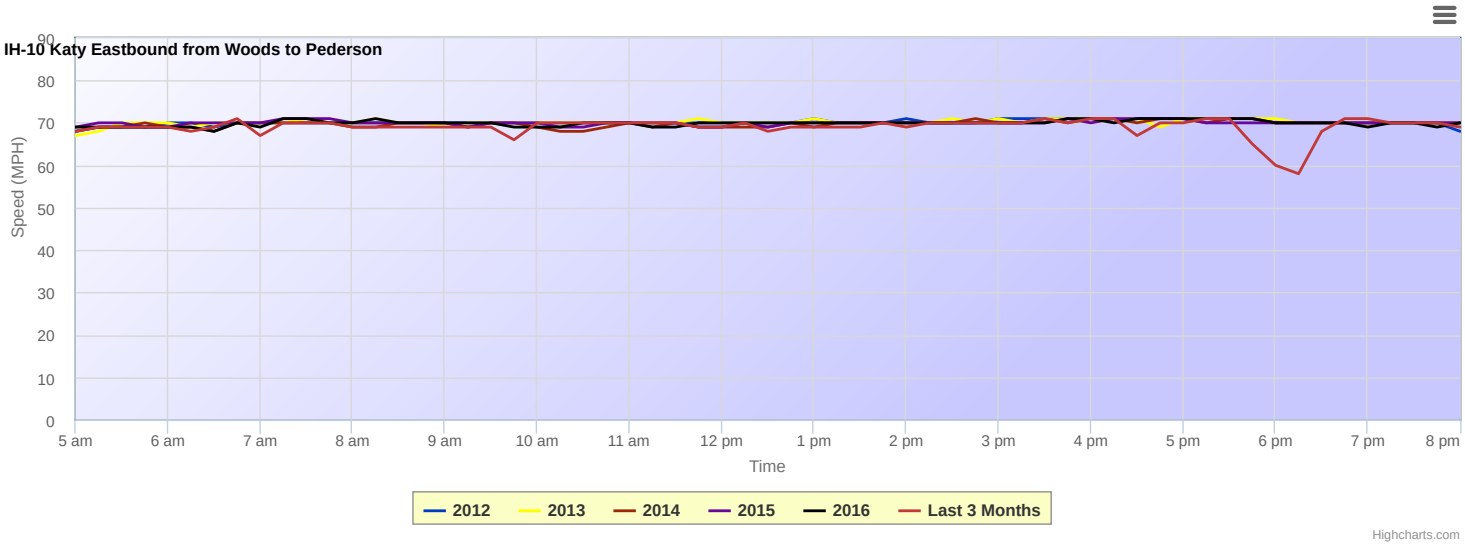
2016
Last 3 Months
Highcharts.com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Speed (MPH)
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Last 3 Months
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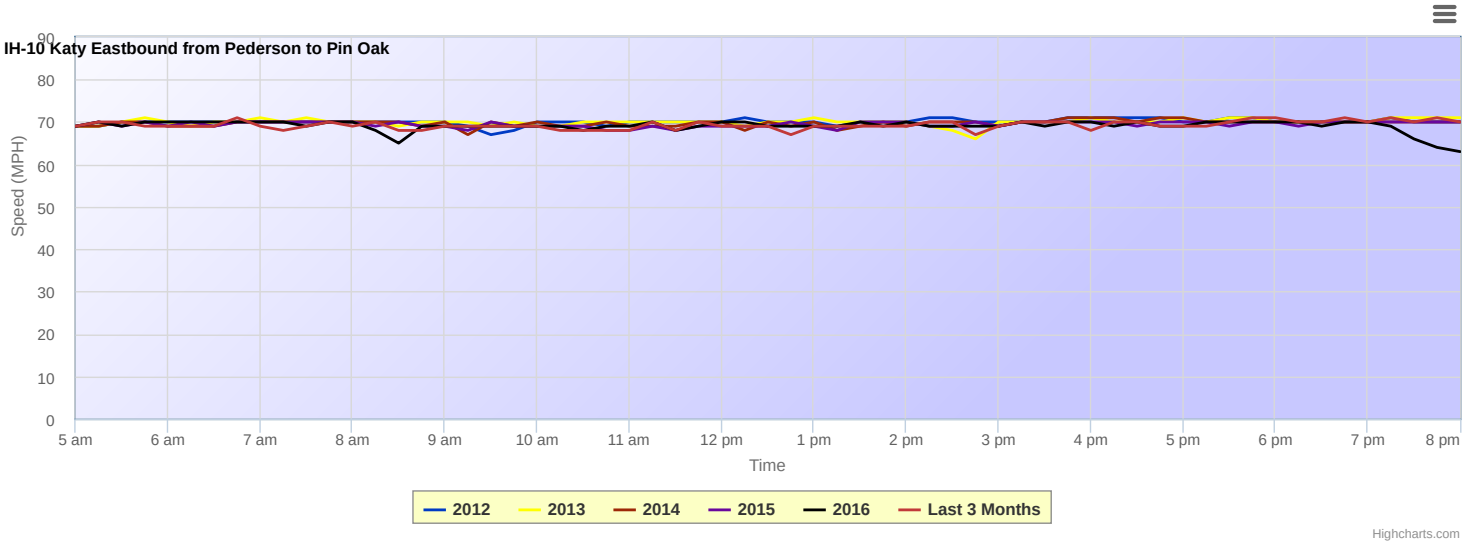
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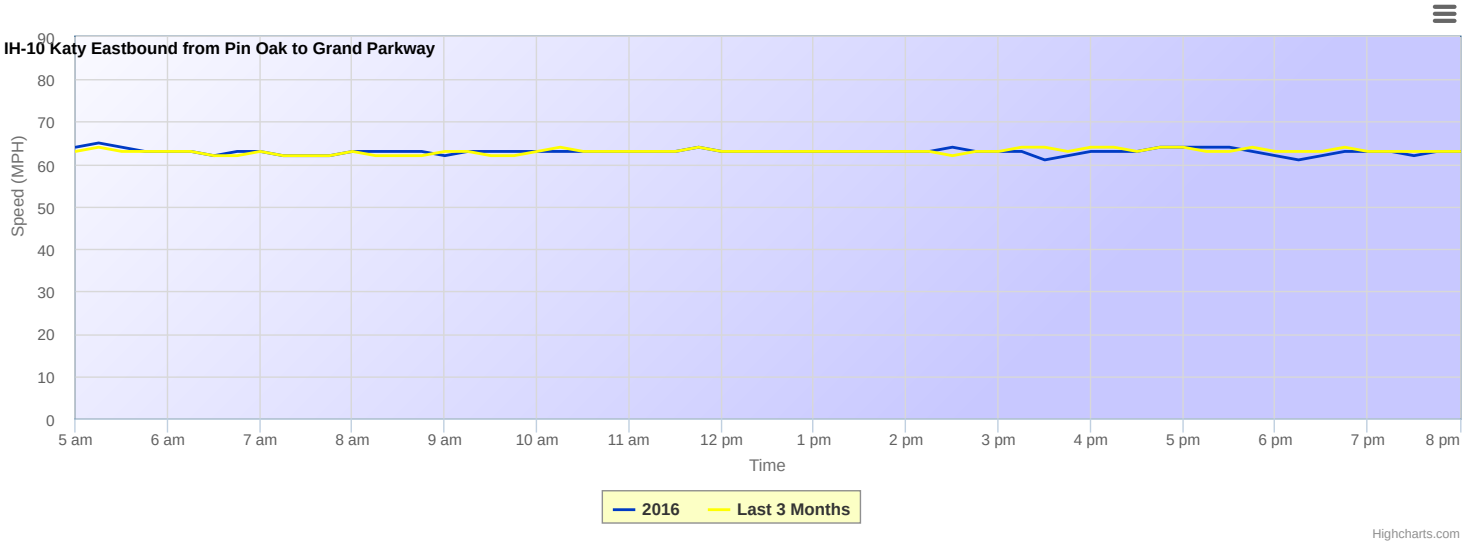

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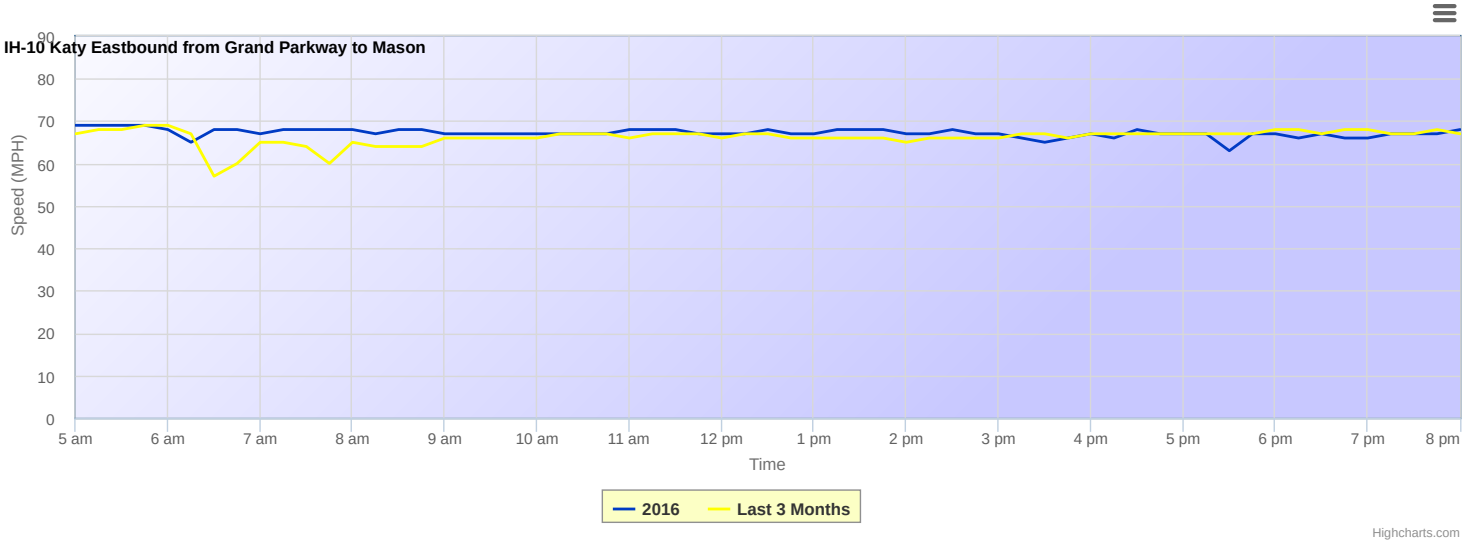

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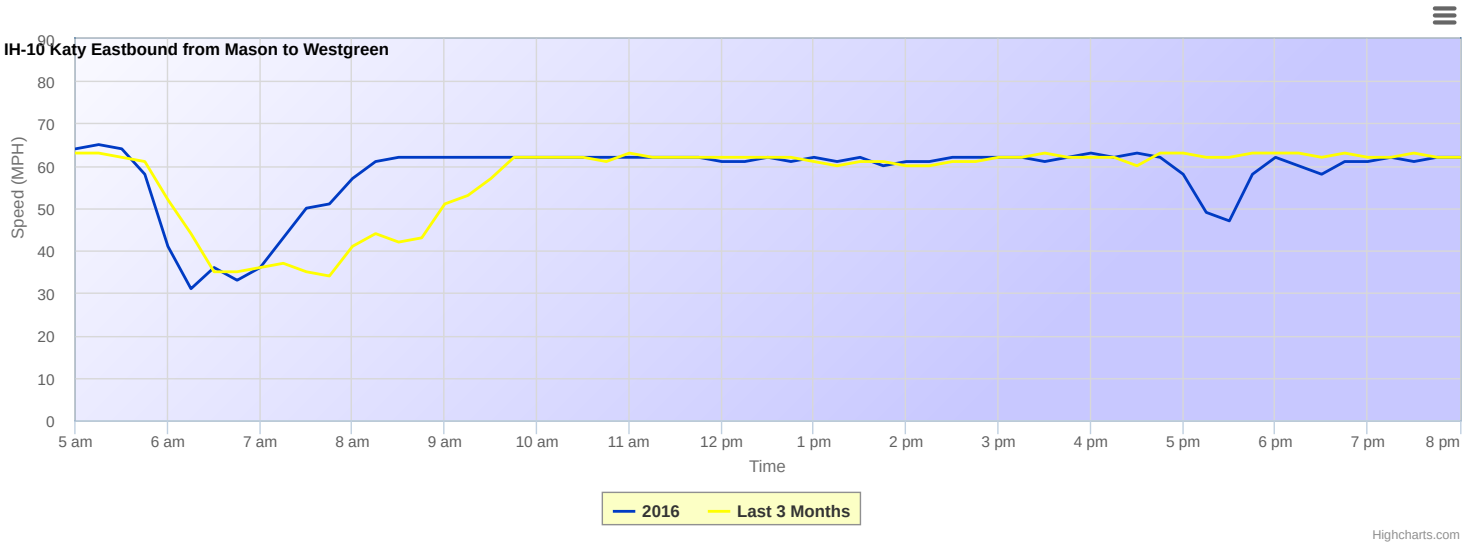

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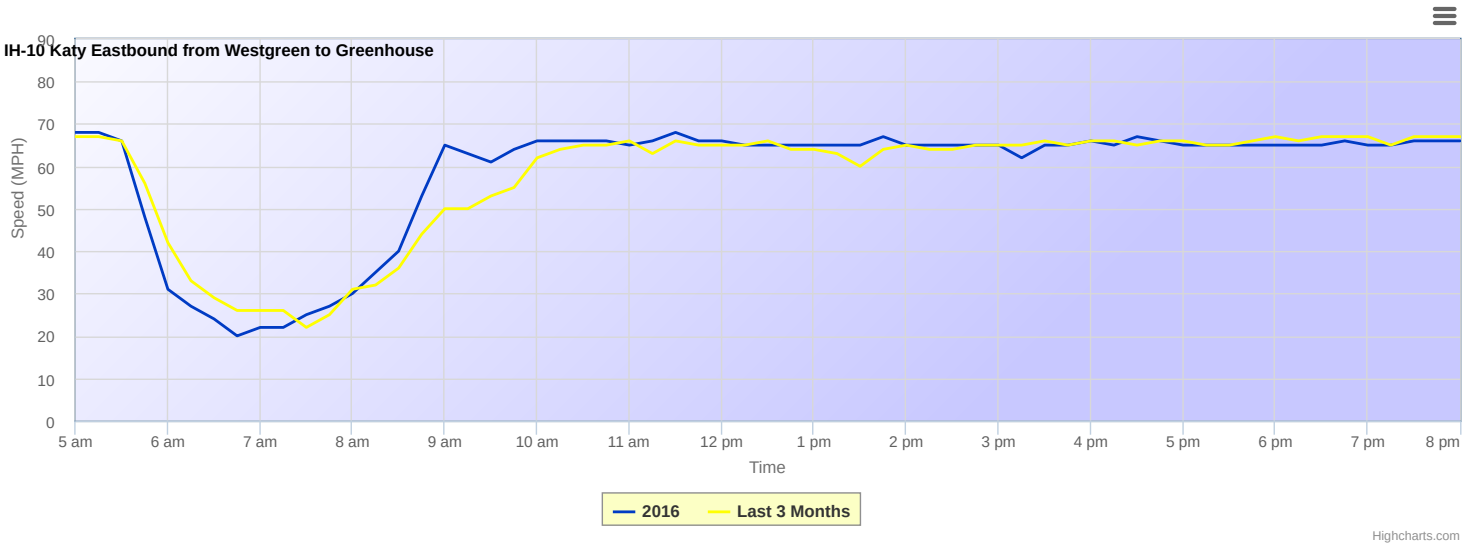

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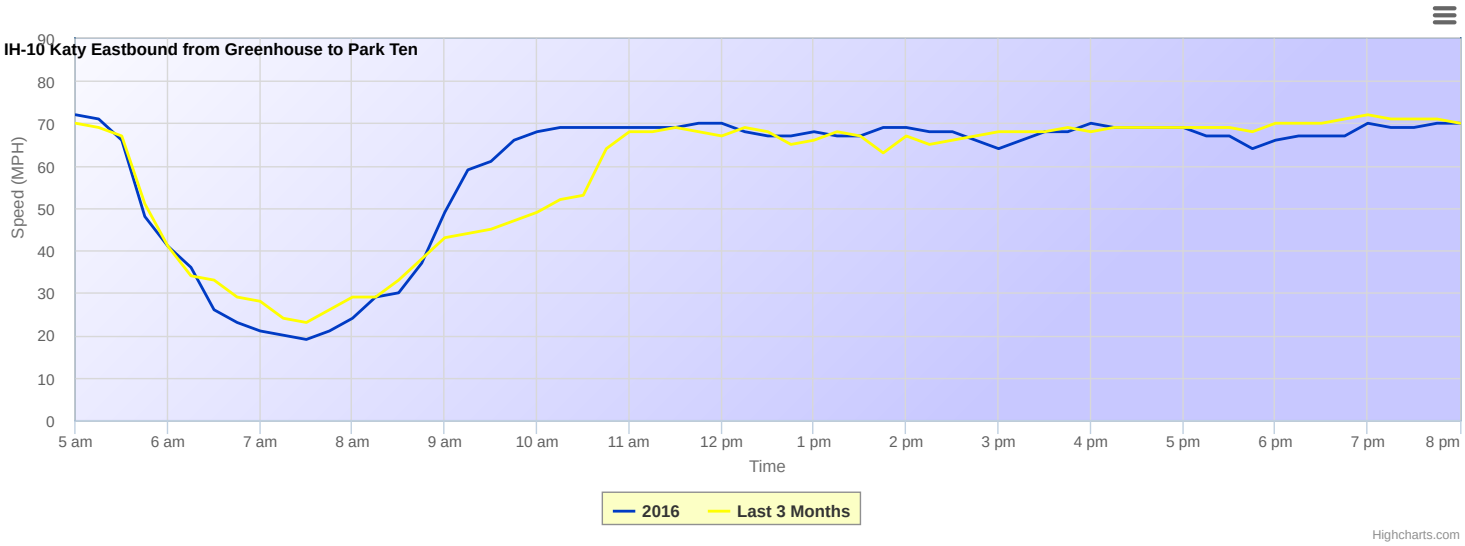

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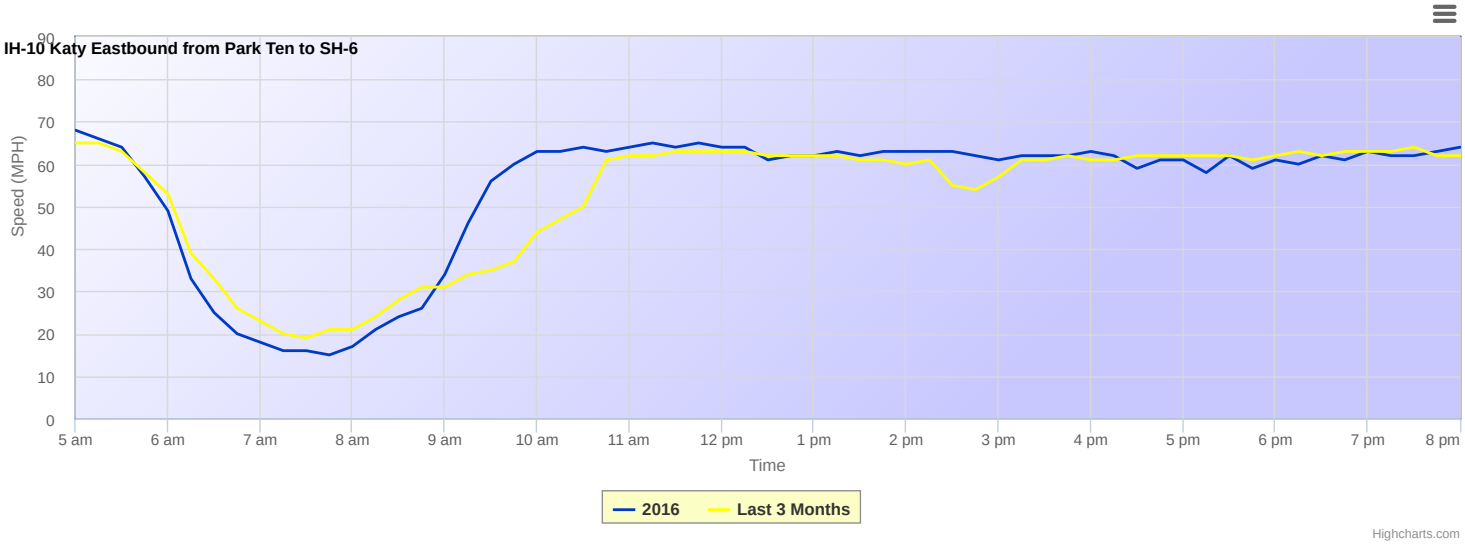

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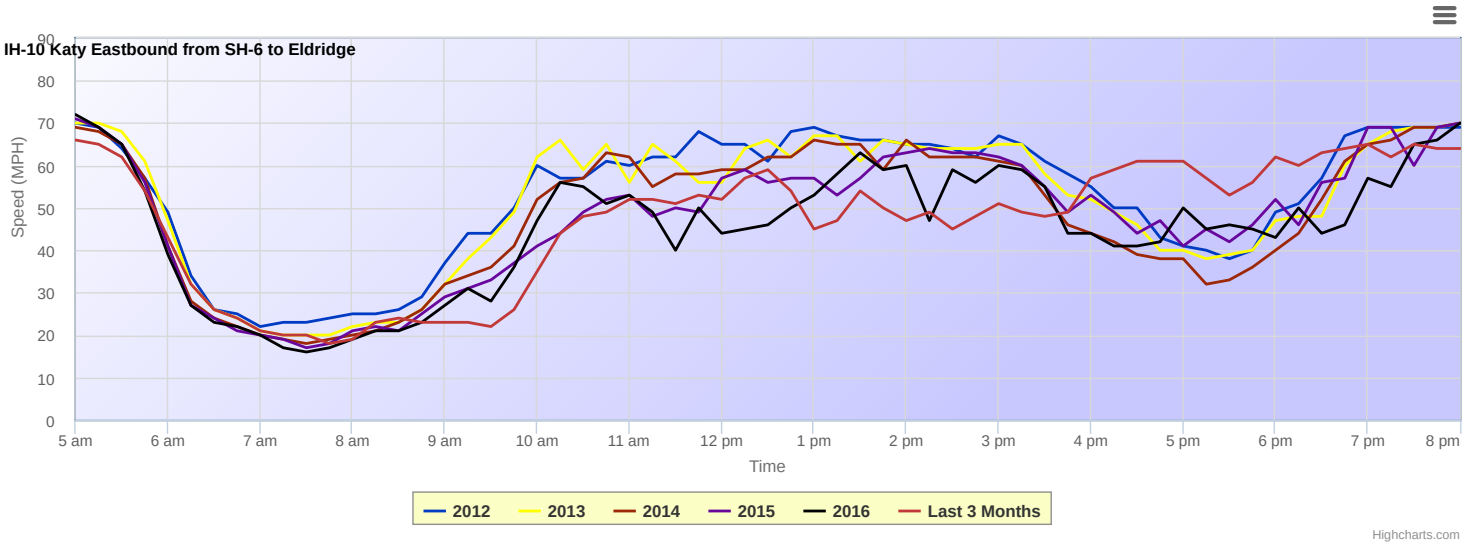

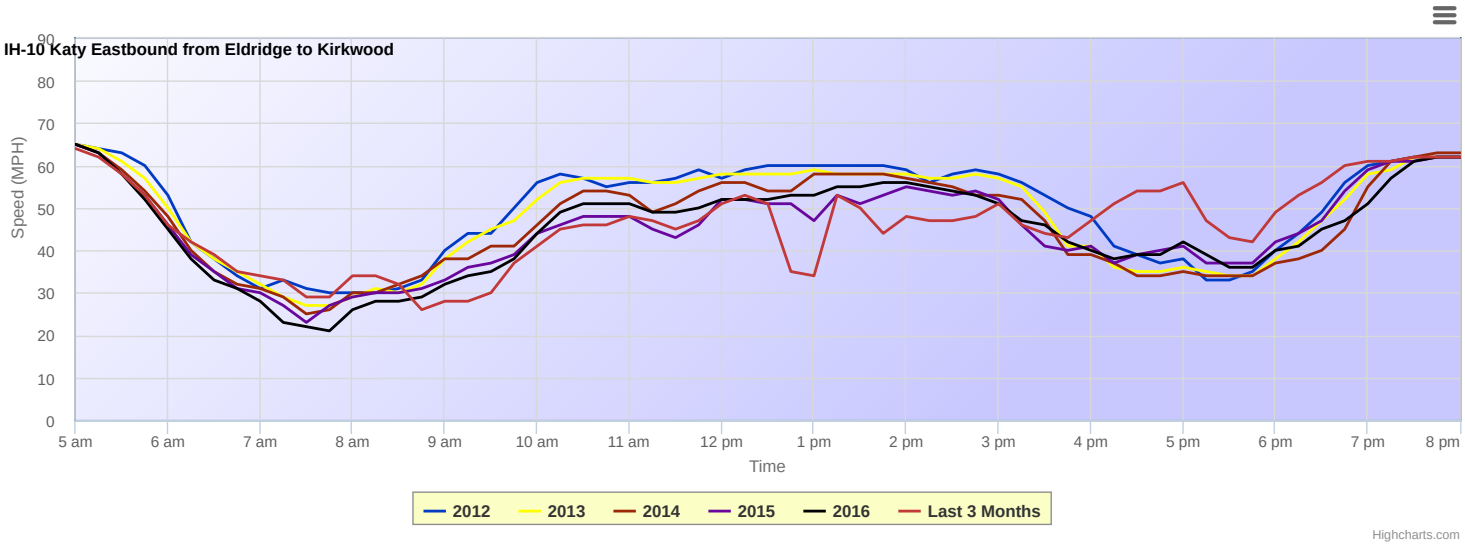

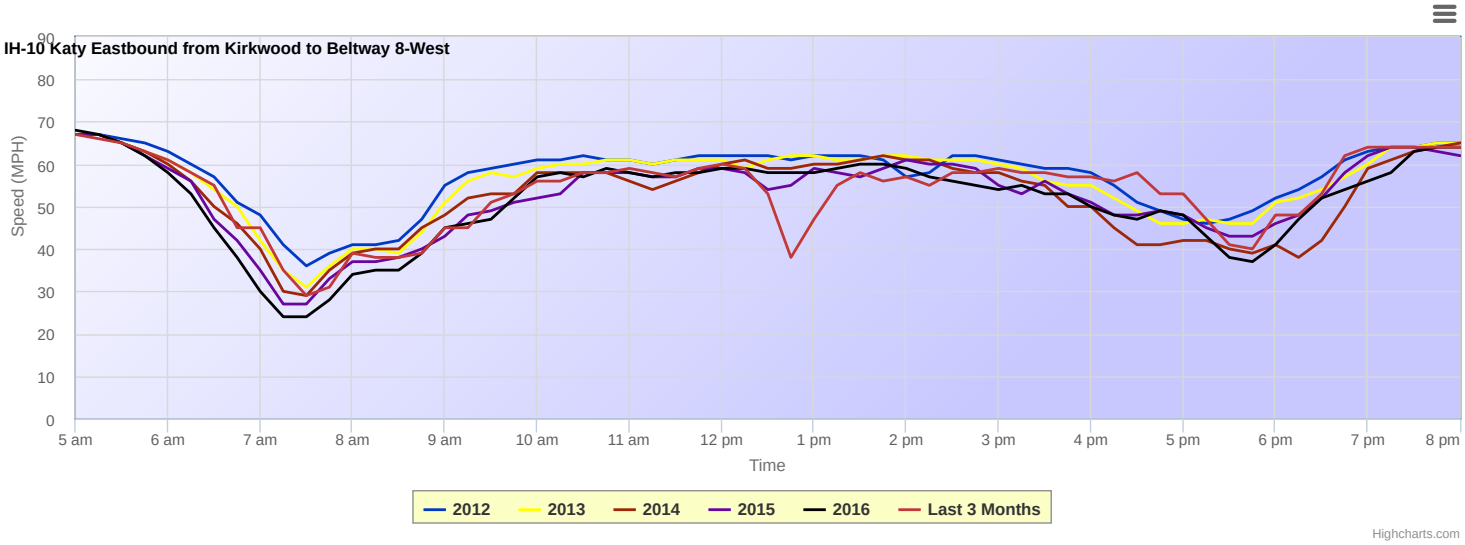
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Last 3 Months
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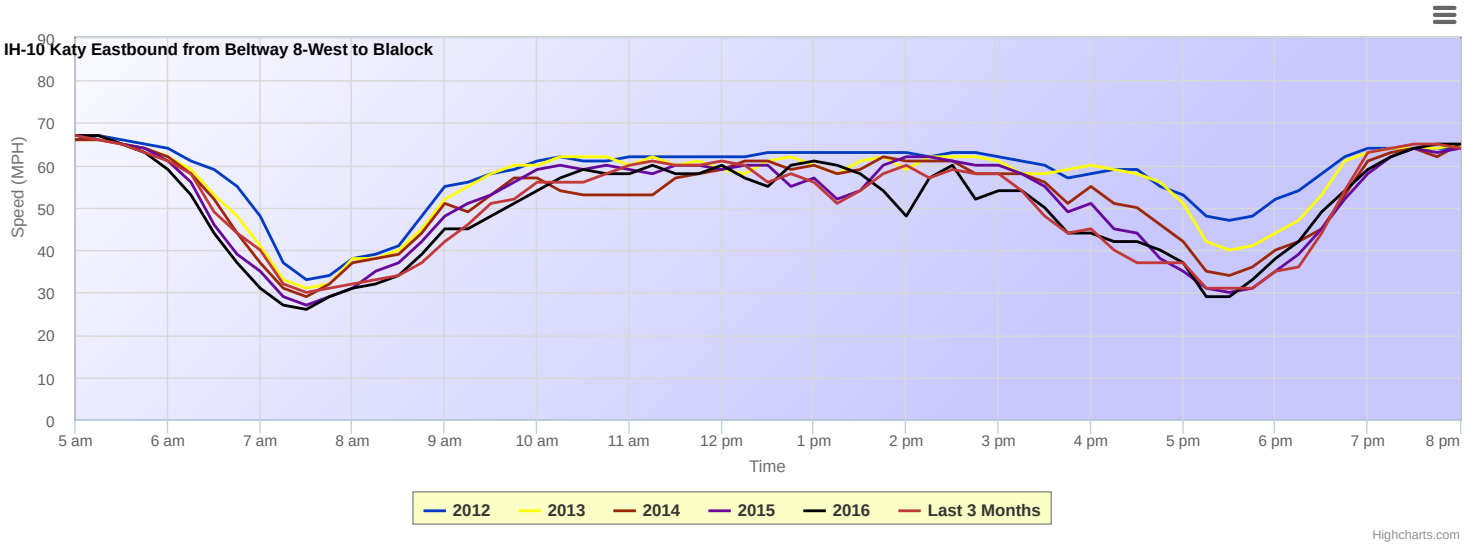
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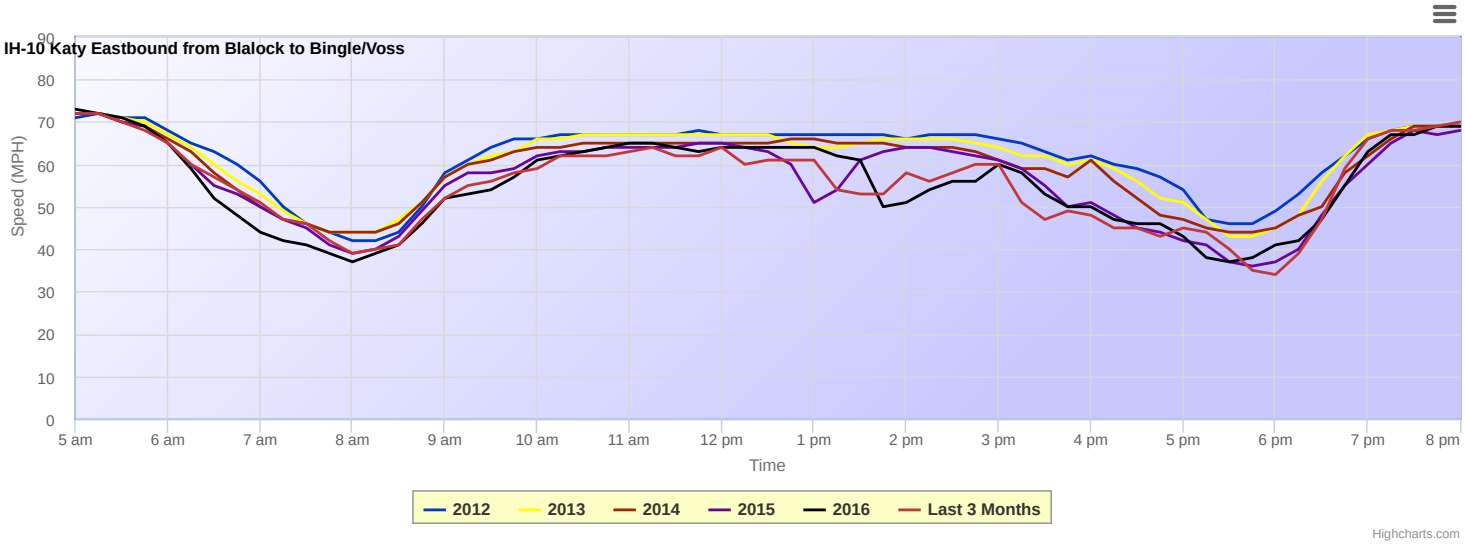
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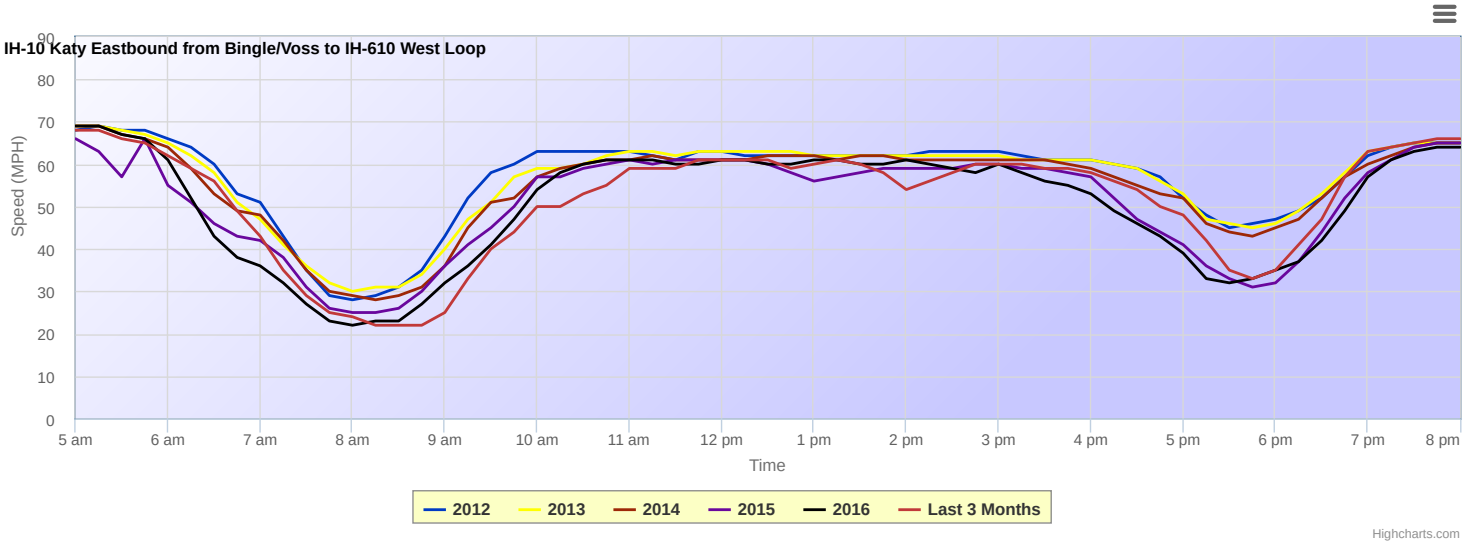

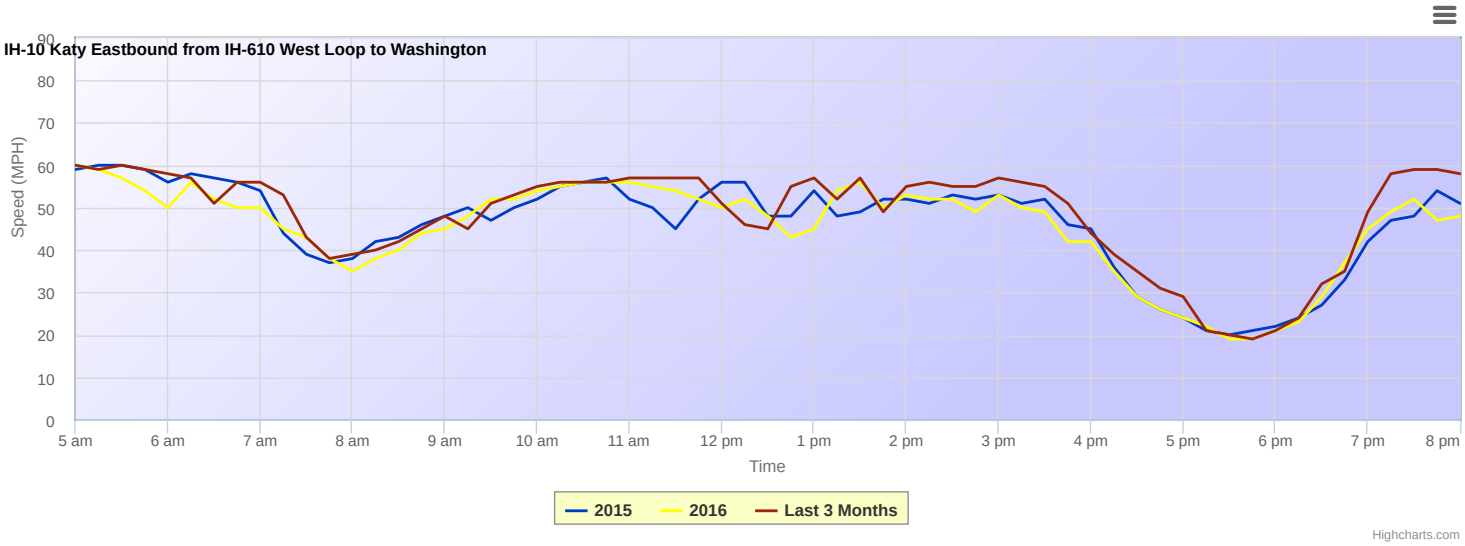

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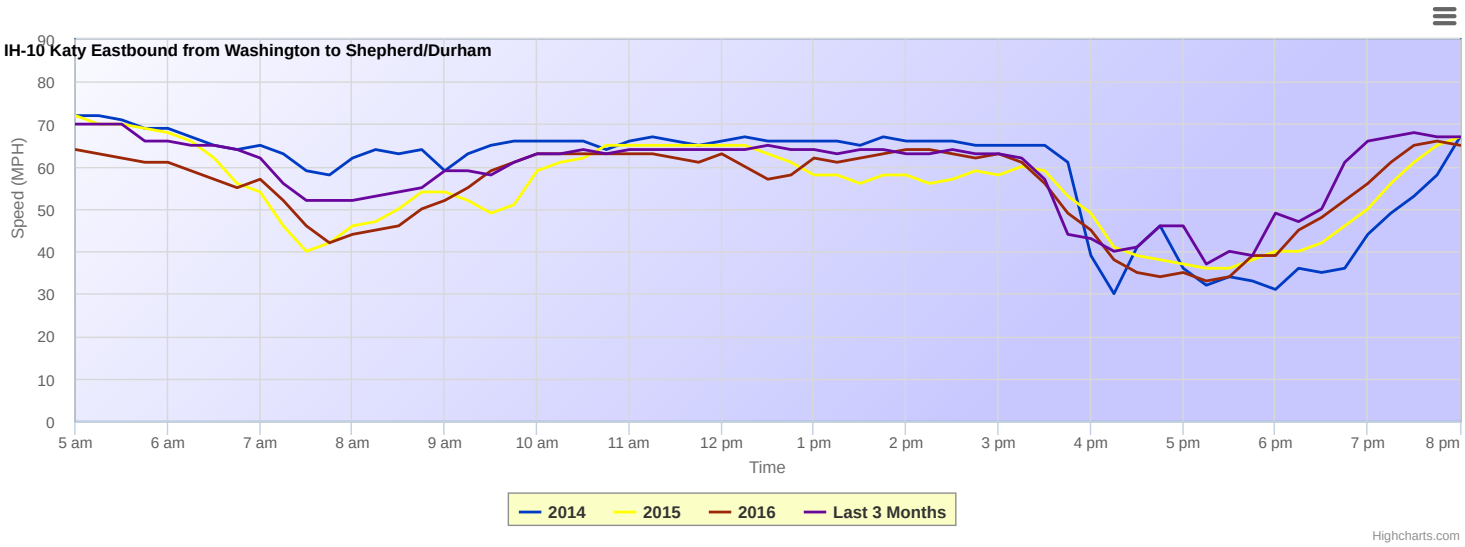

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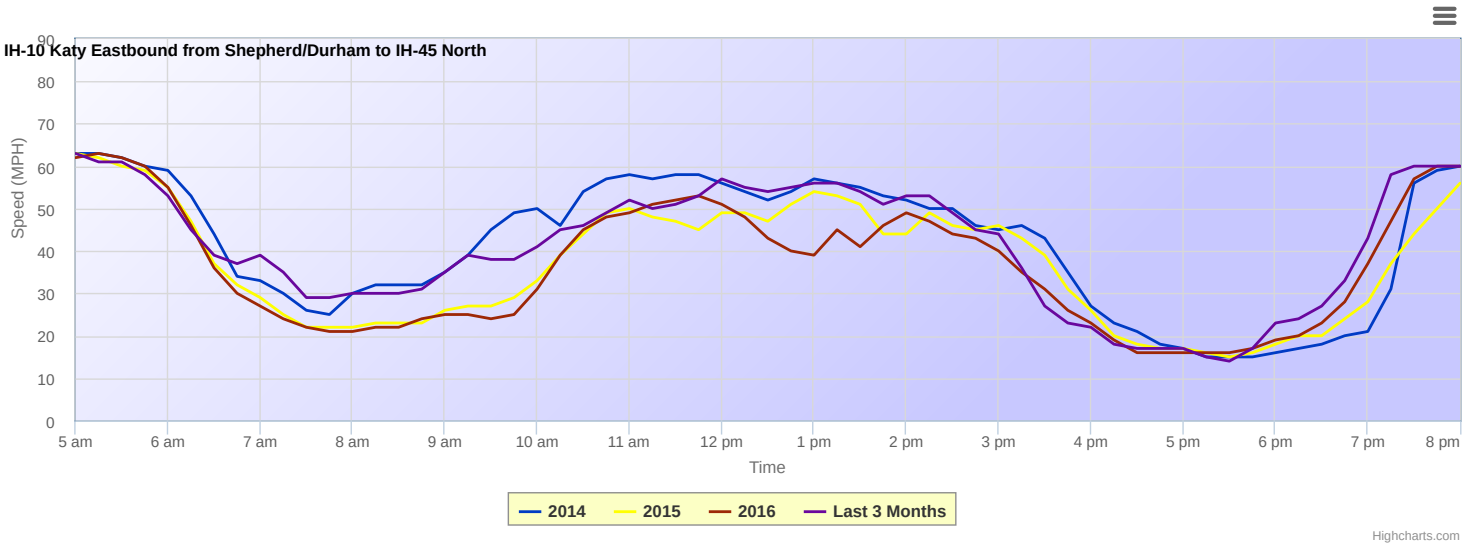

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HOUSTON TRANSTAR SPEED CHARTS

Yearly Comparision (speedcharts.aspx) Daily Comparision (dailyspeedcharts.aspx)

View a speed chart by selecting criteria from the menus below. Learn more about the Speed Charts here (/speedcharts/chartdesc.aspx).

Chart Settings

Roadway: IH-10 Katy

Direction: Westbound

Segment: All Segments

Timeframe

- [ ] 2012
- [x] 2013
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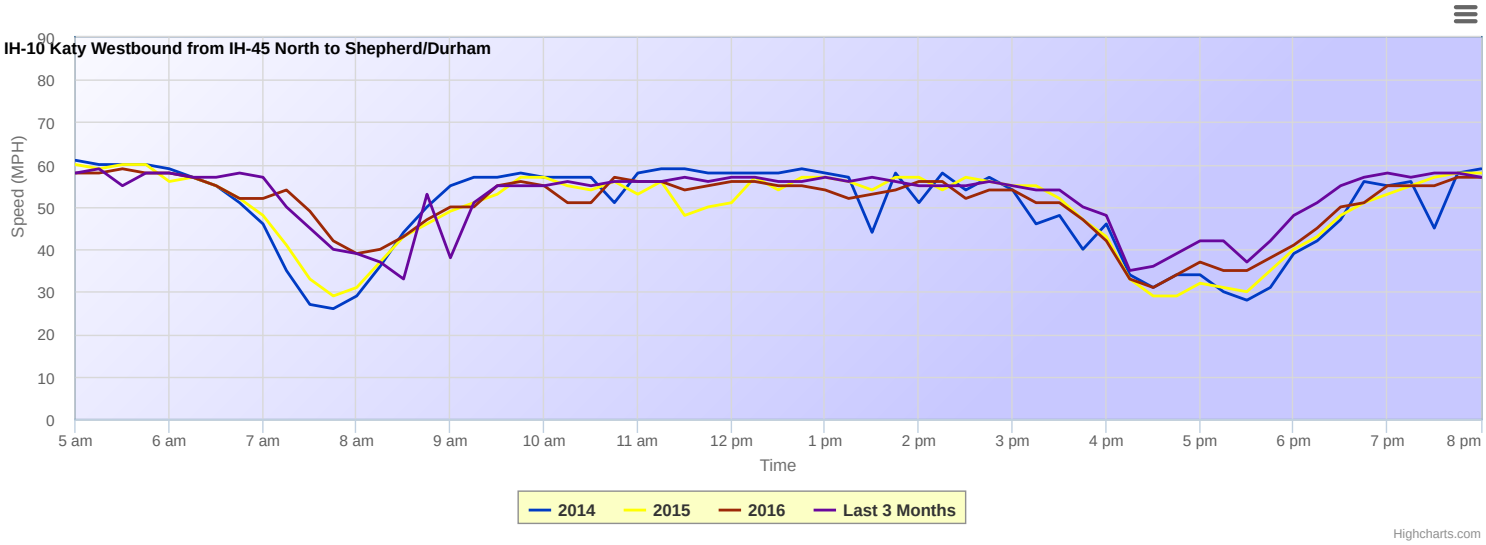
Generate Chart



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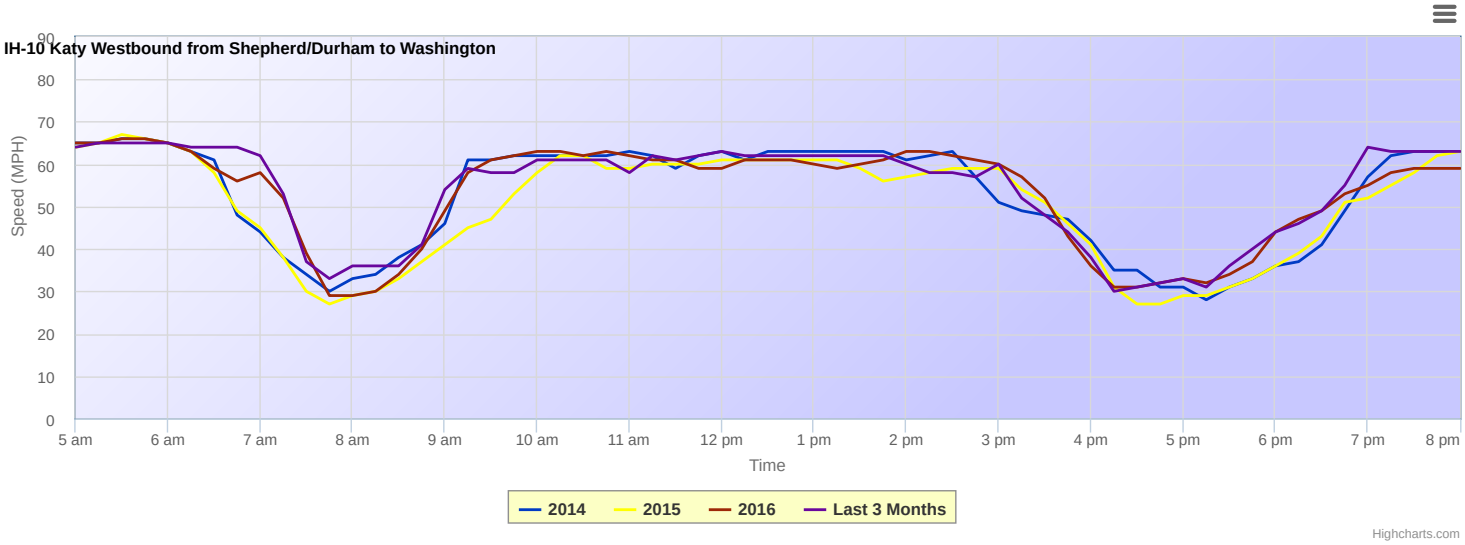

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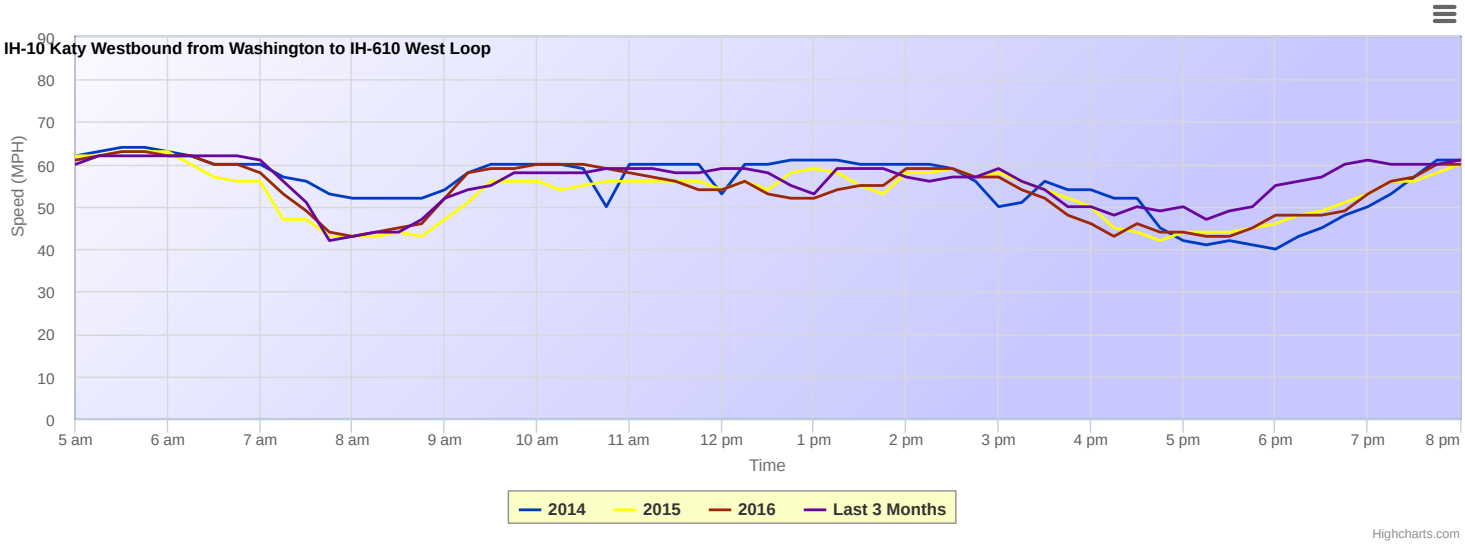

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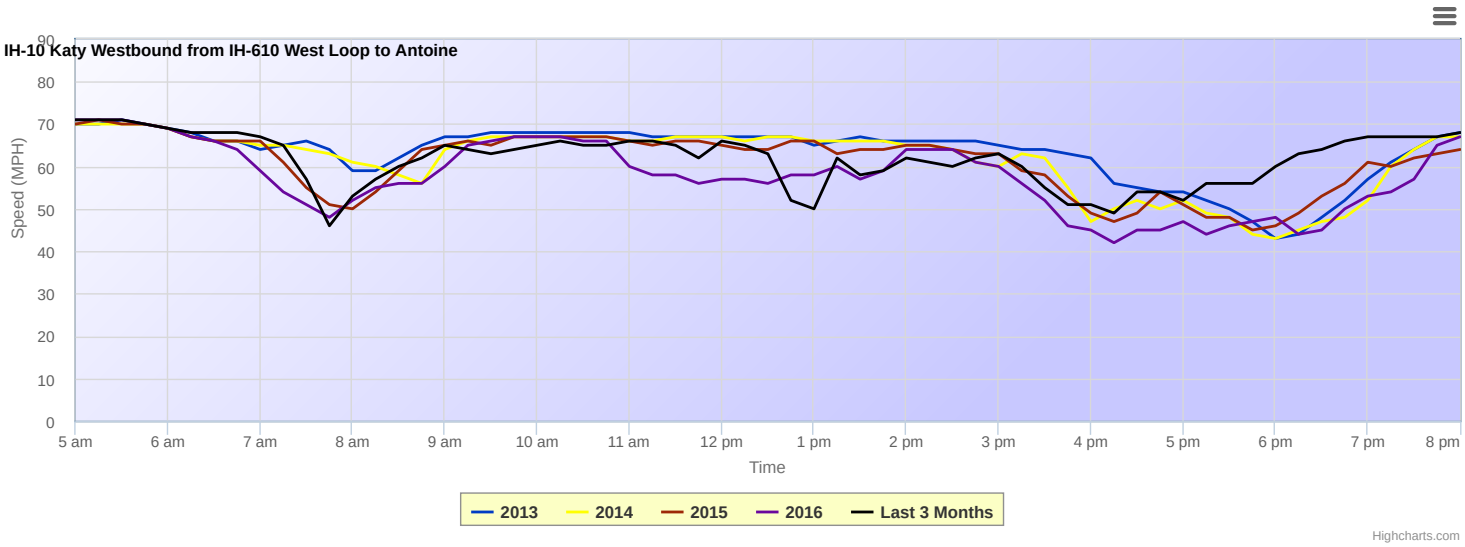

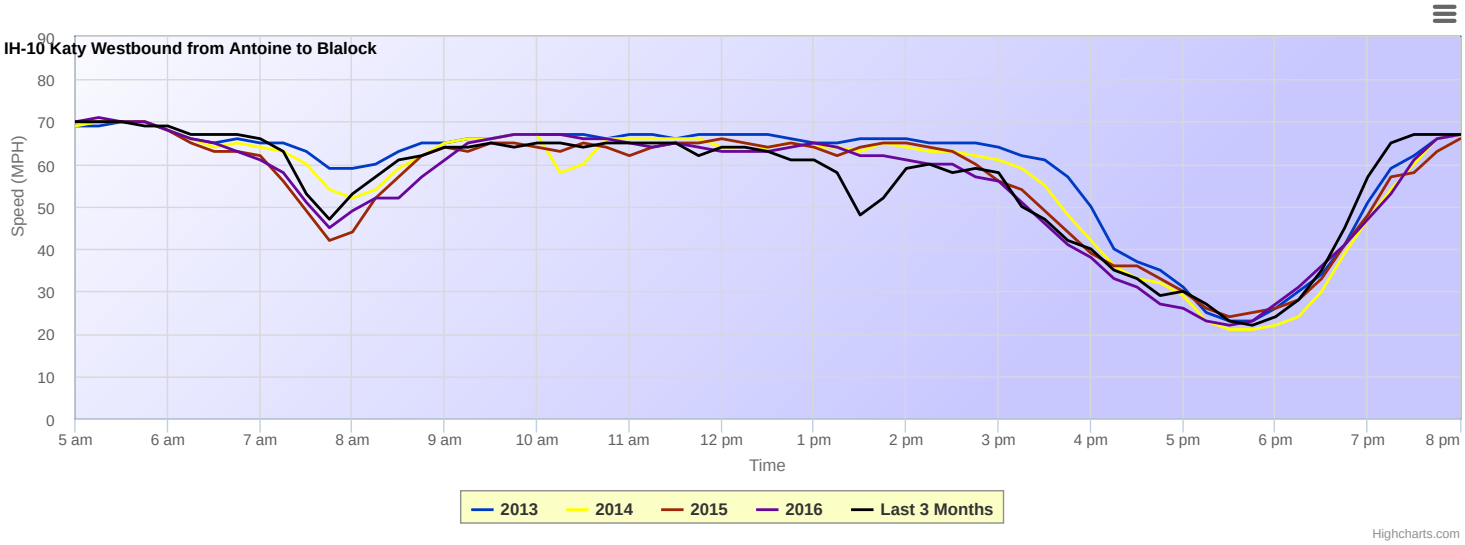
IH-10 Katy Westbound from Antoine to Blalock
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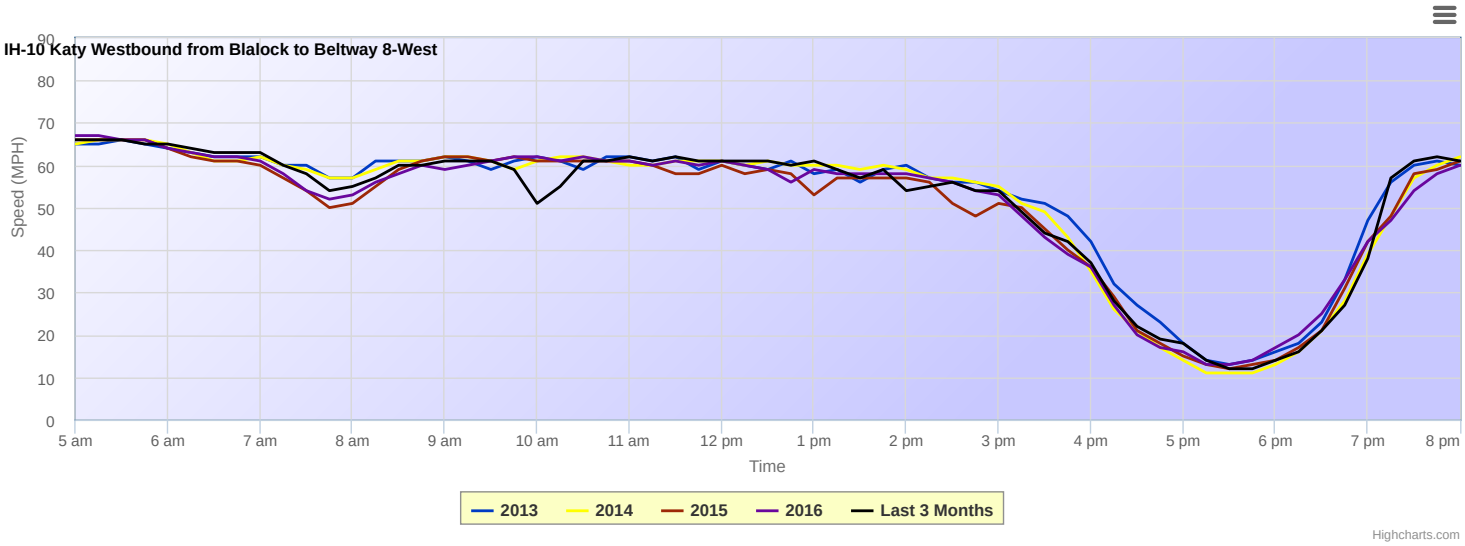
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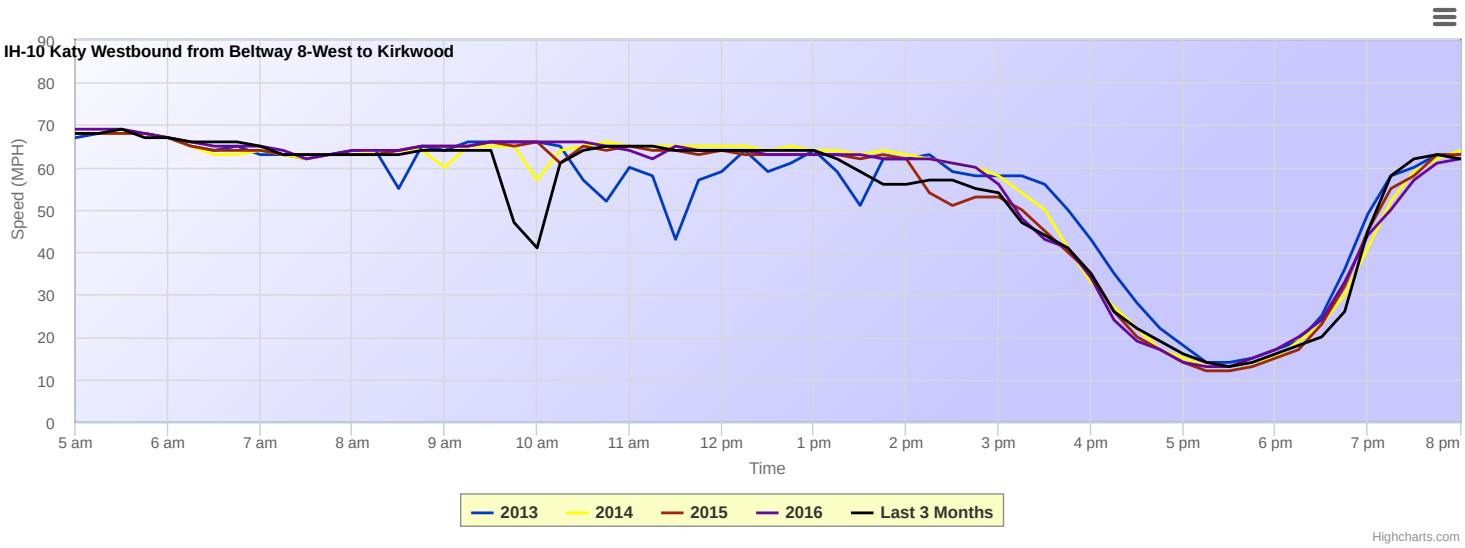
IH-10 Katy Westbound from Beltway 8-West to Kirkwood
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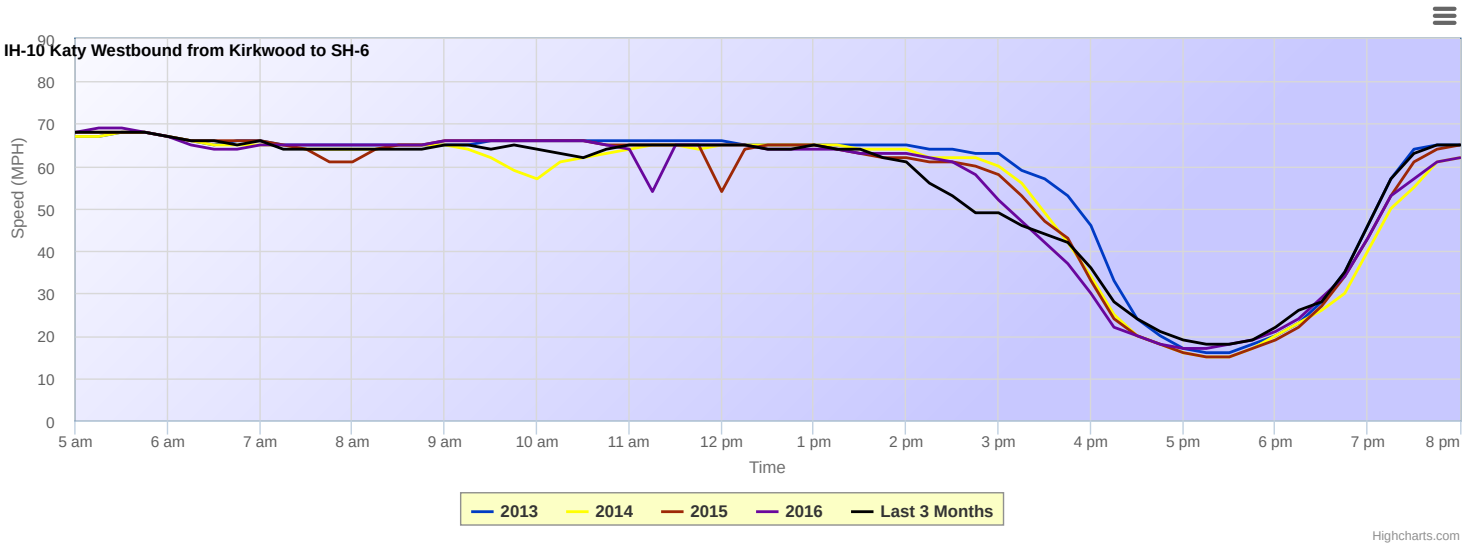

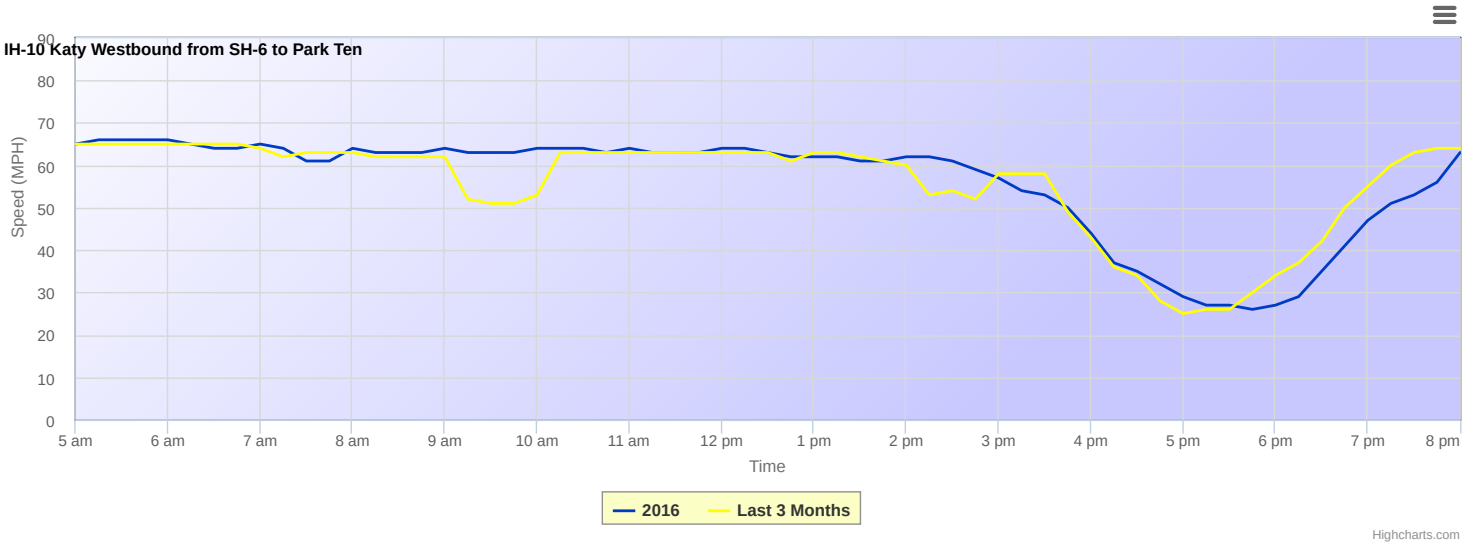

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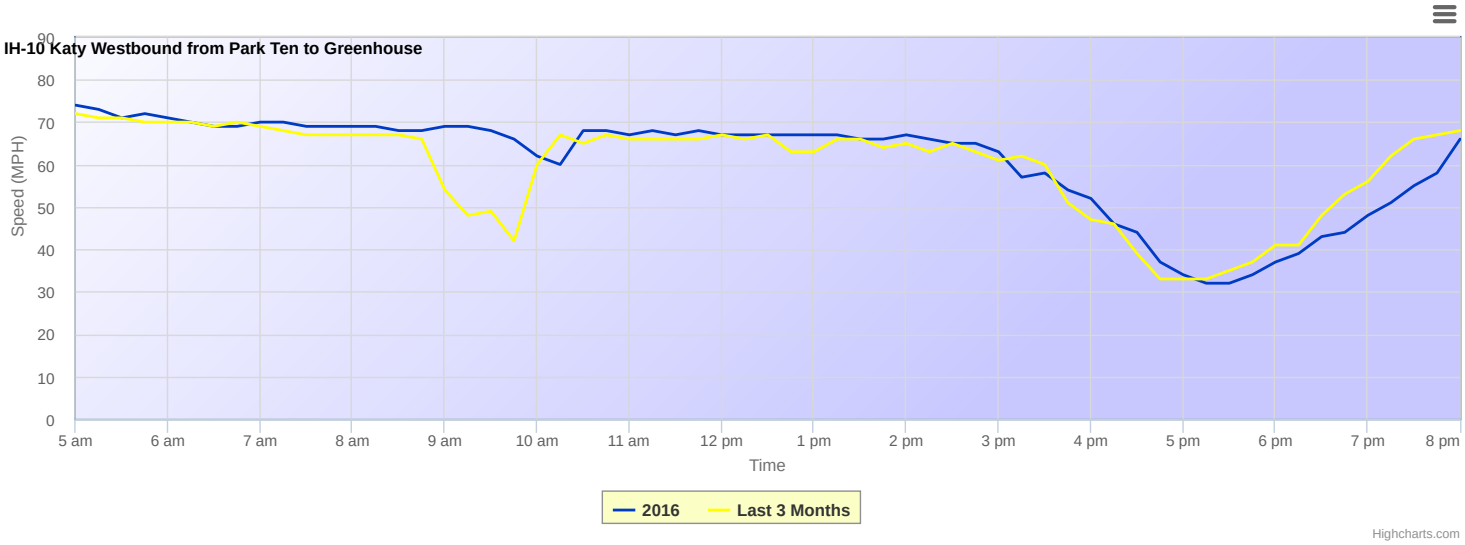

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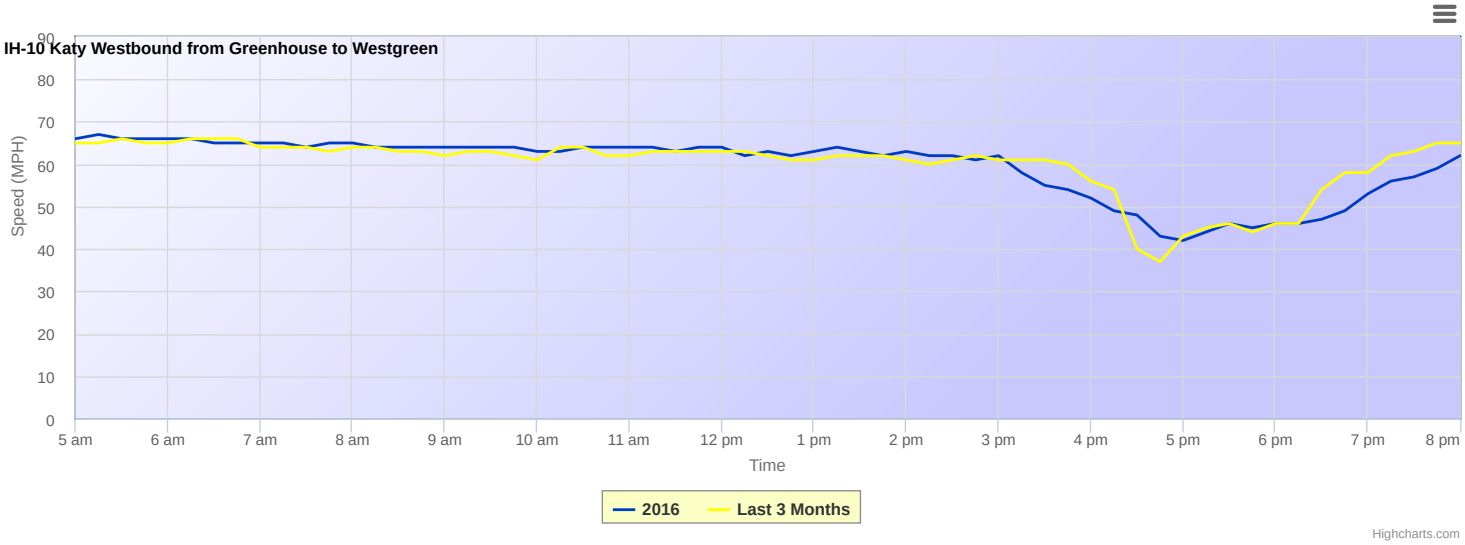

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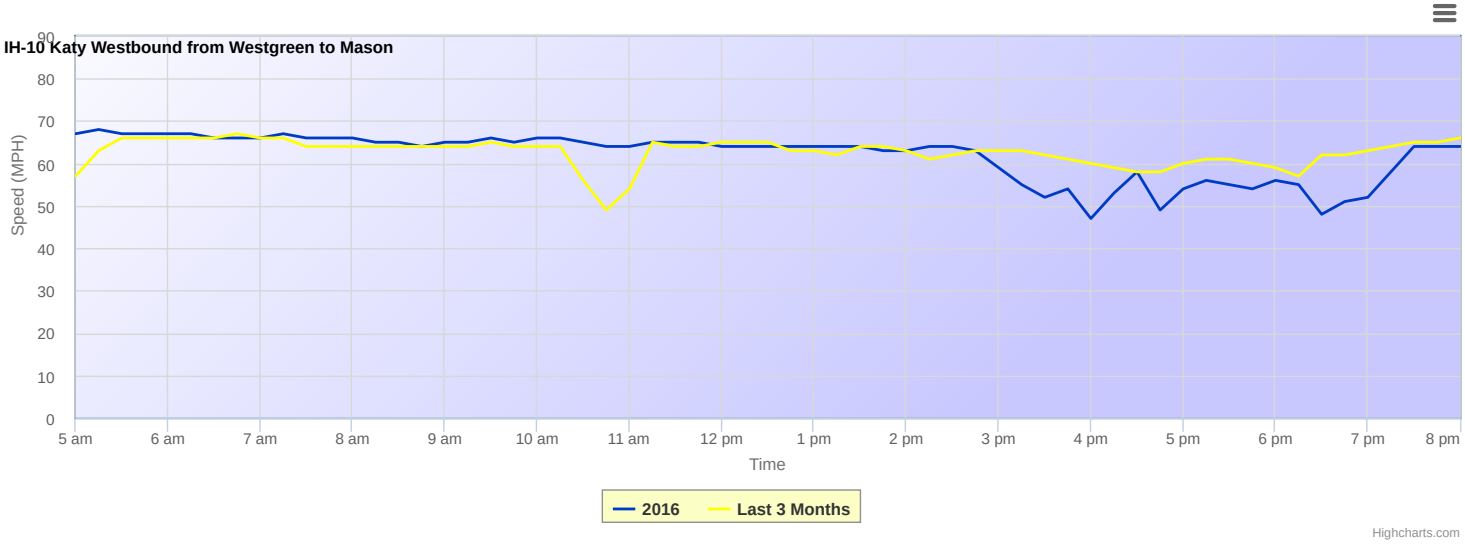

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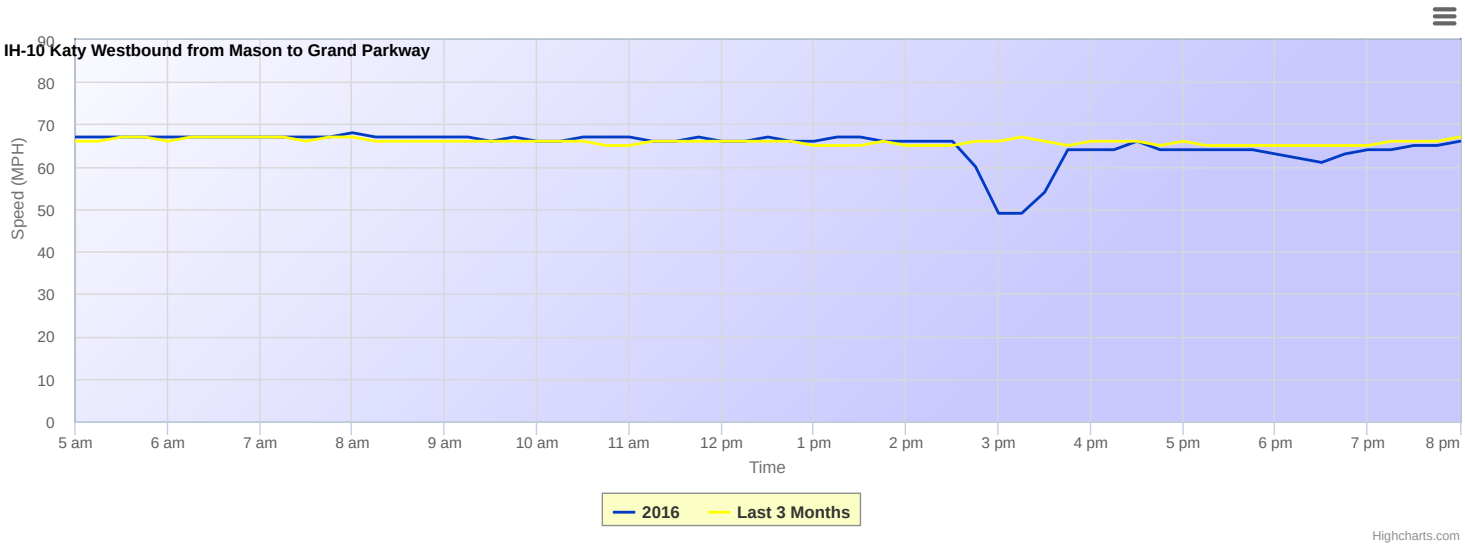

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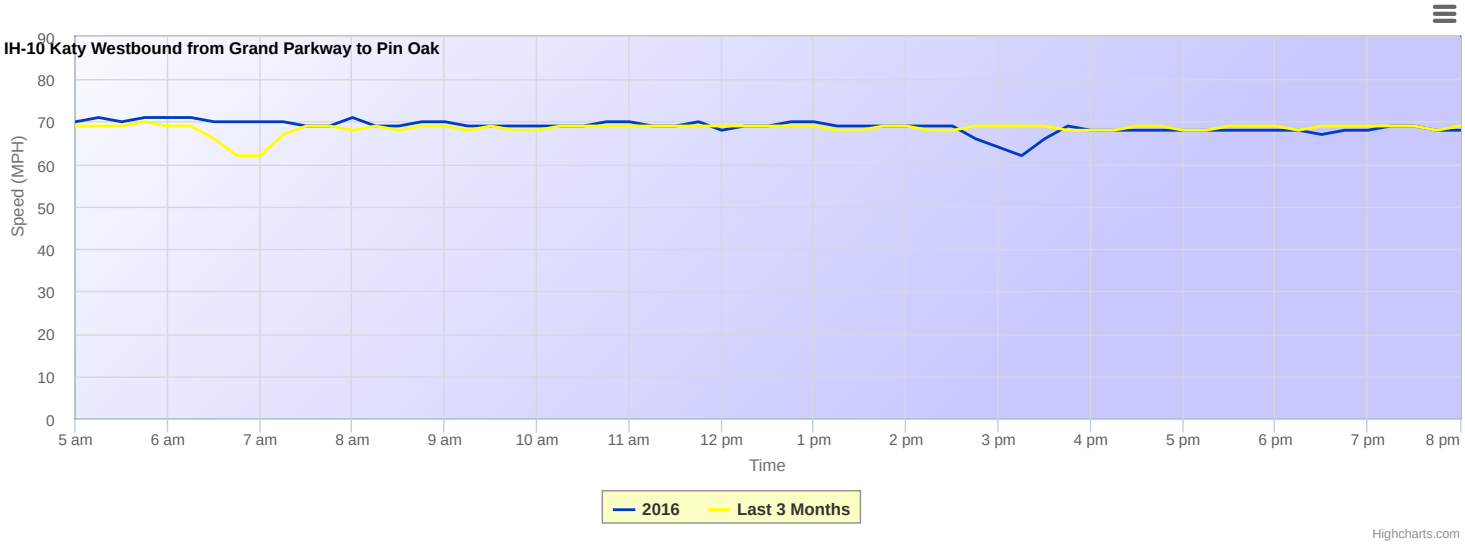

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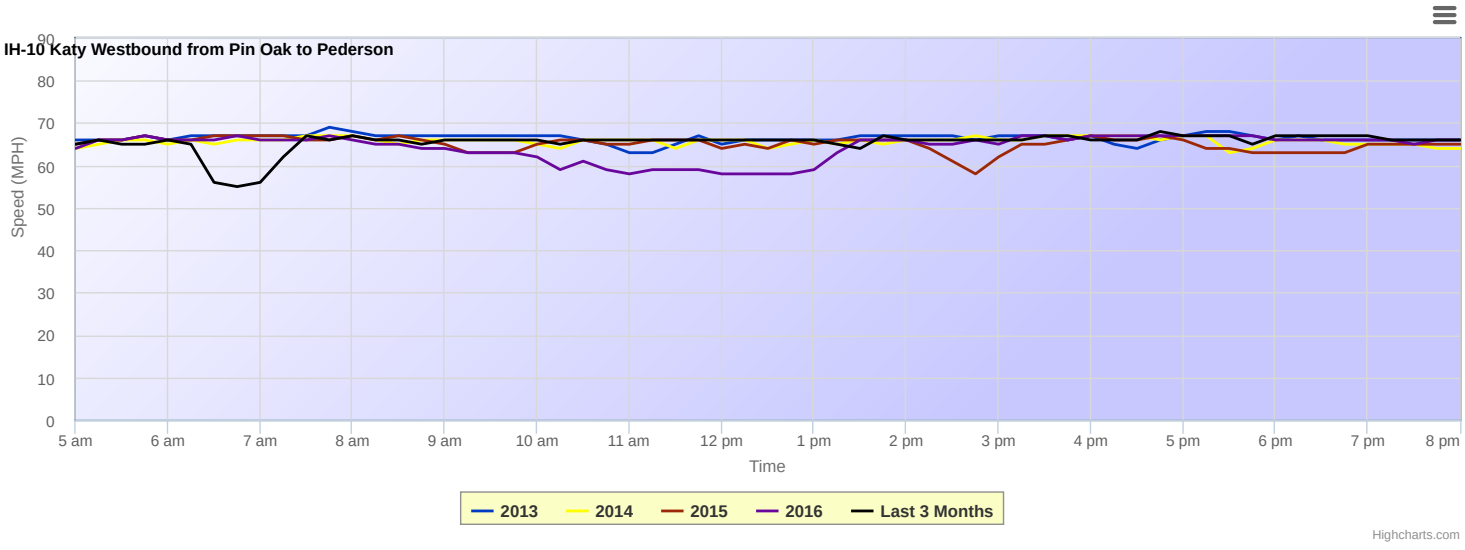

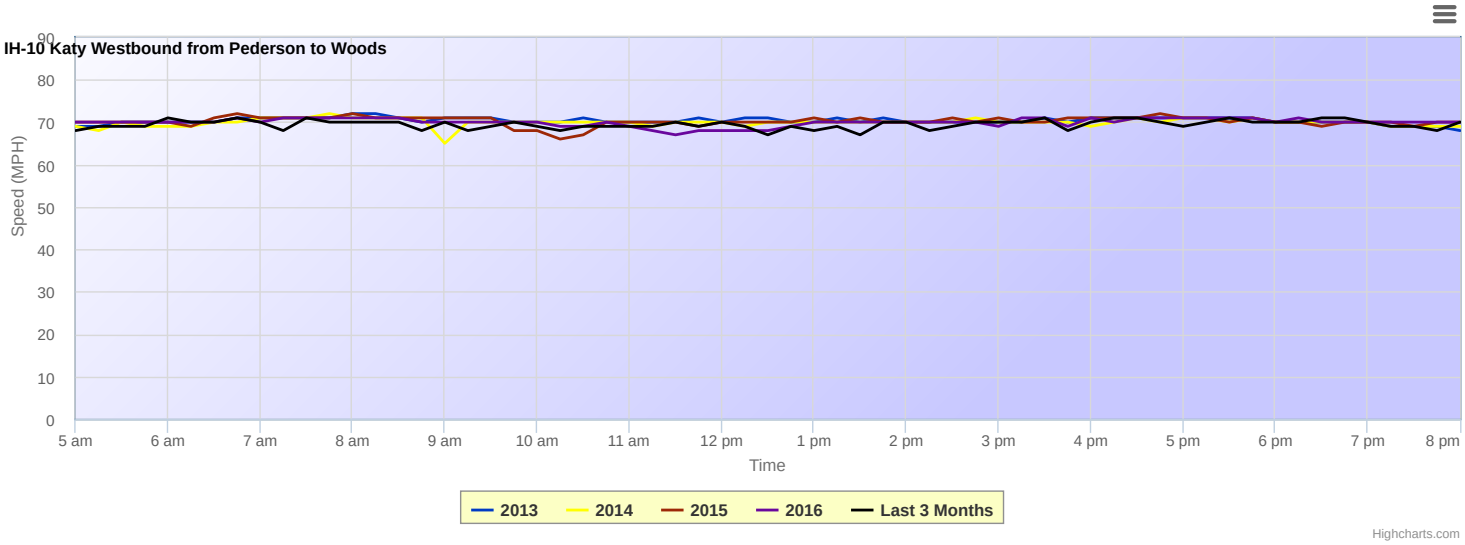

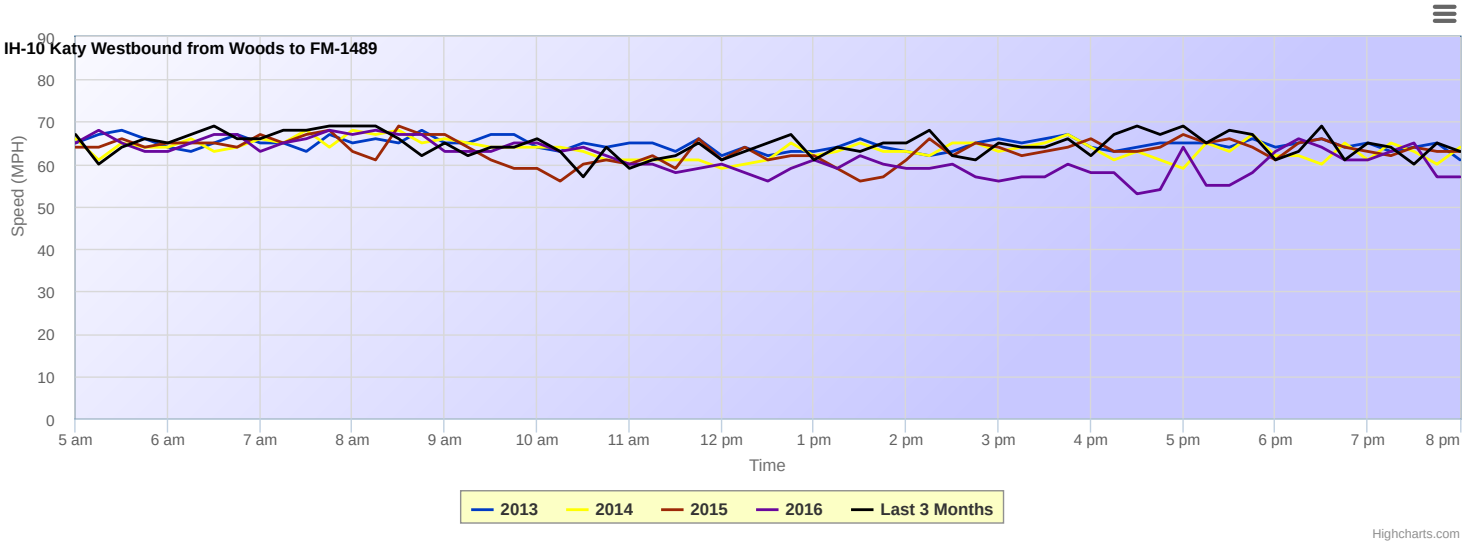

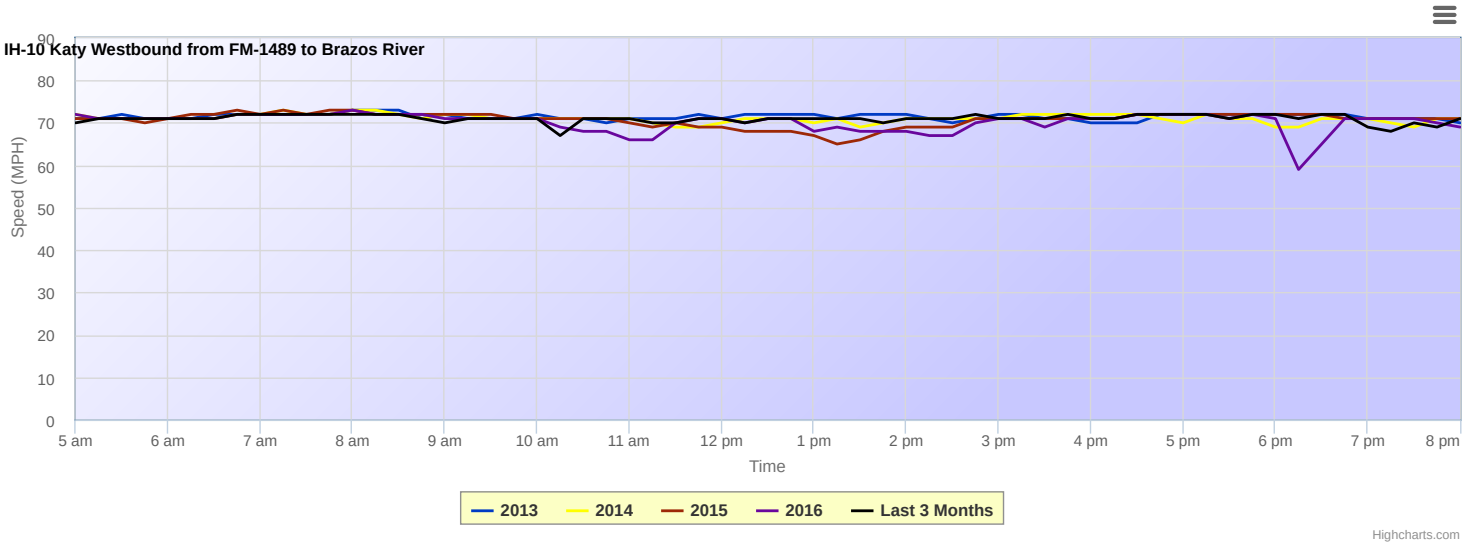

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It Took 51% More Time to Drive Out Katy Freeway in 2014 Than in 2011

Twenty three more minutes

Jay Blazek Crossley, May 26, 15.

Houston commutes continue to get worse despite billions in spending on new road capacity. Traveling from Downtown outbound on the I-10 Katy Freeway to Pin Oak took 51% more time in 2014 than in 2011, according to Houston Tomorrow analysis of Houston Transtar data. The Houston region in recent years has been spending the most per capita on new roads of the ten largest metropolitan regions in the nation.

Houston Tomorrow tabulations of Houston Transtar Data:

> In 2014, during peak rush hour, it took 70 minutes, 27 seconds to travel from Downtown, past Beltway 8, all the way to Pin Oak, just past the Katy Mills Mall.
> In 2011, this same trip took 46 minutes, 53 seconds.

The addition of single occupant vehicle capacity (SOV) and toll lanes to Katy Freeway completed in 2010 cost $2.8 billion. This was $1.63 billion more than the original 2001 price tag of $1.17 billion, according to the Federal Highway Administration.

On June 9, 2014, Representative John Culberson said the following on the

floor of the US House, according to the House Office of the Clerk:

> "I'm very disappointed and disheartened that my friend, Mr. Poe, would stand up and offer this amendment and call the Katy Freeway a concrete monstrosity. It's my pride and joy. I got the Katy Freeway built without an earmark. Got it built from five year, three months. Went from eight lanes to 23 lanes. The economics has boomed because of the Katy Freeway. It's moving more cars in less time, more savings to taxpayers than any other transportation project in the history of Houston."

Houston Transtar has changed the end points in its calculation of travel times as sprawl continues outward and did not measure all the way out to Pin Oak in 2005. However, we can make a reasonable guess on travel time to Pin Oak before the widening of the Katy Freeway. In 2005 travel time from Taylor to Greenhouse on this section of I-10 was 43 minutes and 34 seconds. In free-flowing conditions, the additional distance to Pin Oak takes 9 minutes. The trip to Pin Oak took about 52 minutes at peak hour in 2005.

Traveling out I-10 is now 33% worse - almost 18 more minutes of your time - than it was before we spent $2.8 billion to subsidize land speculation and encourage more driving.

Similarly, TXDOT plans to provide additional SOV capacity on I-45 North, I-59 South, 288 South, and 290, which will increase vehicle miles traveled and travel times in those corridors.

More from Houston

Comments

ATTACHMENT
G-1

INTERSTATE 10

ATTACHMENT
G-2

State of California
Department of Transportation

Construction Site Best Management Practice (BMP) Field Manual and Troubleshooting Guide

CTSW-RT-02-007

January 2003

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PART I: INTRODUCTION

This document provides a toolbox for Caltrans field personnel to aid in proper implementation of water pollution control Best Management Practices (BMPs) on the construction site. The document is organized into the following parts:

- **Part I: Introduction** briefly presents (1) the principles of erosion and sediment control, (2) common storm water pollutants on the construction site, and (3) guidelines for implementing a proper monitoring and inspection program for the construction site, including the use of the Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Program (WPCP) to ensure an effective water pollution control program.
- **Part II: Project Operations and BMPs** identifies typical water pollution control challenges for specific construction operations and the BMPs that are available to meet those challenges.
- **Part III: BMP Implementation and Troubleshooting** provides guidance for installing, maintaining and troubleshooting selected BMPs from the *Caltrans Storm Water Quality Handbooks, Construction Site BMPs Manual*.

PRINCIPLES OF EROSION AND SEDIMENT CONTROL

The greatest water pollution threat from soil-disturbing activities is the introduction of sediment from the construction site into storm drain systems or natural receiving waters. Soil-disturbing activities such as clearing, grubbing, and earthwork increase the exposure of soils to wind, rain, and concentrated flows that cause erosion. A three-pronged approach is necessary to combat this storm water threat:

- Temporary soil stabilization practices reduce erosion associated with disturbed soil areas (DSAs).
- Temporary run-on control practices prevent storm water flows (sheet and concentrated) from contacting DSAs.
- Temporary sediment control practices reduce sediment caused by erosion from entering a storm drain system or receiving water.

Soil stabilization BMPs reduce the erosive impact of rain on exposed soil. Run-on control practices reduce the erosive impacts by preventing storm water flows from contacting DSAs. Sediment control BMPs remove sediment from storm water by ponding and settling, and/or filtering prior to discharge offsite. It is imperative that soil stabilization and sediment control BMPs are *implemented together* to reduce the discharge of sediment from the construction site.

The following conditions on construction sites contribute to erosion caused by storm water flows:

- Larger areas of impermeable structures and surfaces reduce natural infiltration resulting in increased storm water flow volume and velocity.
- Changes to surface flow patterns cause storm water flows to be more erosive.
- Concentration of flows to areas that are not naturally subjected to such runoff volume increases erosion.

Proper management of a construction project minimizes or prevents soil erosion and sediment discharges. Good construction management for soil conservation requires an understanding of the following basic principles:

Soil Erosion Control – The First Line of Defense

Soil stabilization is a key component in the control of erosion. By stabilizing DSAs with covers or binders, the exposed soils are less likely to erode from the effects of wind or rain.

Prevent Storm Water Flows from Contacting DSAs – The Second Line of Defense

Another key component in the control of erosion is the diversion of storm water flows around DSAs or the conveyance of flows through DSAs in a non-erosive manner.

Sediment Control – The Last Line of Defense

Storm water runoff may originate from active or inactive DSAs whether or not proper erosion and/or run-on controls have been implemented. Implementing proper sediment control BMPs can reduce sediment amounts in storm water discharges.

Combine Soil Erosion and Sediment Control – Effective Protection

An effective combination of soil erosion and sediment controls should be implemented to prevent sediment from leaving the site and/or entering a storm water drainage system or receiving water.

Soil stabilization and other erosion control BMPs are not 100 percent effective at preventing erosion. Soil erosion control BMPs must be supported by sediment control BMPs to capture sediment on the construction site.

Sediment control BMPs alone are not 100 percent effective primarily due to their capacity limits. To be effective for storm water protection, the amount of sediment must be reduced at the source using soil erosion control BMPs, and then sediment control BMPs are used to further reduce the sediment that leaves the site or enters the storm drain system.

Inspection and Maintenance – Ensure Protection for the Duration of the Project

Inspection and maintenance are required for all BMPs (soil stabilization, run-on control, and sediment control) to maintain effectiveness for reducing or eliminating the amount of sediment that leaves a site.

COMMON POLLUTANTS ON THE CONSTRUCTION SITE

There are a number of potential storm water pollutants that are common to Caltrans construction sites. The soil-disturbing nature of construction activities and the use of a wide range of construction materials and equipment are the sources of contaminants with the potential to pollute storm water discharges.

Common construction activities that increase the potential for polluting storm water with sediment include:

- Clearing and grubbing operations
- Demolition of existing structures
- Grading operations
- Soil importing and stockpiling operations
- Clear water diversions
- Landscaping operations
- Excavation operations

Common construction materials with the potential to contribute pollutants, other than sediment, to storm water include the following:

- Vehicle fluids, including oil, grease, petroleum, and coolants
- Asphalt concrete (AC) and Portland cement concrete (PCC) materials and wastes
- Joint seal materials and concrete curing compounds
- Paints, solvents, and thinners
- Wood products
- Metals and plated products
- Fertilizers, herbicides, and pesticides

Construction-related waste must also be managed to prevent its introduction into storm water. Typical waste on construction sites includes:

- Used vehicle fluids and batteries
- Wastewater from vehicle cleaning operations
- Green waste from vegetation removal
- Non-storm water from dewatering operations
- Trash from materials packaging, employee lunch/meal breaks, etc.
- Contaminated soils
- Slurries from sawing and grinding operations
- Wastewater/waste from concrete washout operations
- Hazardous materials waste
- Sanitary waste

MONITORING AND INSPECTION PROGRAM

The Resident Engineer is responsible for ensuring that Caltrans personnel monitor the contractor's water pollution control practices and maintain compliance with the approved project SWPPP/WPCP. This includes reviewing the contractor's SWPPP/WPCP, reviewing written inspection reports, and conducting field inspections. Caltrans Structures personnel should also be aware of the water pollution control requirements and participate in the monitoring program.

Step 1: Do Your Homework

a. Review the *Storm Water Quality Handbooks: Construction Site BMPs Manual*.

   Caltrans personnel with storm water responsibilities should familiarize themselves with BMP requirements. In particular, become familiar with (1) the rainy season dates for your geographical area, (2) the definitions of DSA, active DSA, and non-active DSA, and (3) the requirements for soil stabilization and sediment control BMPs for the season and specific Rainfall Area.

b. Review the Project Plans.

   Review the Project Plans in the context of storm water pollution control. Visualize storm water run-on and runoff flow patterns when reviewing the plans. Review the general layout and existing drainage courses. Identify potential problem areas where storm water may run onto the site or discharge off site.

Identify the locations where structures are being constructed or modified. Be familiar with the right-of-way and easement limits. Determine the limits of clearing and grubbing activities. Identify the project phase or stage. Try to determine DSAs and Environmentally Sensitive Areas (ESAs). Is the next phase going to include soil-disturbing activities and is it scheduled within the rainy season? Do the DSAs have provisions in the plans for permanent erosion control? Determine if permanent erosion control can be placed when activity in the DSA is complete.

c. Review the Special Provisions

Review the Special Provisions for site-specific water pollution control requirements such as: (1) permits for the construction project, (2) limits on active DSAs, (3) rainy season dates and requirements, (4) minimum BMP requirements, (5) BMP maintenance and inspection requirements, and (6) final erosion control requirements. Final erosion control requirements include (1) required products, (2) application process, (3) application rate, (4) seeding window, and (5) planting requirements.

The Special Provisions also include a section on water pollution control permits or requirements imposed on the project by other agencies. Typical agencies include the California Department of Fish and Game, Army Corps of Engineers, local flood control agencies, and others. There may be special requirements for water bodies or ESAs that need special water pollution control consideration.

Review the Special Provisions bid items related to water pollution control. There may be lump sums or unit prices for water pollution control items including SWPPP/WPCP preparation, permanent erosion control, and temporary erosion and sediment controls.

Review the Special Requirements section of the Special Provisions for site-specific activities such as: (1) dewatering, (2) sampling and analysis, (3) BMP maintenance cost allocation between Caltrans and the contractor, and (4) sanctions against the contractor in the event of non-compliance with the water pollution control requirements.

d. Review the SWPPP/WPCP.

The SWPPP or WPCP for the project is the contractor's plan to ensure conformance with Caltrans' water pollution control requirements on the construction site. The SWPPP/WPCP contains details about the BMPs to be used on the site, their locations, implementation timeframes, and inspection and maintenance schedules. The contractor must comply with the approved SWPPP/WPCP. If conditions change on the construction site that impact storm water pollution controls, the contractor must amend the SWPPP/WPCP.

In the SWPPP, Section 200 contains the approval signature and lists any amendments. Section 300 describes unique features of the construction site and contains the construction and water pollution control schedules. Section 500 identifies the BMPs selected for soil stabilization, sediment control, non-storm water controls, waste management, and materials disposal controls and references locations on the vicinity map and water pollution control drawings.

In a WPCP, Section 10 contains the approval signatures. Section 20 describes the unique features of the site and contains the schedule. Section 30 identifies the selected BMPs, the vicinity map and water pollution control drawings. Section 40 contains any WPCP amendments.

e. Review the Contractor's Schedule.

The accepted Baseline schedule as well as the monthly updates and three-week "look-ahead" schedules are important references to better anticipate which BMPs will be implemented or

needed. A project schedule is required in both SWPPPs and WPCPs and must show how the rainy season relates to soil-disturbing and re-stabilization activities and must also show major activities sequenced with implementation of BMPs.

Step 2: Establish an Inspection Schedule

a. Prior to the rainy season, inspect the site to ensure that the contractor has the necessary materials to stabilize required DSAs and to implement the necessary sediment controls.

b. Year round, inspect the construction site prior to a forecast storm, after a rain event that causes runoff from the construction site, and at 24-hour intervals during an extended rain event.

c. Conduct inspections at other frequencies as required by the Special Provisions.

d. Work with the Project Storm Water Coordinator, the District Construction Storm Water Coordinator, and SWTF Inspectors during site inspections and to receive assistance when necessary.

Step 3: Conduct the Inspection

a. Use the most recent **Storm Water Quality Construction Site Inspection Checklist** to document the inspection. The checklist is provided in Attachment H of the *Caltrans Storm Water Quality Handbooks, SWPPP and WPCP Preparation Manual*. This is the same checklist used by the contractor for conducting inspections. Instructions for using the checklist are also provided in Attachment H.

b. Encourage the contractor to participate in the inspection. This provides the opportunity for verbal feedback and discussion.

c. If the project involves significant structures work, encourage the Structures representative or inspector to participate in the inspection. Take a copy of the most current and approved site plan(s) and SWPPP on the inspection for identification of site features and for taking notes at specific areas.

d. Fill out the Inspection Checklist and add findings in writing. Use clear and concise language and give specific locations where problems were observed.

e. Take photographs during the inspection to document the existing conditions. This is especially important if the contractor does not attend the inspection. When photos of problem areas are taken, try to follow up with photos showing corrections.

f. Inspect the entire site, including the perimeter, especially where there is potential for run-on or discharge from the site. Look for areas of potential concentrated flows and for adjacent water bodies or drainage facilities that may be affected by discharges from the site. Start the inspection at the lowest point, or the area with the highest potential for discharge. Inspect all potential discharge points. The SWPPP/WPCP should identify discharge points, however, there may be areas with discharge potential that were not identified in the SWPPP/WPCP.

g. Inspect the contractor’s yard(s), where required.

h. Look for changes in construction or site conditions that may require an amendment to the SWPPP/WPCP.

i. Inspect for proper implementation of non-storm water management BMPs and waste management and materials pollution control BMPs.

j. For inspections during the **rainy season**, evaluate active and non-active DSAs. (The Resident Engineer should periodically evaluate the classification of construction areas as active DSAs or non-active DSAs.) Determine the total area of DSA and compare it to the limit for DSAs in the Special Provisions. If the existing DSA exceeds the limit, identify areas that can be stabilized to reduce the amount. Active DSAs require protection prior to the onset of rain. Evaluate erosion and sediment control BMPs based on the requirements related to Rainfall Area, season and active/non-active status as defined in the SWPPP/WPCP and BMP Manual. Be sure to inspect the entire site during a rain event, especially when run-off from the site occurs. Confer with the District Construction Storm Water Coordinator as to the district's definition of a rain event and maintain weather reports in the SWPPP file.

k. During the **non-rainy season**, identify the active and non-active DSAs. Depending on the Rainfall Area, DSAs may continue to require erosion and sediment control BMPs during the non-rainy season.

l. For individual BMPs, note if the BMP is properly installed. Also note if the BMP is in need of repair or maintenance.

Step 4: Report Inspection Results

a. If the Resident Engineer did not attend the inspection, communicate the results to the Resident Engineer.

b. Ideally, observations should be discussed with the contractor during the inspection.

c. Missing BMPs and non-compliance issues must be communicated to the contractor. Refer to the contractor's SWPPP/WPCP for required BMPs.

Step 5: Follow-up with Corrective Measures

The contractor must install missing BMPs and correct improperly installed or damaged BMPs immediately or by a date and time as approved in writing by the Resident Engineer. In any event, corrections must be made prior to the next rain event.

PART II: PROJECT OPERATIONS AND BMPS

Table 1 identifies individual BMPs that are applicable to specific construction operations. The BMPs listed in the table are for general consideration during each phase of operations. The indicated BMPs may not be applicable to every construction operation, nor is every possible BMP listed for each construction operation. The Resident Engineer should determine the appropriateness of an individual BMP to a construction site.

Table 1 Storm Water BMPs for Construction Operations

Construction Operation	BMPs (See Part III for Details)	
Mobilization	SC-7	Street Sweeping and Vacuuming
	TC-1	Stabilized Construction Entrance/Exit
	TC-2	Stabilized Construction Roadway
	TC-3	Entrance/Outlet Tire Wash
	NS-6	Illicit Connection/ Illegal Discharge Detection and Reporting
	WM-1	Material Delivery and Storage
	WM-2	Material Use
	WM-4	Spill Prevention and Control
	WM-5	Solid Waste Management
	WM-6	Hazardous Waste Management
	WM-9	Sanitary/Septic Waste Management
Clearing/Grubbing	SS-1	Scheduling
	SS-2	Preservation of Existing Vegetation
	SS-3	Hydraulic Mulch
	SS-4	Hydroseeding
	SS-5	Soil Binders
	SS-6	Straw Mulch
	SS-7	Geotextiles, Plastic Covers & Erosion Control Blankets/Mats
	SS-8	Wood Mulching
	SS-9	Earth Dikes/Drainage Swales & Lined Ditches
	SS-10	Outlet Protection/Velocity Dissipation Devices
	SS-11	Slope Drains
	SC-1	Silt Fence
	SC-2	Desilting Basin
	SC-3	Sediment Trap
	SC-4	Check Dam
	SC-5	Fiber Rolls
	SC-6	Gravel Bag Berm
	SC-7	Street Sweeping and Vacuuming
	SC-8	Sandbag Barrier
	SC-9	Straw Bale Barrier
	SC-10	Storm Drain Inlet Protection
	WE-1	Wind Erosion Control
	NS-1	Water Conservation Practices
	NS-8	Vehicle and Equipment Cleaning
	NS-9	Vehicle and Equipment Fueling
	NS-10	Vehicle and Equipment Maintenance
	WM-3	Stockpile Management
	WM-5	Solid Waste Management
	WM-7	Contaminated Soil Management

Construction Operation	BMPs (See Part III for Details)	
Earthwork	SS-1	Scheduling
	SS-2	Preservation of Existing Vegetation
	SS-3	Hydraulic Mulch
	SS-4	Hydroseeding
	SS-5	Soil Binders
	SS-6	Straw Mulch
	SS-7	Geotextiles, Plastic Covers & Erosion Control Blankets/Mats
	SS-8	Wood Mulching
	SS-9	Earth Dikes/Drainage Swales & Lined Ditches
	SS-10	Outlet Protection/Velocity Dissipation Devices
	SS-11	Slope Drains
	SC-1	Silt Fence
	SC-2	Desilting Basin
	SC-3	Sediment Trap
	SC-4	Check Dam
	SC-5	Fiber Rolls
	SC-6	Gravel Bag Berm
	SC-7	Street Sweeping and Vacuuming
	SC-8	Sandbag Barrier
	SC-9	Straw Bale Barrier
	SC-10	Storm Drain Inlet Protection
	TC-1	Stabilized Construction Entrance/Exit
	WE-1	Wind Erosion Control
	NS-4	Temporary Stream Crossing
	NS-8	Vehicle and Equipment Cleaning
	NS-9	Vehicle and Equipment Fueling
	NS-10	Vehicle and Equipment Maintenance
	WM-7	Contaminated Soil Management
PCC and AC Operations	SC-7	Street Sweeping and Vacuuming
	TC-1	Stabilized Construction Entrance/Exit
	NS-3	Paving and Grinding Operations
	WM-1	Material Delivery and Storage
	WM-2	Material Use
	WM-3	Stockpile Management
	WM-5	Solid Waste Management
	WM-8	Concrete Waste Management
Drainage Work	SC-2	Desilting Basin
	SC-3	Sediment Trap
	SC-4	Check Dam
	SC-10	Storm Drain Inlet Protection
	SS-9	Earth Dikes/Drainage Swales & Lined Ditches
	SS-10	Outlet Protection/Velocity Dissipation Devices
Dewatering Operations	NS-2	Dewatering Operations

Construction Operation	BMPs (See Part III for Details)	
Bridge Construction	NS-1	Water Conservation Practices
	NS-3	Paving and Grinding Operations
	NS-4	Temporary Stream Crossing
	NS-5	Clear Water Diversion
	NS-8	Vehicle and Equipment Cleaning
	NS-9	Vehicle and Equipment Fueling
	NS-10	Vehicle and Equipment Maintenance
	WM-1	Material Delivery and Storage
	WM-2	Material Use
	WM-3	Stockpile Management
	WM-4	Spill Prevention and Control
	WM-5	Solid Waste Management
	WM-6	Hazardous Waste Management
	WM-8	Concrete Waste Management
	WM-10	Liquid Waste Management
	NS-3	Paving and Grinding Operations
	NS-4	Temporary Stream Crossing
	NS-5	Clear Water Diversion
Roadway Construction	WM-1	Material Delivery and Storage
	WM-2	Material Use
	WM-3	Stockpile Management
	WM-5	Solid Waste Management
	WM-6	Hazardous Waste Management
	WM-8	Concrete Waste Management
	WM-10	Liquid Waste Management
Mobile Operations	SC-7	Street Sweeping and Vacuuming
	SC-10	Storm Drain Inlet Protection
	TC-1	Stabilized Construction Entrance/Exit
	NS-8	Vehicle and Equipment Cleaning
	NS-9	Vehicle and Equipment Fueling
	NS-10	Vehicle and Equipment Maintenance
	WM-1	Material Delivery and Storage
	WM-2	Material Use
	WM-3	Stockpile Management
	WM-5	Solid Waste Management
	WM-6	Hazardous Waste Management
	WM-8	Concrete Waste Management
Trenching Operations	SC-7	Street Sweeping and Vacuuming
	SC-10	Storm Drain Inlet Protection
	WM-3	Stockpile Management

Construction Operation	BMPs (See Part III for Details)	
Erosion Control, Highway Planting and Landscaping	SS-1	Scheduling
	SS-2	Preservation of Existing Vegetation
	SS-3	Hydraulic Mulch
	SS-4	Hydroseeding
	SS-5	Soil Binders
	SS-6	Straw Mulch
	SS-7	Geotextiles, Plastic Covers & Erosion Control Blankets/Mats
	SS-8	Wood Mulching
	SS-9	Earth Dikes/Drainage Swales & Lined Ditches
	SS-10	Outlet Protection/Velocity Dissipation Devices
	SC-1	Silt Fence
	SC-7	Street Sweeping and Vacuuming
	SC-8	Sandbag Barrier
	SC-9	Straw Bale Barrier
	SC-10	Storm Drain Inlet Protection
	WE-1	Wind Erosion Control
	NS-7	Potable Water/Irrigation
	NS-8	Vehicle and Equipment Cleaning
	WM-1	Material Delivery and Storage
	WM-2	Material Use

PART III: BMP IMPLEMENTATION AND TROUBLESHOOTING

TEMPORARY SOIL STABILIZATION

SS-2 PRESERVATION OF EXISTING VEGETATION

Preservation of existing vegetation involves the identification and protection of desired vegetation.

Applications

Delineate Environmentally Sensitive Areas (ESAs)
Delineate areas where no construction activities are planned
Delineate areas where construction activities will occur at a later date
Delineate areas outside the project right-of-way or boundary

Key Points

Key Point # 1 – Timing

Areas to be protected should be delineated prior to clearing and grubbing operations or other soil-disturbing activities. It is also appropriate for areas where no construction activity is planned or where activity is planned for a later date (Photo 1).

Key Point # 2 – Layout

Areas of existing vegetation that are scheduled for preservation should be clearly marked with a temporary fence (Photo 2). Minimize disturbance by locating temporary roadways, storage facilities, and parking areas away from preserved vegetation.

Photo 1

Photo 2

Key Point # 3 – Training

Instruct employees, workers, surveyors, and subcontractors to honor protective devices. Maintain any existing irrigation systems and vegetation.

Key Point # 4 –Tree Preservation

Keep equipment away from trees to prevent root and trunk damage. Trenching should be as far away from tree trunks as possible, typically outside the drip line. Trenches should be filled in as soon as possible to avoid root drying. Fill trenches carefully and tamp the soil to fill in air pockets. Never expose roots to the air.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Vehicles and equipment run into or over vegetation that is to be preserved.	Clearly mark areas of preservation, and instruct workers to honor those areas.
Existing vegetation dies from lack of watering.	Maintain existing irrigation systems and ensure that they function properly.
Preserved trees are damaged.	Keep equipment and vehicles away from trees to prevent trunk and root damage. Severely damaged trees should be attended to by an arborist.
ESAs or areas where construction is not to occur or can occur at a later date are not delineated for protection.	Verify vegetation that requires preservation. Stop work if necessary. Delineate area as needed.

SS-3 HYDRAULIC MULCH

Hydraulic mulch is a mixture of shredded wood fiber or hydraulic matrix, water, and a stabilizing emulsion or tackifier. Applied hydraulic mulch will help protect bare soil from water and wind erosion. Bonded Fiber Matrix (BFM) is another soil stabilizer alternative to hydraulic mulch.

Applications

Temporary protection for DSAs until permanent vegetation is established
Temporary protection for DSAs that will be re-disturbed following an extended period (1 to 3 months) of inactivity

Key Points

Key Point #1 – Application

Wood fiber mulches are mixed in a hydroseeder and applied as liquid slurry. Material is applied from a spray gun on a tower (Photo 1) or from a hose (Photo 2).

Photo 1

Photo 2

Key Point #2 – Hydraulic Matrix Vs. Hydraulic Mulch

A hydraulic matrix, as opposed to a basic wood fiber hydraulic mulch, consists of a wood fiber base layer and a paper fiber top layer mixed with a binding agent and applied as a liquid slurry. *Paper based hydraulic mulches alone shall not be used for temporary soil stabilization applications.*

Key Point #3 – Bonded Fiber Matrix

A bonded fiber matrix (BFM) consists of a continuous layer of elongated wood fiber strands mixed with a bonding agent. Again, the material is applied as a liquid slurry. Once dried, a high strength, porous, and erosion resistant mat is created (Photo 3).

Photo 3

Key Point #4 – Avoid Over Spraying

Do not over spray onto the traveled way, sidewalks, lined channels, etc. (Photo 4).

Key Point #5 – After Application

In addition, ensure that areas to be sprayed will remain inactive or undisturbed. This slope was disturbed after bonded fiber matrix was applied (Photo 5).

Photo 4

Photo 5

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Slope was improperly dressed before application.	Roughen embankment and fill areas first by rolling with crimping or punching type roller or by track walking.
Coverage is inadequate.	Follow recommended application rates. Count the number of bags of the product to ensure the correct amount of material is used.
Allowed inadequate drying time.	Allow at least 24 hours for the material to dry before a rain event. Follow manufacturer's recommendations. Reapply where necessary.
Portions of the mulch have been disturbed.	Keep workers and equipment off the mulched areas and repair areas that have been damaged.
Excess water flows across stabilized surface.	Use other BMPs to limit flow onto stabilized area. Use other BMPs to reduce slope lengths. Do not use to stabilize areas with swift moving concentrated flows.

SS-4 HYDROSEEDING

Hydroseeding typically consists of applying a mixture of fiber, seed, fertilizer, and stabilizing emulsion with hydro-mulch equipment to temporarily protect exposed soils from erosion by water and wind.

Applications

Temporary protection for DSAs until permanent vegetation is established
Temporary protection for DSAs that will be re-disturbed following an extended period (6 to 12 months) of inactivity

Key Points

Key Point #1 – Hydroseeding Mixture Selection

Select a hydroseeding mixture by evaluating site conditions with respect to:

- Soil conditions and soil type.
- Site topography - steep slopes are difficult to protect with temporary seeding.
- Season and climate - seeding during summer or in arid areas may limit germination and plant establishment.
- Water availability - temporary or permanent irrigation may be needed for germination and plant establishment.
- Sensitive adjacent areas - seeding should be compatible with adjacent ESAs. If incompatible seeding is to be used, ensure that seeds are not sprayed or blown onto the sensitive area.
- The Landscape Architect or the Construction Storm Water Coordinator shall approve hydroseeding mixtures.

Key Point #2 – Temporary Measure

If permanent vegetation is to be applied in the seeded area, the temporary vegetation from the hydroseeding may need to be removed. For example, grasses that inhibit compaction of soil to the required density must be removed before permanent vegetation is applied.

Key Point #3 – Preparation and Application

Roughen areas to be hydroseeded by plowing or disking with furrows trending along the contours. Avoid over spraying onto sidewalks, lined drainage channels, roadways, or existing vegetation (Photo 1).

Key Point #4 – Inspection and Maintenance

All seeded areas should be inspected for failures. Reapply seed, fertilizer, mulch, and water as needed to maintain coverage and encourage plant establishment. After grasses are established, mowing may be required to reduce fire hazard (Photo 2).

Photo 1

Photo 2

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Slope was improperly dressed before application.	Roughen slopes. Furrow along the contour of areas to be seeded.
Coverage is inadequate.	Follow recommended application rates. Count the number of seed bags of the product to ensure the correct amount of material is being applied. Reapply to thin areas.
Seeds fails to germinate.	Apply straw mulch to keep seeds in place and to moderate soil moisture and temperature. In arid areas, temporary irrigation may be necessary.
Seeded slope fails.	Fill in rills and re-seed; fertilize and mulch slopes.
Seeding is washed off slope.	Allow at least 24 hours for the materials to dry before a rain event. Follow manufacturer's recommendations. Reapply where necessary.
Excessive water flows across stabilized surface.	Use other BMPs to limit flow on stabilized area. Use other BMPs to reduce slope lengths. Do not use to stabilize areas with swift moving concentrated flows.

SS-5 SOIL BINDERS

Soil binders are materials applied to the soil surface to temporarily reduce erosion of exposed soils on construction sites. Soil binders consist of applying and maintaining polymeric or lignin sulfonate soil stabilizers or emulsions.

Applications

Temporary protection for DSAs that will be re-disturbed following a period of inactivity

Depending on the type of soil binder, the period of effectiveness is three months to two years

Key Points

Key Point #1 – Product Selection

Select soil binders by evaluating the site with respect to:

- Soil types and surface materials
- Suitability to the situation
- Performance and longevity requirements

Key Point #2 – Preparation

Prepare soil before applying the binder so that the binder adheres to and penetrates the soil surface. The untreated surface must be roughened (Photo 1) and must contain sufficient moisture (Photo 2) for the binder to achieve uniform penetration.

Photo 1

Photo 2

Key Point #3 – Curing

Soil binders require a minimum curing time before becoming fully effective, therefore binders should not be applied during or immediately before rainfall.

Key Point #4 – Product Constituents

When selecting a product, consider the chemical components and review the Material Safety Data Sheet (MSDS). If the product has a potential for becoming a pollutant, consider using a different product.

Key Point #5 – Inspection and Maintenance

Inspect the areas of application after rainfall for signs of erosion (Photo 3).

Inspect high traffic areas daily and low traffic areas on a weekly basis. High traffic areas are those exposed to daily use (vehicle or foot traffic) by contractor, subcontractor, or other personnel. Low traffic areas are those available for use but not in a daily manner.

Reapply soil binder as necessary (Photo 4).

Photo 3

Photo 4

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Slope was improperly dressed before application.	Roughen embankment and fill areas by rolling with a crimping or punching type roller or track walking where rolling is impractical. Pre-wet the areas of application.
Coverage is inadequate.	Follow recommended application rates. Count the number of bags of the product to ensure the correct amount of material is implemented. Reapply to the areas.
Sprayed areas degrade or become ineffective.	Follow recommended application rates. Consider other or additional BMPs. Reapply binder as necessary.
Sprayed slope has spot failures.	Repair slopes and re-spray damaged areas.
Portions of the sprayed area have been disturbed.	Keep workers and equipment off sprayed areas. Repair and re-spray areas that have been damaged.
Binder fails to penetrate soil.	Roughen soil and pre-wet to manufacturer's recommendations. Reapply to areas where necessary.
Soil binder is washed off slope.	Allow at least 24 hours for the materials to dry before a rain event. Follow manufacturer's recommendations. Reapply as necessary.
Excessive water flows across stabilized surface.	Use other BMPs to limit flow onto stabilized area. Use other BMPs to reduce slope lengths. Do not use to stabilize areas with swift moving concentrated flows.

SS-6 STRAW MULCH

Straw mulch consists of placing a uniform layer of straw and incorporating it into the soil with a studded roller or anchoring it with a tackifier. Straw mulch is used as a temporary surface cover for soil stabilization on DSAs until soils can be prepared for re-vegetation. It is also used in combination with temporary and/or permanent seeding strategies to enhance plant establishment.

Applications

Temporary protection for DSAs (6 to 12 months)
Used in combination with temporary and/or permanent seeding to enhance plant establishment

Key Points

Key Point #1 – Application Rate

Straw mulch must be evenly distributed on the soil surface (Photo 1). Proper application rates should be followed so that mulch covers the soil in a uniform layer without any visible bare spots.

Key Point #2 – Application Methods

Straw mulch can be applied mechanically or by hand (Photo 2). Mechanical application involves a straw blower (Photo 3) and may require an access road or driving surface capable of supporting the equipment. When using a straw blower, schedule the application to avoid excessive windblown straw. Manual application is time and labor intensive and should be used only on small areas or where equipment access is not feasible.

Photo 1

Photo 2

Key Point #3 – Anchoring

The preferred method for anchoring straw mulch in place is to use a tackifier. Other methods for anchoring the mulch include crimping (Photo 4), punching, or track walking. Crimping and punching are mechanical methods of anchoring the mulch to the soil. Track walking should be used only where rolling is impractical.

Key Point #4 – Inspection and Maintenance

Inspect straw mulches prior to and after rainstorms. Repair any damaged ground cover and re-mulch exposed areas of bare soil.

Photo 3

Photo 4

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Mulch blows away.	Anchor straw mulch in place by applying a tackifier, crimping, punching, or track walking. May need to use a different BMP.
Coverage is inadequate.	Follow recommended application rates. Count the number of bales per acre to ensure the correct amount of material is implemented. Reapply as necessary.
Excessive water flows across stabilized surface.	Use other BMPs to limit flow onto stabilized area and/or to reduce slope lengths. Do not use to stabilize areas with swift moving concentrated flows.

SS-7 GEOTEXTILES, PLASTIC COVERS, EROSION CONTROL BLANKETS & MATS

This BMP involves the placement of geotextiles, plastic covers, and erosion control blankets and mats to stabilize DSAs and protect soil from erosion by wind or water. Typically these measures are used on slopes near ESAs, as a quick stopgap measure, and when DSAs are particularly difficult to stabilize.

Applications

Steep slopes that are generally steeper than 1:3 (V:H)
Slopes where the erosion potential is high
Disturbed areas where plants are slow to develop
Stockpiles
Slopes adjacent to water bodies in or near ESAs

Key Points

Key Point #1 – Product Selection

There are many types of erosion control blankets and mats available (Photo 1). Select a product appropriate for the application and site conditions. Selection criteria include: (1) effectiveness for reducing erosion, flow velocity, and runoff; (2) acceptability for environmental compatibility, institutional / regulatory requirements, and visual impact; (3) compatibility with native plants, moisture retention, temperature modification, and open space coverage; (4) durability, longevity, ease of installation; and (5) maintenance frequency.

Key Point #2 – Site Preparation

Site preparation is essential to ensure that blankets and mats perform as intended. Remove all rocks, clods, vegetation or other obstructions and re-grade to allow the blanket or mat to come into complete contact with the soil. Improper slope preparation prevents the blanket from fully contacting the soil, and allows water to flow under the blanket (Photo 2).

Photo 1

Photo 2

Key Point #3 – Slope Installation

Install the product starting from the top of the slope (Photo 3), anchored in a 150 mm by 150 mm (6 in by 6 in) trench that is backfilled and tamped firmly. Unroll the blankets down the slope, laying them loosely and stapling every 1 m (3 ft). Do not stretch blankets. Ensure that the blanket maintains direct contact with the soil. Overlap the edges of adjacent parallel rolls by 50 mm to 75 mm (2 in to 3 in).

Photo 3

Key Point #4 – Inspection and Maintenance

Inspect blanket and mat installations periodically and after significant rainstorms for signs of erosion or undermining. Repair or replace any failures immediately. If washout or breakage of material occurs, re-install material after repairing damage to slope or channel. Maintain areas treated with temporary soil stabilization to provide adequate erosion control. Reapply or replace temporary erosion controls on exposed soils when visibly eroded or when there is a 10 percent or greater exposure of the previously treated area.

Preventive Measures and Troubleshooting Guide

Field Condition (**Geotextiles**):	Common solutions are:
Undercutting occurs along the top of the slope.	Dig a 150 mm by 150 mm (6 in by 6 in) trench along the top of the slope and anchor blanket into trench by back filling and tamping the soil.
Blankets separate along the seams.	Overlap adjacent blanket 50 mm to 75 mm (2 in to 3 in) and staple every 1 m (3 ft).
Blankets separate where the rolls are attached end to end.	Shingle the blanket so the top blanket covers the bottom blanket by 150 mm (6 in) and staple through the overlapped areas every 300 mm (12 in)
Blanket does not make complete contact with the soil surface.	Prepare the soil surface by removing, rocks, clods , sticks and vegetation, fill in rill and uneven areas
Excessive water flows across stabilized surface.	Use other BMPs to limit flow on stabilized area. Use other BMPs to reduce slope lengths. Do not use to stabilize areas with swift moving concentrated flows.

Field Condition (**Plastics**):	Common solutions are:
Undercutting occurs along the top of the slope.	Dig a trench along the top of the slope and anchor blanket into trench by back filling and tamping the soil.
Plastic sheeting separates along the seams.	Overlap edges of plastic sheeting by 300 mm to 600 mm (12 in to 24 in) and tape the entire length or weight down.
Plastic sheeting tears and separates.	Overlap plastic sheets by 300 mm to 600 mm (12 in to 24 in), tape edges together or weigh down. Maintain installation by replacing torn areas.
Plastic sheet is blown or displaced by winds.	Weigh down sheet to protect from wind. Maintain installation by replacing sheets in position.

Field Condition (**Blankets and Mats**):	Common solutions are:
Improper anchoring.	Dig trench along the top and bury the blankets. Use staples to anchor according to manufacturer's recommendations.
Undercutting due to inadequate preparation.	Prepare the soil surface. Remove rocks, clods and other obstructions. Fill in rills in uneven areas to promote good contact between mat and soil.
Excessive water flow across stabilized surface.	Use other BMPs to limit flow onto stabilized area. Use other BMPs to reduce slope lengths. Do not use to stabilize areas with swift moving concentrated flows.

SS-8 WOOD MULCHING

This BMP consists of applying a mixture of shredded wood mulch, bark, or compost to bare soil to reduce runoff, increase infiltration, and reduce erosion due to rainfall impact. Wood mulch provides temporary or short-term soil stabilization primarily for landscaping projects.

Applications

Temporary protection of DSAs pending establishment of permanent vegetative cover
As a permanent non-vegetative ground cover on slopes

Key Points

Key Point #1 – Product Selection

Select wood mulch products appropriate for the application and site conditions. Prior to placement, consult with the District Landscape Architect to ensure that the mulch is compatible with planned future projects.

Key Point #2 – Preparation

After existing vegetation has been removed, roughen embankment and fill areas by rolling with a punch type roller or track walking (Photo 1) before applying the wood mulch.

Photo 1

Key Point #3 – Mulch Depth

Mulch depth depends on the product selected such as green material or shredded wood (Photo 2). Distribute shredded wood mulch evenly (Photo 3) across the soil to a depth of 50 mm (2 in) to 75 mm (3 in). Mulch composed of recycled green waste should be applied to a maximum depth of 50 mm (2 in).

Key Point #4 – Inspection and Maintenance

Inspect and maintain mulch to ensure that it lasts long enough to achieve the erosion control objectives.

Photo 2

Photo 3

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Area was improperly dressed before application.	Remove existing vegetation and roughen embankment and fill areas by rolling with a punch type roller or by track walking.
Coverage is inadequate.	Follow recommended application rates. Inspect the areas to ensure that the mulch is applied to the correct depth.
Mulch is washed away.	Do not place mulch in concentrated flow areas. Reapply as necessary or use another BMP.
Excessive water flows across stabilized surface.	Use other BMPs to limit flow onto stabilized area. Use other BMPs to reduce slope lengths. Do not use to stabilize areas with swift moving concentrated flows.

SS-9 EARTH DIKES, DRAINAGE SWALES & DITCHES

Earth dikes, drainage swales, and lined ditches are structures that intercept, divert, and convey surface runoff around or through the project site in a non-erosive manner.

Applications

To convey surface runoff down sloping land
Along paved surfaces to intercept runoff
Along the top of slopes to divert surface flow from slopes
To divert and direct runoff towards stabilized drainage systems
Below steep grades where runoff begins to concentrate

Key Points

Key Point #1 – Sediment Control

It may be necessary to use other water pollution control practices such as check dams, plastic sheeting, or blankets to prevent scour and erosion in the swales, dikes, and ditches.

Key Point #2 – Flow Velocity

Select flow velocity for ditches, swales, and dikes based on careful evaluation of potential risk due to erosion, over topping, flow backup, washout, and drainage flow patterns for each project. In some cases the drainage swale may need to be constructed with asphalt concrete (Photo 1).

Photo 1

Key Point #3 – Location Selection

Care must be applied to correctly size and locate earth dikes, drainage swales, and lined ditches. Excessively steep, unlined dikes and swales may be subject to erosion and gully formation. Earth dikes, drainage swales and ditches are not suitable as sediment trapping devices.

Key Point #4 – Inspection and Maintenance

Inspect temporary measures prior to the rainy season, after rainfall events and regularly (approximately once every two weeks) during the rainy season. Inspect channels, embankments, and ditch beds for erosion, washout, and accumulation of sediment and debris. Repair or replace lost riprap, linings, or soil stabilization as needed.

Preventive Measures and Troubleshooting Guide

Field Condition (**Earth Dikes**):	Common solutions are:
Dikes wash out.	Compact the soil used to build the earthen dikes.
Area behind dikes erode.	Stabilize the area. Use other BMPs to stabilize the uphill side of the dike, such as SS-7.
Concentrated flow causes erosion.	Stabilize conveyances and/or use check dams, plastic, or blankets to control erosion.
Outlet erodes.	Stabilize outlets, replace lost riprap

Field Condition (**Drainage Swales and Ditches**):	Common solutions are:
Ditches and swales erode due to high velocity flows.	Line channels with permanent stabilization. Place riprap or line channel with blankets or plastics. Add velocity-reducing BMPs upstream, e.g. check dams.
Swales and ditches fill up with sediment.	Remove accumulated sediment from ditches and swales. Stabilize upstream contributing areas with a soil stabilizer.
Ditches and swales are overtaken by flows.	Determine the upstream contributing areas and size ditches and swales to handle anticipated flow velocities.
Conveyances erode.	Place check dams as necessary to reduce flow velocities. Stabilize conveyances with plastic and/or blankets.

SS-10 OUTLET PROTECTION/VELOCITY DISSIPATION DEVICES

This BMP requires the placement of rock, riprap, or other material at pipe outlets to reduce flow velocity of exiting storm water and thus prevent scouring.

Applications

Outlets of pipes, drains, culverts, slope drains, diversion ditches, swales, conduits, or channels
Outlets located at the bottom of mild to steep slopes
Outlets subject to intense water flows
Outlets that carry continuous flows of water
Points where lined conveyances discharge to unlined conveyances

Key Points

Key Point #1 – Riprap Selection

The minimum riprap diameter is determined by the outlet diameter, discharge volume, and apron length. Outlets with slopes greater than 10% need additional protection. Flow rate and local climate may dictate whether loose rock (Photo 1) or grouted riprap is appropriate. High flows may wash loose rock away. Grouted riprap may break up in areas of freeze and thaw.

Key Point #2 – Unprotected Outlets

Flows from unprotected pipe outlets can result in severe erosion (Photo 2). Use a flared end section or riprap at the outlet to reduce flow velocity and erosive potential of concentrated flows.

Photo 1

Photo 2

Key Point #3 – Installation

Carefully place riprap to prevent damage to underlying filter fabric. Where large riprap is used, the underlying filter fabric may need to be protected with a rock blanket.

Key Point #4 – Inspection and Maintenance

Inspect temporary velocity dissipation devices prior to the rainy season, after rainfall events and regularly (approximately once every two weeks) during the rainy season. Inspect aprons for riprap displacement or damage to underlying fabric. Inspect for scour beneath the riprap and around the outlets, and repair as needed.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Riprap washes away.	Replace riprap with a larger diameter based on the pipe diameter and discharge velocity.
Apron is displaced.	Align apron with receiving water and keep it straight throughout its length. Repair fabric and replace riprap that has washed away.
Scour occurs around apron or riprap.	Repair damage to slopes or underlying filter fabric.
Outlet erodes.	Stabilize outlets; replace lost riprap; grout riprap.

SS-11 SLOPE DRAINS

A slope drain conveys water down a slope into a stabilized receiving water, trapping device, or stabilized area. Slope drains are used with lined ditches to convey surface flow away from slope areas to protect cut or fill slopes.

Applications

Where concentrated flows are directed over a slope

Key Points

Key Point #1 – Limitations

Severe erosion may result if a slope drain fails due to over topping or pipe separation.

Key Point #2 – Drainage Constraints

Limit the area draining to a slope drain to 4 ha (10 ac) per pipe. Large areas may require the use of a rock-lined channel or a series of pipes. The maximum slope gradient is generally limited to 1:2 (V:H), as the ability to dissipate water velocity from steeper slopes is difficult.

Key Point #3 – Installation

Install slope drains perpendicular to the slope contour (Photo 1). Compact the soil around and under the slope drain inlet, outlet, and along the length of the pipe. Protect the pipe inlet with filter fabric or flared end sections for pipes that are greater than 300 mm (12 in) in diameter. Ensure that pipe connections are watertight. Securely anchor and stabilize the pipe and appurtenances into the soil.

Photo 1

Key Point #4 – Velocity Dissipation

Protect outlet with riprap or velocity dissipation devices. For high-velocity discharges, reinforce riprap with concrete or reinforced concrete devices. It may be necessary to capture discharge and allow sediment to settle out.

Key Point #5 – Inspection and Maintenance

Inspect before and after each rain event and twice monthly until the tributary drainage area has been stabilized. Inspect outlets for erosion and downstream scour. In the event of scour, reduce the flows going into the channel unless other preventive measures can be implemented.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Pipe separates.	Reconnect pipe sections. Securely anchor and stabilize pipe into soil. Ensure that pipe connections are watertight.
Pipe outlet erodes.	Repair damage and stabilize outlet with a flared end section, riprap, or velocity dissipation device. If necessary, reduce flows being discharged.
Pipe becomes clogged.	Flush out pipe. Place a screen or grate at inlet to capture large particles.
Erosion occurs around inlet.	Stabilize area around inlet with filter fabric or flared end section. Re-grade around inlet to reduce the gradient angle.
Excessive sediment accumulates around inlet/outlet.	Remove accumulated sediment and stabilize upstream area.
Slope drain overtops.	Limit drainage area and flow velocity. Check pipe diameter to ensure that it is sized properly to accept flow. Add additional pipes to carry flows as necessary.

TEMPORARY SEDIMENT CONTROL

SC-1 SILT FENCE

Silt fence is a temporary linear barrier that captures sediment by ponding and filtering storm water runoff to allow sediment to settle out of the runoff water.

Application

Below the toe of slopes as required
Down slope of exposed soil areas
Around temporary stockpiles as required

Key Points

Key Point #1 – Installation

Install on a relatively level contour. This means the barrier should be installed as close as possible to a level horizontal plane near the toe of the slope (Photo 1). Turn the end of the barrier up the slope to prevent ponded water from escaping around the end (Photo 2).

Photo 1

Photo 2

Key Point #2 – Setback

A silt fence should be placed with a setback of at least 1 m (3 ft). Where a 1 m (3 ft) setback is not practicable due to site conditions, the fence may be constructed at the toe of slope but should be placed as far from the toe as practicable to increase the ponding area and allow sediment to settle out.

Key Point #3 – Key In

The bottom of the silt fence must be keyed in or water may flow underneath (Photo 3). A trench should be excavated along the proposed layout line of the fence. After the silt fence stakes have been driven into the trench, backfill over the fence fabric and compact (Photo 4).

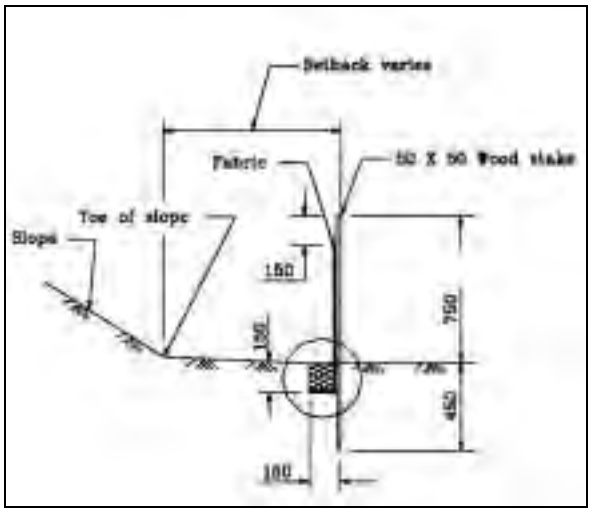

Photo 3

Photo 4

Key Point #4 – Cross Barriers

For silt fence installed on a level contour with long reaches, install cross barriers at a minimum of 150 m (500 ft) intervals. For silt fence not installed on a level contour, install cross barriers, at a minimum, where the change in elevation equals 1/3 the height of the silt fence.

Key Point #5 – Limitations

Do not install silt fence across intermittent or permanent streams, channels, or any location where concentrated flow is anticipated (Photos 5 and 6).

Photo 5

Photo 6

Key Point #6 – Inspection and Maintenance

Perform inspection before and after rain events, every 24 hours during extended rain events, and weekly throughout the rainy season. Should silt fence fabric tear (Photo 7) or decompose, replace immediately. Remove sediment deposits (Photo 8) when the sediment accumulation reaches 1/3 of the barrier height.

Photo 7

Photo 8

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
There is excessive sediment accumulation.	Remove sediment. Apply Hydraulic Mulch (SS-3) or Straw Mulch (SS-6) or other BMP upstream to reduce sediment in runoff.
Bottom of fence is not properly keyed in.	Trench, place fabric, and backfill.
Length of slope draining to silt fence is too long.	Shorten slope length using Fiber Rolls (SC-5) or equivalent. Slope shall be 61 m (200 ft) or less.
Storage capacity is inadequate due to sediment buildup.	Remove accumulated sediment when it reaches 1/3 the height of the barrier.
There is a lack of sufficient ponding area.	Fence should be installed with at least a 1m setback from the toe of slope where possible. Divert flow at top of slope.
Erosion occurs around barrier ends.	Turn ends of barriers into the up-slope area.
Silt fence is not installed along level enough contour.	Reinstall silt fence so that change in elevation does not exceed 1/3 the height of the linear barrier along the reach. Install cross barriers.
Slope draining to fence is too steep. Slope shall be less than 1:1 (V:H).	Shorten slope length using Fiber Rolls (SC-5) or equivalent. Increase setback of silt fence from the toe of slope.
Fence is installed in concentrated flow area.	Replace fence with proper BMP such as Check Dams (SC-4), if appropriate.
Cross barriers not installed or installed incorrectly.	Place cross barriers on the receiving side of the barrier at a maximum separation of 150 m. Cross barrier should be a minimum of 1/3 and a maximum of ½ the height of the linear barrier.
Stakes are too far apart.	Add stakes a maximum of 2.5 m apart.
Concentrated flows cause erosion to occur behind silt fence.	Place cross barrier check dams behind the barrier.

SC-2 DESILTING BASIN

A desilting basin is a temporary basin formed by excavation and/or construction of an embankment so that storm water runoff is temporarily detained, allowing sediment to settle out before the water is discharged.

Applications

Where storm water can enter a drainage system or receiving water from a construction area
At outlets of DSAs between 2 and 4 ha (5 and 10 ac) in size

Key Points

Key Point #1 – Capacity

Desilting basins shall be designed to have a capacity of 100 m^3 of storage for every 1 ha (55 yd^3 per acre) of contributory area. Basin storage capacity is measured from the top of the basin to the principal outlet. Basins must be designed to drain within 72 hours following storm events. Basins with levees greater than 1.5 m (5 ft) in height or with an impounding capacity of 1000 m^3 (1300 yd^3) or greater shall be designed by a professional Civil Engineer registered with the state of California.

Key Point #2 – Configuration

The basin inlet shall be located to maximize travel distance to the basin outlet. The outlet structure should be placed as far away from the inlet structure as possible to maximize travel distance and allow suspended sediment to settle out.

Key Point #3 – Basin Dimensions

The length of the basin shall be more than twice the width of the basin. Basin depth must not be less than one 1 m (3 ft) or greater than 1.5 m (5 ft). Check the approved SWPPP for actual dimensions.

Key Point #4 –- Limitations

Basins generally require excavation of large surface areas so that sediment will settle out efficiently. The availability of right-of-way may limit basin size or deployment on construction sites. Basins may not be located in live streams. Basins may require protective fencing to ensure safety.

Key Point #5 – Inspection and Maintenance

Inspect basins before and after rainfall events, weekly during the rainy season, and at 24 hours intervals during extended storm events. Check inlet and outlet structures and spillways for signs of erosion, damage, or obstructions. Examine basin banks for seepage and structural soundness. Remove accumulated sediment when the basin storage capacity is 1/3 full.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Outlet pipe is clogged with debris.	Clean outlet pipe. Wrap outlet pipe with filter fabric or install fencing or trash rack around pipe to hold back larger debris particles.
Spillway erodes due to high velocity flows.	Stabilize outlet with riprap or line spillway with plastic sheeting or geotextile blankets.
Slope sides erode.	Stabilize slopes with rock, vegetation, or equivalent method.
There is excessive accumulated sediment buildup.	Remove sediment to retain holding capacity.
The upstream drainage area is too large.	Ensure that the basin is designed to accommodate the inflow for the designed storm. Limit contributing drainage area or expand basin. Ensure drainage area does not exceed 4 ha (10 ac). If the drainage area does exceed this limit, use other or additional BMPs.

SC-3 SEDIMENT TRAP

A sediment trap is a temporary basin formed by excavation or by construction of an earthen embankment across a waterway or low drainage area and has a controlled release structure.

Applications

Permissible where contributing area is less than 2 ha (5 ac)
Sites where storm water can enter a storm drain or receiving water from a construction area
As a supplemental control for reducing sediment before it enters a drainage system or receiving water

Key Points

Key Point #1 – Location

Traps should be excavated in a suitable area or by constructing a low embankment across a swale where failure would not pose a risk to life or property. Traps should provide access for maintenance, including sediment removal.

Key Point #2 – Configuration

The trap inlet shall be located as far away from the trap outlet to maximize travel distance and allow suspended sediment to settle out (Photo 1).

Key Point #3 – Dimensions

The length of the trap shall be more than three times the width (Photo 2). Traps with levees greater than 1.5 m (5 ft) in height or with a storage capacity greater than 1000 m^3 (1300 yd^3) shall be designed by a professional Civil Engineer registered with the state of California. Check the approved SWPPP for actual dimensions.

Photo 1

Photo 2

Key Point #4 – Limitations

Traps generally require excavation of large surface areas to permit settling of sediment. The availability of right-of-way may limit their size or deployment on construction sites. Sediment traps should be limited to drainage areas of 2 ha (5 ac) or less. Traps may not be located in live streams. Traps may require protective fencing to ensure safety.

Key Point #5 – Inspection and Maintenance

Traps should be inspected before and after rainfall events, weekly during the rainy season, and at 24-hour intervals during extended storm events. Check inlet and outlet structures and spillways for signs of erosion, damage, or obstructions. Examine trap banks for seepage and structural soundness. Remove accumulated sediment when the trap storage capacity is 1/3 full.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Outlet pipe is clogged with debris.	Clean out pipe. Wrap outlet pipe with filter fabric or install fencing or trash rack around pipe to hold back larger debris particles.
Spillway erodes due to high velocity flows.	Stabilize outlet with riprap or line spillway with plastic sheeting or geotextile blankets.
Slope sides erode.	Stabilize slopes with rock, vegetation or equivalent method.
Accumulated sediment has built up.	Remove sediment to recover holding capacity.
Drainage area is too large.	Ensure that the trap is designed to accommodate the inflow for the designed storm. Limit drainage contributing area. Consider other or additional BMPs.

SC-4 CHECK DAM

A check dam is a small structure constructed of rock or gravel bags placed across a natural or man-made channel or drainage ditch. Check dams reduce scour and channel erosion by reducing flow velocity and encouraging sediment to settle out.

Applications

In small open channels that drain 4 ha (10 ac) or less
In steep channels where storm water runoff velocities exceed 1.5 m/s (5 ft/s)
In drainage ditches or channels in which grass linings are being established
In temporary ditches where a short-term service does not warrant establishment of erosion resistant linings
In combination with other BMPs such as sediment basins and traps

Key Points

Key Point #1 – Installation

Install check dams 5 m (16 ft) from the outfall device and at regular intervals along the channel based on the erosion characteristics and slope degree of the drainage swale (Photo 1). Swales that are very steep or have a high potential of eroding require check dams placed closer together.

Key Point #2 – Dimensions

Check dams should be placed at a height and distance as to allow small pools to form behind them but allow high velocity flows (typically a 2-year storm or larger) to safely flow over them without an increase in upstream flooding or damage to the check dam. Check dams should be constructed to pond runoff flows so that the backwater from the downstream check dam reaches the toe of the upstream dam (Photo 2).

Photo 1

Photo 2

Key Point #3 – Limitations

Check dams should not be placed in live streams or in channels that are already grass-lined unless erosion is expected, as existing vegetation may be damaged. Check dams are not appropriate in channels that drain areas greater than 4 ha (10 ac).

Key Point #4 – Inspection and Maintenance

Check dams require extensive maintenance after storm events or high velocity flows to repair damage (Photo 3). Remove sediment when it reaches 1/3 the check dam height.

Photo 3

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Too much sediment has accumulated.	Remove accumulated sediment to recover holding capacity.
There is insufficient ponding area.	Space check dams farther apart. Increase height of dam.
The check dam is higher than the drainage channel.	Lower check dam so that it is 150 mm (6 in) lower than the channel side.
Check dams wash away.	Ensure that the drainage area is 4 ha (10 ac) or less. Replace check dams. Consider adding more dams upstream.
Wrong type of materials is used to construct barrier .	Use heavier materials such as larger rocks. Do not use straw bales or silt fence.

SC-5 FIBER ROLLS

A fiber roll consists of straw, flax, or similar material that is rolled and bound into a tight tubular cylinder and placed at regular intervals on a slope face. Fiber rolls intercept runoff, reduce runoff flow velocity, and release the runoff as sheet flow. Fiber rolls are also used as a filter to remove sediment from runoff.

Applications

Along the top, face, and at grade breaks of exposed and erodible slopes

Key Points

Key Point #1 – Installation

Proper fiber roll installation is crucial to ensure effectiveness and performance. Fiber rolls should be placed on a level contour in a shallow trench with a maximum depth of 50 mm to 100 mm (2 in to 4 in). The fiber roll should be staked at each end and at regular intervals along its length with a maximum distance of 1.2 m (4 ft) between stakes. If more than one fiber roll is placed in a row, the ends of the adjoining rolls should be tightly abutted together and not overlapped (Photo 1).

Key Point #2 – Vertical Spacing

When used to create storm water benches on a slope, the vertical spacing of the fiber rolls rows is determined by the inclination and length of the slope (Photo 2). For slopes 1:2 (V:H) and steeper and 15 m (50 ft) and greater, fiber rolls shall be placed at intervals no greater than 7.5 m (25 ft). For slopes between 1:20 (V:H) and 1:2 (V:H) and 30 m (100 ft) and greater, fiber rolls shall be placed at intervals no greater than 15 m (50 ft).

Photo 1

Photo 2

Key Point #3 – Sediment Control

Fiber rolls are acceptable for use as sediment control and may be used in conjunction with other soil stabilization methods (soil binders, mulches, etc.) (Photo 3) and/or other sediment controls.

Key Point #4 – Removal

Fiber rolls are typically left in place. If they are removed, dispose of the accumulated sediment and fill in trenches, holes, or depressions to blend in with adjacent ground contours.

Key Point #5 – Inspection and Maintenance

Inspect fiber rolls prior to and after rain events, and at least daily during prolonged rainfall. Maintenance includes replacing slumping rolls, removing accumulated sediment, and filling in rills. If fiber rolls split, tear (Photo 4), unravel, or become ineffective, replace them immediately.

Photo 3

Photo 4

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Runoff flows under the fiber roll or daylight shows under fiber roll.	Trench-in rolls to a depth of 100 mm (4 in) and stake. Place compacted soil along the uphill side of the fiber roll.
Runoff flows along fiber roll and discharges around ends.	Make sure rolls are placed on a level contour and turn ends of fiber rolls up-slope.
Runoff flows between fiber rolls.	Ensure that fiber rolls are butted tightly together and staked.
There is excessive sediment accumulation.	Remove accumulated sediment. Apply soil stabilization measures to contributing areas.
Length of slope draining to fiber roll is too long.	Place fiber rolls at shorter intervals. The steeper the slope, the closer together the fiber rolls should be placed.

SC-6 GRAVEL BAG BERM

A gravel bag berm consists of a single row of gravel bags that are installed end-to-end to form a barrier across a slope to intercept runoff, reduce runoff velocity, release runoff as sheet flow, and provide some sediment removal.

Applications

Along the top, face, and at grade breaks of exposed and erodible slopes

Key Points

Key Point #1 – Installation

Proper gravel bag berm installation is crucial to ensure its effectiveness and performance. Gravel bag berms should be placed on a level contour along the slope (Photo 1). Gravel bags should be tightly abutted together and not overlapped (Photo 2).

Photo 1

Photo 2

Key Point #2 – Bag Design

Bags should be made of a woven polypropylene, polyethylene or polyamide fabric, or burlap material. When full, a bag should be 450 mm (1.5 ft) long, 300 mm (1 ft) wide, and 75 mm (3 in) thick, with a mass of approximately 15 kg (35 lb). Bag dimensions are standardized but may vary based on locally available materials. Alternative bag sizes shall be submitted to the Resident Engineer for approval prior to deployment. Fill material shall be 13 mm to 25 mm (1/2 in to 1 in) class 2 aggregate base that is clean and free from clay and undesirable materials.

Key Point #3 – Sediment Control

Although gravel bag berms remove some sediment, they should not be used in place of linear sediment barriers.

Key Point #4 – Limitations

Gravel bags are sensitive to ultraviolet light resulting in a limited durability that may make them unsuitable for long-term projects. Gravel bag berms are labor intensive. Installation, removal, and maintenance costs should be evaluated when considering this BMP.

Key Point #5 – Inspection and Maintenance

Inspect gravel bag berms weekly and prior to and after rainfall events during the rainy season. Repair or replace broken or ripped bags, and reshape as necessary. Remove accumulated sediment when it reaches 1/3 the height of the berm. Repair washouts and rills as needed.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Runoff flows under the bags.	Ensure that bags are placed completely on the soil surface and not overlapped. Butt the bag ends together tightly. Repair rills and washouts.
Runoff flows around ends of bag rows.	Make sure that bags are placed on a level contour. Turn up ends of each row.
Runoff flows between bags.	Ensure that gravel bags are butted tightly together.
There is excessive sediment accumulation.	Remove accumulated sediment. Apply soil stabilization measures to contributing areas
Length of slope draining to gravel bag berm is too long.	Place berm at shorter intervals. The steeper the slope, the closer together the berms should be placed.

SC-7 STREET SWEEPING AND VACUUMING

Street sweeping and vacuuming are practices to remove tracked sediment from public roads in order to prevent sediment and dirt from entering storm drains or receiving waters. Areas of concern include ingress and egress points, portions of roadway within the project limits adjacent to a freeway or other public road, and any other paved surface within project limits that is to remain after construction is complete.

Applications

Where sediment is tracked onto public or private roadways from the project site

Key Points

Key Point #1 – Sweepers

Sweepers should have vacuum or other mechanical attachments for collecting dirt and sediment (Photo 1). Adjust brooms regularly to maximize efficiency of sweeping operations. Never use kick brooms or sweeper attachments for the implementation of this BMP.

Key Point #2 – Inspection

Inspect project ingress and egress points and roadways daily for signs of tracked sediment (Photo 2).

Photo 1

Photo 2

Key Point #3 – Sweeping Waste Disposal

After sweeping is finished, properly dispose of sweeper waste. Sweeper waste that includes trash and debris should be disposed of at an approved dumpsite. For collected sediment that is free of trash and debris, consider incorporating the sediment back into the project's earthwork operations.

Key Point #4 – Site Entrances and Exit

Designate a limited number of centralized ingress/egress locations for the site and instruct construction personnel to use only those locations for entering/exiting the project (see TC-1).

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Sediment tracking is excessive.	Install a stabilized construction entrance/exit at egress point.
Sweeper is not picking up sediment.	Adjust sweeper brooms to maximize efficiency of sweeping operations.
Sweeping causes excessive dust.	Use a sweeper with a vacuum attachment. Use sweeper with water spray device to reduce dust. Never use kick brooms or sweeper attachments.
Sediment is being tracked from many areas of the job site.	Limit egress and ingress locations and instruct personnel to use designated centralized entrance/outlet locations.

SC-8 SANDBAG BARRIER

A sandbag barrier is a temporary linear sediment barrier constructed of stacked sandbags. This type of barrier is designed to intercept and slow storm water sheet flow runoff. Sandbag barriers allow sediment in runoff to settle before the water leaves the construction site. Sandbag barriers can also be used to divert and detain moderately concentrated flows associated with ditches, swales, and storm drain inlets.

Applications

Along the perimeter of a site
Below the toe of slopes as required
Down slope of exposed soil areas
Around temporary stockpiles as required
Parallel to a roadway to keep sediment from paved areas
To divert or direct flow

Key Points

Key Point #1 – Installation

When used as a linear sediment barrier for slopes, sandbags should be placed along a level contour with the end of each row turned up-slope to prevent flow around the ends. Due to the limited sediment holding capacity behind the bags, they should be used in conjunction with other erosion source controls such as soil binders, covers, and/or mulches to provide effective control.

Key Point #2 – Setback

A sandbag barrier should be placed with a setback of at least 1 m (3 ft). Where a 1 m (3 ft) setback is not practicable due to site conditions, the barrier may be constructed at the toe of slope but should be placed as far from the toe as practicable to increase the ponding area and allow sediment to settle out.

Key Point #3 – Configuration

Sandbags should be stacked in a pyramid formation (Photo 1). To do this, the base of the barrier should be the widest, with the width decreasing with each higher row. The joints between bags should be staggered for each row.

Photo 1

Key Point #4 – Cross Barriers

For sandbag barriers not on a level contour and for longer reaches, install cross barriers at a minimum of 150 m (500 ft) intervals to prevent concentrated flow.

Key Point #5 – Limitations

Sandbag materials are sensitive to ultraviolet light resulting in a limited durability that may make them unsuitable for long-term projects. Sandbag barriers are labor intensive. Installation, removal, and maintenance costs should be evaluated when considering this BMP.

Key Point #6 – Inspection and Maintenance

Inspect sandbag barriers weekly and prior to and after rainfall events during the rainy season. Repair or replace broken or ripped bags, and reshape as necessary. Remove accumulated sediment when it reaches 1/3 the barrier height. Repair washouts and rills as needed. When no longer needed, remove the barrier and accumulated sediment then clean, re-grade, and stabilize the area.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
There is excessive sediment accumulation.	Remove sediment. Apply Hydraulic Mulch (SS-3) or Straw Mulch (SS-6) or other soil stabilization BMP upstream to reduce sediment in runoff.
Concentrated flows causes erosion to occur behind barriers.	Place cross barrier check dams behind the barrier.
Length of slope draining to sandbag barrier is too long. Slope shall be 61 m (200 ft) or less.	Shorten slope length using Fiber Rolls (SC-5) or equivalent.
Storage capacity is inadequate due to sediment buildup.	Remove accumulated sediment when it reaches 1/3 the barrier height.
There is insufficient ponding area.	Sandbag barrier should be installed with at least a 1 m (3 ft) setback from the toe of slope where possible. Divert flow at top of slope.
Erosion occurs around barrier ends.	Turn ends of barriers into the up-slope area.
Sandbag barrier is not installed along level enough contour.	Reinstall barrier so that change in elevation does not exceed 1/3 the barrier height along its reach or install cross barriers.
Slope draining to barrier is too steep. Slope shall be less than 1:1 (V:H).	Shorten slope length using Fiber Rolls (SC-5) or equivalent. Increase setback of sandbag barrier from the toe of slope.
Incorrect sandbag material, size or fill material is being used.	Require the contractor to use the specified bag material, size, and fill material.
Sandbags rupture or degrade.	Replace bags. Clean up and remove any spilled material.
Cross barriers are not installed or are installed incorrectly.	Place cross barriers on the receiving side of the barrier at a maximum separation of 150 m (500 ft). Cross barrier should be a minimum of 1/2 and a maximum of 2/3 the barrier height.

SC-9 STRAW BALE BARRIER

A straw bale barrier is a temporary linear sediment barrier constructed of straw bales. This type of barrier is designed to intercept and slow storm water runoff. Straw bale barriers allow sediment in runoff to settle before water leaves the construction site.

Applications

Along the perimeter of a site
Below the toe of slopes as required
Down slope of exposed soil areas
Around temporary stockpiles as required

Key Points

Key Point #1 – Installation

When used as a linear sediment barrier for slopes, straw bales should be placed along a level contour with the end of each row turned up-slope to prevent flow around the ends. Bales should be installed in a shallow trench with ends tightly abutted together.

Key Point #2 – Setback

Straw bales placed at the toe of slopes should be set back at least 1 m (3 ft) from the toe. Where a 1 m (3 ft) setback is not practicable due to site conditions, the barrier may be constructed at the toe of the slope but should be placed as far from the toe as practicable to increase the ponding area and allow sediment to settle out.

Key Point #3 – Configuration

Straw bales should be placed in two rows back to back with a half-bale offset to cover the butted ends of the bales.

Key Point #4 – Cross Barriers

For straw bale barriers not on a level contour and for longer reaches, install cross barriers at a minimum of 150 m (500 ft) intervals to prevent concentrated flow.

Key Point #5 – Application Limitations

Straw bale barriers should not be used in areas subject to highly concentrated flows (Photo 1) such as channels or live streams as they may be easily overtaken or washed away. Straw bale barriers should not be used on paved surfaces, in lined ditches, or for drain inlet protection. Consider using sandbag barriers instead.

Photo 1

Key Point #6 – Durability Limitations

Straw bales fall apart when removed or degrade when left in place for extended periods. They can be labor intensive to install, remove, and maintain.

Key Point #7 – Inspection and Maintenance

Inspect straw bale barriers weekly and prior to and after rainfall events during the rainy season. Repair or replace broken or damaged bales as necessary. Remove accumulated sediment when it reaches 1/3 the barrier height. Repair washouts or other damage as needed or required. When no longer needed, remove barrier and accumulated sediment then clean, re-grade, and stabilize the area.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
There is excessive sediment accumulation.	Remove sediment. Apply Hydraulic Mulch (SS-3) or Straw Mulch (SS-6) or other BMP upstream to reduce sediment in runoff.
Concentrated flows causes erosion to occur behind barriers	Place cross barrier check dams behind the barrier. Make sure the barrier is along a level contour. Ensure that stakes are angled toward adjacent bales so that they are held down together.
Bottom of barrier is not properly keyed in.	Trench and replace bales and backfill.
Length of slope draining to barrier is too long. Slope shall be 30 m (100 ft) or less.	Shorten slope length using Fiber Rolls (SC-5) or equivalent.
Storage capacity is inadequate due to sediment buildup.	Remove accumulated sediment when it reaches 1/3 the height of the barrier.
There is insufficient ponding area.	Barrier should be installed with at least a 1 m (3 ft) setback from the toe of slope where possible. Divert flow at top of slope.
Erosion occurs around barrier ends.	Turn ends of barriers into the up-slope area.
Bale binding degrades and breaks.	Replace degraded bales. Place bales so that the bindings are parallel to the ground.
Barrier is not installed along level enough contour.	Reinstall barrier so that change in elevation does not exceed 1/3 the barrier height along its reach or install cross barriers.
Slope draining to straw bale barrier is too steep. Slope shall be less than 1:10 (V:H).	Shorten slope length to 15 m (30 ft) or less using Fiber Rolls (SC-5) or equivalent. Increase setback of barrier from the toe of slope.
Straw bale barrier is installed in concentrated flow area.	Replace straw bale barrier with proper BMP such as Check Dams (SC-4), if appropriate.
Cross barriers are not installed or are installed incorrectly.	Place cross barriers on the receiving side of the barrier at a maximum separation of 150 m (500 ft). Cross barrier should be a minimum of 1/2 and a maximum of 2/3 the barrier height.

SC-10 STORM DRAIN INLET PROTECTION

Storm drain inlet protection is a practice to reduce sediment from storm water runoff discharging from the construction site prior to entering the storm drain system. Effective storm drain inlet protection allows sediment to settle out of water or filters sediment from the water before it enters the drain inlet. Storm drain inlet protection is the last line of sediment control defense prior to storm water leaving the construction site.

Applications

Where storm water surface runoff can enter a drain inlet
Where disturbed drainage areas have not yet been permanently stabilized
Where ponding will not encroach into traffic
Where the drainage area is 4 ha (10 ac) or less

Key Points

Key Point #1 – Identify Drain Inlets

Identify existing and/or planned storm drain inlets that have the potential to receive storm water runoff and discharge from the construction site. For those drain inlets that are to be protected, determine the most effective method to use. Consider drain inlet protection for active inlets that are downstream of DSAs.

Key Point #2 – Sandbag Barriers

A sandbag barrier (Photo 1) is the most common type of protection due to the flexibility of its use. Sandbag barriers are constructed by placing the bags around the inlet to create a holding area that allows suspended sediment to settle.

Photo 1

Key Point #3 – Filter Fence

A filter fabric fence (Photo 2) is effective in open areas where sheet flows are low and are not expected to exceed 0.14 m^3/s (0.5 cfs). Filter fabric fences are installed similarly to silt fences but are constructed to surround the inlet to create an enclosure. Use plastic sheeting or geotextile blankets to stabilize any DSAs within the enclosure to prevent sediment within the enclosed area from entering the inlet.

Photo 2

Key Point #4 – Sediment Traps

Excavated drop inlet sediment traps are typically used where relatively heavy flows are expected and overflow capacity is needed. A drain inlet sediment trap is constructed by excavating the soils surrounding the inlet to create a temporary trap that detains flows and allows suspended sediments to settle before storm water is discharged from the site.

Key Point #5 – Inspection

Inspect all inlet protection devices before and after storm events, at 24 hour intervals during extended storms, and weekly during the rest of the rainy season. Check storm drain inlet after several storms to determine if sediment is bypassing inlet protection devices.

Key Point #6 – Maintenance

Maintenance is critical to ensure that drain inlet protection remains functional. Remove accumulated sediment when it reaches 1/3 the barrier height or 1/3 the holding capacity. For barriers, replace broken or torn bags. For fences, repair/replace fencing material and re-stake fences that are damaged.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Excessive sediment is entering the inlet.	Ensure that soil stabilization and sediment control devices are installed upstream of inlets. Ensure that the barriers around the inlet are installed correctly. Sandbags need to be tightly abutted. Filter fence needs to be keyed in so that water goes through filter fabric and not under it. Ensure that disturbed soil inside the protective device is prevented from entering drain by covering with plastic.
Material from broken bags is entering inlet.	Clean out inlet. Remove broken bags and replace as necessary.
Ponded water causes a traffic concern.	Use alternative BMPs upstream. Remove drain inlet protection if necessary.

WIND EROSION CONTROL

WE-1 WIND EROSION CONTROL

Wind erosion control consists of applying water or other dust palliatives to prevent or alleviate dust nuisance. Dust control shall be applied in accordance with Caltrans standard practices.

Applications

On all exposed soils that are subject to wind erosion

Key Points

Key Point #1 – Dust Control Operation

Care should be taken when applying water (Photo 1) or palliative to prevent the washing of sediment offsite or into storm drains or receiving waters. Do not apply so much that runoff occurs.

Photo 1

Key Point #2 – Stockpile and Small Area Management

Cover small stockpiles or small DSAs as an alternative to applying water or dust palliative.

Key Point #3 – Palliative Application Rates

When applying palliatives or binders as a wind erosion control, refer to the manufacturer's recommendations for guidance.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Excessive dust leaves the site.	Increase frequency of water application. Consider using a palliative or binder on inactive areas.
Vehicles kick up dust.	Water more frequently. Limit vehicle speeds. Stabilize the roadway.
Watering for dust control causes erosion	Reduce water pressure on the water truck. Check watering equipment to ensure that it has a positive shutoff. Water less frequently.
Sprayed areas are ineffective at limiting dust.	Re-spray areas and ensure that the application rate is proper.

TRACKING CONTROL

TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT

Stabilized construction access is a defined point of entrance/exit to a construction site that is stabilized to reduce the tracking of sediment (mud and dirt) onto public roads by construction vehicles. Stabilized construction entrances are an effective method for reducing tracking of sediment from the construction site.

Applications

As a preventive method instead of a treatment method (e.g., sweeping or dust control)
Where dirt or mud can be tracked onto public roads
Adjacent to water bodies
Where poor soils are encountered

Key Points

Key Point #1 – Design

Site conditions may dictate the design and need for access points. Design a stabilized construction entrance/exit to support the heaviest vehicles and equipment that will use it (Photo 1). The access point should be at least 15 m (50 ft) in length or four times the circumference of the largest construction vehicle tire, whichever is greater (Photo 2). Designate access points and require all employees, subcontractors, and others to use them.

Photo 1

Photo 2

Key Point #2 – Grading

Grade construction entrance/exit points to prevent runoff from leaving the construction site. Route runoff from entrances/exits through a sediment-trapping device before discharge.

Key Point #3 – Aggregate Characteristics

Stabilize the roadway with aggregate, AC, or PCC, depending on expected usage and site conditions. When access points are constructed from aggregate, aggregate should be 75 mm (3 in) to 150 mm (6 in) in diameter and at least 300 mm (1 ft) in depth. Place aggregate over a geotextile fabric.

Key Point #4 – Alternative Stabilization Methods

Alternative stabilization methods such as manufactured steel plates (Photo 3) or steel pipes/gratings require written approval of the Resident Engineer. The use of cold mix asphalt or AC grindings is not allowed.

Key Point #5 – Inspection and Maintenance

Inspect and maintain stabilized construction entrance/exit points. Routinely check for damage and effectiveness (Photos 4 and 5). Remove accumulated sediment (Photo 6) and/or replace stabilization material as needed.

Photo 3

Photo 4

Photo 5

Photo 6

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Access points require constant maintenance.	Select proper stabilization material or consider alternate methods for longevity, performance and site conditions.
Stabilization material (aggregate) is tracked onto roadway.	Limit larger vehicles from construction exit or use larger diameter material.
Aggregate material is being incorporated into soil.	Use geotextile fabric under base material.
Excessive sediment is tracked onto roadway.	Increase length of stabilized exit. Regularly maintain access area to remove sediment buildup.
Sediment-laden water is leaving the construction site.	Properly grade access point to prevent runoff from leaving site. Route runoff through a sediment-trapping device.
Sediment is being tracked from numerous locations.	Limit access points and require their use. Stabilize designated access points.

TC-2 STABILIZED CONSTRUCTION ROADWAY

A stabilized construction roadway is a temporary access road that connects existing public roads to remote construction areas. For storm water protection, it should be designed to control dust and erosion created by vehicular traffic.

Applications

Where displacement of soil occurs because of vehicular traffic during wet weather
Where dust control is a problem during dry weather
Adjacent to water bodies
Where poor soils are encountered

Key Points

Key Point #1 – Design

Site conditions may dictate the design and need for stabilized construction roadways. Design the roadway to support the heaviest vehicles and equipment that will use it. Grade the roadway to prevent runoff from leaving the construction site. This may require the construction of a drainage ditch to collect and convey runoff.

Key Point #2 – Stabilization Materials

Stabilize the roadway with aggregate, AC, or concrete, depending on expected usage and site conditions. Aggregate diameter should be between 75 mm (3 in) and 150 mm (6 in) and at least 300 mm (1 ft) in depth. Place aggregate over a geotextile fabric. The use of cold mix asphalt or AC grindings is not allowed.

Key Point #3 – Inspection and Maintenance

Inspect and maintain the stabilized construction roadway routinely. Re-grade the roadway as necessary. Check for damage and repair as necessary or as directed by the Resident Engineer.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Runoff leaves the site via the roadway.	Properly grade roadway so that runoff is kept on site. Install a drainage ditch along roadway to convey flows.
Roadway degrades or breaks up.	Re-grade roadway using material that will support the heaviest vehicles that will use the road. Stabilize roadway with AC, concrete base, aggregate, or equivalent.
Vehicles kick up dust.	Re-stabilize the roadway.

NON-STORM WATER MANAGEMENT

NS-1 WATER CONSERVATION

Water conservation involves the use of practices that reduce the amount of water used for a given activity. If less water is used, the potential for erosion decreases and the transport of construction-related pollutants offsite is less likely.

Applications

On all projects where water is used during the course of construction

Key Points

Key Point #1 – Watering Equipment

Watering equipment should be kept in good working order (Photo 1). Repair leaky watering equipment promptly.

Photo 1

Key Point #2 – Equipment Washing

Discourage the washing of vehicles and equipment on the construction site. Workers should never wash their personal vehicles on site. Vehicles and equipment that regularly leave the construction site should be washed offsite.

Key Point #3 –Paved Areas

Paved areas should be swept and vacuumed rather than washed off. Always protect storm drain inlets or receiving waters from sediment or other pollutants susceptible to non-storm water run-off. When possible, direct runoff water to areas where it can percolate into the ground.

Key Point #4 – Dust Control

When watering for dust control, ensure that watering operations do not cause erosion.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Water tank leaks from the outlet valve.	Repair the positive shutoff valve.
Watering equipment overflows during filling creating muddy and rutted areas.	Do not overfill. Use other BMPs to stabilize the roadway around the filling area e.g. Stabilized Construction Roadway (TC-2).
Paved areas are being washed with water.	Sweep and vacuum paved areas per Street Sweeping and Vacuuming BMP (SC-7).
Watering for dust control causes erosion.	Apply soil stabilization or dust palliative to slopes and reduce water frequency.

NS-2 DEWATERING OPERATIONS

This BMP is intended to prevent the discharge of pollutants from construction site dewatering operations associated with storm water (accumulated rain) and non-storm water (groundwater, water from a diversion or cofferdam, etc.). Dewatering effluent that is discharged from the construction site to a storm drain or receiving water is subject to the requirements of the applicable National Pollutant Discharge Elimination System (NPDES) permit. Refer to the *Caltrans Field Guide to Construction Site Dewatering* for detailed guidance for management of dewatering operations. The District Construction Storm Water Coordinator is also available for assistance.

Applications

On all projects where the discharge of water is to occur by mechanical means

Key Points

Key Point #1 – Management Alternatives

If possible, the contractor should consider managing dewatering without discharge to a storm drain or receiving water. Options include: (1) retaining the water on site for construction use or allowing water to evaporate/infiltrate, (2) discharging to the sanitary sewer with permission from the local agency; (3) discharging to an adjacent land or facility with permission of the owner, and (4) having the effluent transported and disposed of offsite using a Transportation, Storage & Disposal (TSD) contractor. If one of these management options is used, the water is not discharged to a storm drain or receiving water, and the operation is not subject to an NPDES permit.

Key Point #2 – Notify CSWC

If on-site management of the dewatering operation is not the selected option, contact the Construction Storm Water Coordinator (CSWC) before the dewatering operation commences.

Key Point #3 – Dewatering Under the Caltrans General NPDES Permit

In many areas of the state, uncontaminated storm water and minor discharges of non-storm water can be discharged to a storm drain or receiving water under the Caltrans General NPDES Permit. If the effluent is not visibly clear, it must be treated to remove sediment prior to discharge (Photo 1). All records related to the dewatering operation must be maintained with the project SWPPP and provided to the Regional Water Quality Control Board (RWQCB) upon request. Note that in RWQCB Region 1 and 2, no type of dewatering discharge to a storm drain or receiving water is authorized under the Caltrans NPDES Permit – a separate Regional dewatering permit is required.

Key Point # 4 – Dewatering Under a Regional Dewatering Permit

For all dewatering discharges in RWQCB Regions 1 and 2 (North Coast and San Francisco Bay areas), and for many discharges of non-storm water dewatering (Photo 2) in all other Regions, the RWQCB must approve a discharge to a storm drain or receiving water. The RWQCB may require the contractor to apply to discharge under a separate Regional dewatering permit or under a site-specific dewatering permit. Regional dewatering permits generally require the contractor to monitor (test) the dewatering effluent, to maintain monitoring records, and to submit reports to the RWQCB about the operation. Discuss dewatering requirements with the District Construction Storm Water Coordinator.

Photo 1

Photo 2

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Discharge of treated water causes erosion.	Install outlet protection or velocity dissipation device (SS-10).
Treatment unit fills with sediment.	Remove sediment when unit reaches 1/3 its capacity to preserve settling efficiency.
Dewatering discharge flow is higher than expected.	Alter the treatment unit to handle increased flow. Notify the RWQCB and District Construction Storm Water Coordinator of the increased flow before resuming dewatering operation.
Water spread on the construction site is not infiltrating fast enough and is entering the storm drain system or receiving water.	Stop dewatering. Install a sediment treatment system and test discharge as necessary.

NS-3 PAVING AND GRINDING OPERATIONS

Paving and Grinding Operations include the handling of materials and wastes and the use of equipment associated with pavement preparation, paving, grinding, removal, surfacing, resurfacing, thermoplastic striping, and placing pavement markers.

Application

During pavement grinding and removal
During PCC paving
During AC paving and resurfacing
During placement of thermoplastic striping and pavement markers

Key Points

Key Point #1 – Asphalt Concrete (AC)

Remove or dispose of grindings and wastes as work progresses. Place AC pieces in embankments above the water table and cover with plastic until they are removed from the site. Remove wastes from the site immediately.

Key Point #2 – AC Equipment

Coat AC equipment with non-toxic non-foaming products. Clean equipment (Photo1) offsite whenever possible. When paving equipment is kept onsite, place paving equipment on plastic sheeting to capture drips or leaks (Photo 2). Dispose of hardened AC properly.

Photo 1

Photo 2

Key Point #3 – Wastes

Do not allow wastes, such as AC pieces, PCC grinding residue/slurry (Photo 3), sand/gravel, exposed aggregate concrete residue, or dig-out materials into storm drains or receiving waters. Sweep, vacuum, and collect such wastes and recycle or dispose of properly.

Key Point #4 – Seal Coats

Do not apply seal coat, tack coat, slurry seal, or fog seal if rain is predicted during the application or curing period. Do not conduct digout operations in the rain. During application of seal coat, tack coat, slurry seal, or fog seal, cover drainage inlets and manhole covers with filter fabrics. Do not apply these materials in the rain.

Photo 3

Key Point #5 – Thermoplastic Striping

Verify that equipment shut-off valves function properly to avoid thermoplastic leakage. Do not pre-heat, transfer, or load thermoplastic near storm drains or receiving waters. When filling the pre-heater, leave 150 mm (6 in) of space at the top of the container to prevent spills when the equipment is moved. Clean truck beds daily and recycle thermoplastic material when possible.

Key Point #6 – Raised/Recessed Pavement Markers

Do not transfer or load bituminous materials near storm drains or receiving waters. Verify that all pressure is released before filling melting tank. When filling the melting tank, leave 150 mm (6 in) of space at the top of the container to prevent spills when the equipment is moved.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Paving equipment leaks while parked.	Clean up spilled or leaked material. Place drip pans, plastic sheeting or absorbent materials under parked equipment when not in use.
Loose gravel and sand deposit on roadway from paving operations.	Sweep streets when practical. Minimize washing. If washing is necessary, protect inlets and receiving waters during operations.
Water residue from grinding and saw cutting operations enters inlet.	Clean inlet and recover as much material as possible. Use a vacuum attachment to capture concrete slurry residue. Block inlet. Notify the District Construction Storm Water Coordinator about the potential for a non-compliant incident.
Seal coat, tack coat, and fog seal wash off streets.	Allow for proper curing time before rain events. Do not apply before or during predicted rainfall. Protect drain inlets.
Operators use diesel fuel to clean equipment.	Use only non-toxic substances to coat and clean paving and transport equipment.
Seal coat, tack coat, and fog seal enter inlets.	Clean inlets and collect as much material as possible. Cover inlets with filter fabric. Notify the District Construction Storm Water Coordinator about the potential for a non-compliant incident.

NS-4 TEMPORARY STREAM CROSSING

A temporary stream crossing is a structure placed across a waterway that allows construction traffic to cross without contacting the water. Typical types include culvert crossings, ford crossings, and bridge crossings. Temporary stream crossings prevent streambed erosion and downstream sedimentation due to construction traffic.

Applications

Where appropriate permits have been secured
Where construction equipment or vehicles must cross a waterway (ephemeral or perennial)

Key Points

Key Point #1 – Permits

Verify that applicable permits have been obtained before the stream crossing is installed. Required permits may include RWQCB 401 Certification, U.S. Army Corps of Engineers 404 Permit, and/or Department of Fish and Game 1601 Agreement. Verify that applicable pre-installation water sampling/testing has been completed before, and possibly during, installation.

Key Point #2 – Design

Verify that the structure design has been prepared under the direction of and approval of a registered civil and/or structural engineer. The structure should not constrict waterway flow such that backups or washouts occur during flood events. Culverts are acceptable for perennial or intermittent streams and can accommodate heavy equipment loads. Fords are the least expensive but are acceptable only for dry washes/ephemeral streams during the dry season. Bridges (Photo 1) are the most expensive but are appropriate for high velocity/steep gradient streams or where restrictions in the waterway channel are not allowed.

Photo 1

Key Point #3 – Installation

Construct crossings during the dry season. Stabilize adjacent construction roadways, work areas, and streambeds to prevent erosion. Minimize disturbance or removal of adjacent vegetation. If riparian vegetation is disturbed for construction of the stream crossing, the vegetation should be cut no lower than ground level and covered with a layer of clean river cobble.

Key Point #4 –- Use

Vehicles are not to be operated, stored, fueled, or maintained in wet or dry portions of a waterway without authorization of the Resident Engineer or as authorized by the Fish and Game Permit. Drip pans must be placed under all vehicles/equipment on temporary stream crossing structures that remain idle for more than one hour. Being in such close proximity to a watercourse, this BMP, and others implemented with it, must be installed correctly and maintained to prevent any discharge. Any incident of discharge requires submittal of a Notice of Non-Compliance.

Key Point #5 – Inspection and Maintenance

Inspect temporary stream crossings weekly and after significant rain events for water flow blockage, sediment buildup, trapped debris, structural damage, riprap displacement, or streambed erosion. Verify that sediment buildup is removed regularly and that riprap/aggregate is replaced as needed to prevent erosion and maintain stability of adjacent areas.

Key Point #6 – Removal

Ensure that temporary stream crossings are removed promptly when no longer needed. Remove river cobble from disturbed riparian vegetation to ensure rapid re-growth.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Slopes of temporary earthen crossing erodes.	Place rock layer on slope sides. Stabilize roadway at crossing.
Sediment and debris block culvert inlet.	Remove sediment and debris as necessary to keep pipe open.
Pipe outlet causes erosion.	Stabilize outlet with riprap or flared end section.
Overtopping occurs.	Incorrect design. Redesign crossing and obtain approval (stamp) of registered civil and/or structural engineer.

NS-5 CLEAR WATER DIVERSION

A clear water diversion is a system of structures that intercepts surface water from a running stream or waterway upstream of a project, transports it around the construction site, and discharges it downstream of the site, with minimal water quality impacts. Typical structures used for clear water diversions include diversion ditches, berms, dikes, slope drains, coffer dams, pipes, and drainage and interceptor swales.

Applications

Where appropriate permits have been secured
Where work must be performed in an active drainage system, a running stream, or a water body

Key Points

Key Point #1 – Permits

Verify that applicable permits have been obtained before the diversion is installed. Required permits may include RWQCB 401 Certification, U.S. Army Corps of Engineers 404 Permit, Department of Fish and Game 1601 Agreement, and/or Federal Emergency Management Agency requirements. If required by a permit, verify that applicable pre-installation water sampling/testing has been completed before, and possibly during, installation.

Key Point #2 – During Design

The structure should not constrict waterway flow such that backups or washouts occur due to fluctuations in water depth or flow volume. Materials used to construct diversion structures must be free of potential pollutants such as soil, silt, sand, clay, grease, or oil. At all times during construction, operation, maintenance, and removal, sufficient water flow/volume must be diverted to maintain downstream aquatic life (Photo 1).

Photo 1

Key Point #3 – During Construction

When possible, construct diversion structures during periods of low or no stream flow. Minimize disturbance and removal of adjacent vegetation. If riparian vegetation is disturbed for construction of the diversion, the vegetation should be cut no lower than ground level and covered with a layer of clean river cobble. The exterior of vehicles and equipment in wet areas of the diversion construction site should be free of petroleum residues and sealed so as to prevent leakage of fuels and oils into the water body if submerged. Only the bucket of an excavator/backhoe may operate in a water body. The main body of the equipment is not to enter the water portions of the water body except to cross the stream to access the work site.

Key Point #4 – Operation

Barriers should be installed to prevent muddy water from flowing from adjacent construction activity to the stream. Drip pans must be placed under all stationary equipment and vehicles located over water diversions that remain idle for more than one hour. Being in such close proximity to a watercourse, this BMP, and others implemented with it, must be installed correctly and maintained to prevent any discharge. Any incident of discharge requires submittal of a Notice of Non-Compliance.

Key Point #5 – Inspection and Maintenance

Inspect diversion structures weekly and after significant rain events for damaged linings, sediment buildup, trapped debris, or reduced slope protection. Ensure that debris is removed and linings are repaired promptly.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Vehicles and equipment parked over water bodies leak fluids.	Place drip pans under all vehicles and equipment that are placed on structures over water bodies that will be idle for more than one hour.
Erosion occurs along diversion path.	Protect diversion from erosion. Use rock, gravel, pipe or other BMP to protect diverted waterway.

NS-7 POTABLE WATER/IRRIGATION

Non-storm water discharges that originate from onsite and offsite sources must be properly managed to reduce the potential for pollutants being discharged from the construction site. Sources of these non-storm waters include broken water lines, landscape irrigation, lawn watering, water line flushing, and fire hydrant flushing.

Applications

All projects susceptible to the above-listed and other non-storm water discharges from the construction site

Key Points

Key Point #1 – Divert Flows

Where possible, direct potable/irrigation water originating from offsite sources around the construction site or through the site in a way that minimizes contact with construction activities.

Key Point #2 – Onsite Irrigation

Inspect irrigated areas on the construction site for excessive watering (Photo 1). Adjust watering schedules to ensure landscaping receives adequate water but minimizes associated runoff. Promptly shut off water to broken lines, sprinklers, or valves and repair as needed.

Photo 1

Key Point #3 – Water Conservation

Reuse water from line flushing for landscape irrigation.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Irrigation line breaks and causes erosion.	Shut off water to broken lines. Protect downstream drain inlets or receiving waters by implementing sediment control BMPs. Repair or replace lines and repair erosion.
Water from irrigation operations causes runoff or erosion.	Adjust watering schedule and times. Turn off sprinklers when they are no longer necessary to maintain vegetation. Ensure that the irrigation system is operating correctly by verifying that sprinklers are directed appropriately and are not broken or leaking.
Discharge from line flushing causes erosion.	Discharge water into a stabilized area or temporary sediment trap. Reuse water when practical.

NS-8 VEHICLE AND EQUIPMENT CLEANING

Wash water from vehicle and equipment cleaning is not to be discharged from construction sites because the rinse water may contain contaminates such as sediment, petroleum/lubricant residues, soaps, or solvents that could enter storm drain systems or receiving waters.

Applications

All construction sites

Key Points

Key Point #1 – Offsite Cleaning

Equipment/vehicle cleaning should be conducted offsite. All vehicles that regularly enter and leave the construction site must be cleaned offsite.

Key Point #2 – Onsite Cleaning

For equipment that must be cleaned on site, the Resident Engineer must be notified in advance. All waste from onsite cleaning operations must be fully contained and disposed of outside the highway right-of-way.

Key Point #3 – Wash Area Requirements

The vehicle wash area must be properly identified by sign (Photo 1) and located away from storm drain inlets, drainage facilities, and watercourses. It must be paved with concrete (Photo 2) or asphalt and have a berm to contain runoff and prevent run-on. It must be equipped with a sump for the collection and disposal of wash water.

Photo 1

Photo 2

Key Point #4 – Water Conservation

Use as little water as possible and use a positive shut-off valve to conserve on water usage.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Workers clean personal vehicles on site.	Personal vehicles and work trucks and/or equipment that regularly leave the site shall be cleaned offsite.
Wash water leaves the site.	Contain wash water in a bermed area and dispose of water outside the right-of-way.
Washing occurs on a pervious surface.	Contain water in a concrete or paved bermed area. Place a sump in the wash area and transfer wash water to sanitary sewer system or temporary sediment trap. Never discharge wash water to storm drains or receiving waters.
Vehicle fluids are spilled onto the washrack.	Clean up spilled material and dispose of properly. Contain contaminated water and dispose of properly. Do not allow spilled material to flow to storm drain system.

NS-9 VEHICLE AND EQUIPMENT FUELING

Potential fuel spills and leaks from vehicle/equipment fueling operations must be prevented from entering storm drain systems or receiving waters.

Applications

All construction sites

Key Points

Key Point #1 – Fuel Offsite

All vehicles and equipment that regularly enter and leave the construction site should be fueled offsite.

Key Point #2 – Fueling Area Location

Designated fueling areas are selected by the contractor and approved by the Resident Engineer. The fueling area should be on level grade and must be at least 15 m (50 ft) downstream of storm drain facilities or receiving waters. The fueling area should be protected by a berm or dike to prevent storm water run-on and to prevent storm water from leaving the fueling area (Photo 1).

Photo 1

Key Point #3 – Spill Response

Absorbent spill clean-up materials and spill kits must be available in fueling areas and on fueling trucks. Spills should be cleaned up immediately. Absorbent materials should be used on small spills. All used absorbent materials must be disposed of properly.

Key Point #4 – Leak Containment

Drip pans or absorbent pads must be placed under vehicles/equipment if being fueled in areas other than a dedicated fueling area with an impermeable surface (Photo 2).

Photo 2

Key Point #5 – Fueling Guidelines

Fueling operations are not to be left unattended. Fuel tanks are not to be topped off. Mobile fueling trucks must also follow BMP guidelines.

Key Point #6 – Fuel Nozzles

Fuel nozzles are to be equipped with automatic shut-off to control drips. Where required by Air Quality Management Districts, vapor recovery nozzles shall be used.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Vehicles and equipment leak fuel.	Do not top off vehicle fuel tanks. Repair immediately or remove problem vehicles or equipment from the project site.
Fueling tanks are not stored in temporary containment facilities.	Place fuel tanks in bermed temporary containment facility.
Fuel spills on ground.	Use absorbent material to clean up spill and dispose of used clean-up materials properly. Never hose down or bury spills. If fuel spills on soil, clean up contaminated soil and dispose of properly.

NS-10 VEHICLE AND EQUIPMENT MAINTENANCE

Petroleum products, lubricants, solvents, and other pollutants related to vehicle/equipment maintenance must be prevented from entering storm drain systems or receiving waters.

Applications

All construction sites

Key Points

Key Point #1 – Offsite Storage and Maintenance

All vehicles and equipment that regularly enter and leave the construction site should be maintained offsite.

Key Point #2 – Maintenance Area Design

Designated vehicle maintenance areas must be at least 15 m (50 ft) downstream of storm drain facilities or receiving waters. For long-term projects, a portable tent or cover over the maintenance area is recommended.

Key Point #3 – Maintenance Operations

For maintenance involving fluids, place drip pans or absorbent pads under the vehicle unless the work is being done in a dedicated maintenance area constructed over an impermeable surface.

Key Point #4 – Spill Prevention/Cleanup

All fluid and oil leaks must be cleaned up immediately. The maintenance area must be equipped with appropriate absorbent spill clean-up materials (Photo 1).

Photo 1

Key Point #5 – Waste Disposal

All used absorbents must be disposed of properly. Waste fluids must be placed in appropriate leak-free containers with secondary containment. All used maintenance materials should be disposed of properly off the construction site. Used fluids, tires, batteries, etc. are not to be dumped or buried on the construction site.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Used batteries are stored on the ground.	Remove batteries from site or place them in a temporary containment facility.
Used oil, filters, and vehicle fluids are stored onsite.	Place used materials in a temporary containment facility and schedule regular pickups to dispose of these materials.
Vehicles and equipment leak fluids onto the ground.	Clean up spills on pavement with absorbent. Clean up contaminated soil. Dispose of clean-up waste properly. Place drip pans or absorbent materials under parked vehicles and equipment. Repair equipment and vehicles immediately or remove from the project site.
Absorbent spill clean-up materials are not kept onsite.	Instruct contractor to keep an ample supply of absorbent clean-up materials on site at all times during maintenance operations.
Run-on flows onto the maintenance area.	Construct a berm, dike, or temporary diversion structure around maintenance facility.

NS-11 PILE DRIVING OPERATIONS

Proper control and use of equipment, materials, and waste products from pile driving operations will reduce the discharge of potential pollutants to the storm drain system or watercourse.

Applications

All construction sites near or adjacent to a watercourse or groundwater where permanent and temporary pile driving operations take place.

Key Points

Key Point #1 – Be Prepared

Use drip pans or absorbent pads at all times. However, the equipment should be as leak-free as possible. Have spill kits and clean-up materials available at all pile driving locations. Implement other BMPs as applicable. Always comply with all applicable permits.

Key Point #2 – Equipment Use

Park equipment over plastic sheeting or equivalent. Plastic sheeting is not a substitute for drop pans or absorbent pads. Use less hazardous products, e.g. vegetable oil, when practicable.

Key Point #3 – Equipment Storage

Store pile driving equipment away from flowlines, drainage courses, and inlets. Protect hammers and other hydraulic attachments from run-on by placing them on plywood. Cover them with plastic when rain is forecast.

Key Point #4 – Inspection and Maintenance

Inspect entire pile driving areas and equipment (Photo 1) for leaks and spills on a daily basis. Inspect equipment routinely for damage and repair equipment as needed.

Photo 1

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Used oil, filters, and fluids are stored onsite.	Place used materials in a temporary containment facility and schedule regular pickups to dispose of these materials.
Equipment leaks fluids onto the ground.	Clean up spills on pavement with absorbent. Clean up contaminated soil. Dispose of clean-up waste properly. Place drip pans or absorbent materials under parked equipment. Repair equipment immediately or remove from the project site.
Absorbent spill clean-up materials are not kept onsite.	Instruct contractor to keep an ample supply of absorbent clean-up materials on site at all times during pile driving operations.

NS-12 CONCRETE CURING

Following proper procedures in the use of cure, chemical or water, during construction of concrete structures will minimize pollution through run-off.

Applications

All construction sites where concrete structures are subject to curing requirements.

Key Points

Key Point #1 – Use of Chemical Cure

Protect drain inlets prior to application of cure. Use proper storage and handling techniques at all times and have spill kits available at the location of curing. .Avoid over-spraying cure, allowing it to become airborne.

Key Point #2 – Use of Water Cure

Ensure cure water does not flow to inlets or watercourses but rather to collection areas for infiltration or other means of removal approved by the RE and in accordance with all applicable permits.

Key Point #3 – Inspection and Maintenance

Ensure that cure is stored (Photo 1), handled, and used properly. Ensure that the Contractor keeps cure containers leak-free and spray nozzles clean.

Photo 1

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Cure containers are not in secondary containment.	Place materials in a temporary containment facility and store in permanent secondary containment when no longer in use.
Chemical cure is becoming airborne.	Ensure that the cure is applied close to the concrete surface to minimize cure becoming airborne.
Absorbent spill clean-up materials are not kept onsite.	Instruct contractor to keep an ample supply of absorbent clean-up materials on site at all times.
Temporary diversion devices that collect cure water needs maintenance.	Ensure the contractor is aware of the situation. If maintenance is not done, inform the RE.

NS-13 MATERIAL AND EQUIPMENT USE ON WATER

Following proper procedures in the use, storage, and disposal of materials and equipment on barges, boats, docks, temporary construction pads, or similar location will minimize or eliminate the discharge of potential pollutants to a watercourse.

Applications

All sites where materials and equipment are used on barges (Photo 1), boats, docks, and other platforms over or adjacent to a watercourse.

Key Points

Key Point #1 – Be Prepared

Use drip pans and absorbent materials under equipment and vehicles expected to be idle more than one hour. Ensure that an adequate supply of spill clean-up materials is available. Identify types of spill control measures to be employed, including the storage of necessary clean-up materials and equipment.

Key Point #2 – Be Aware

Ensure NS-10 is implemented. If repairs cannot be made, remove the equipment from over the water. Ensure compliance with all other permits associated with the project.

Key Point #3 – Secure the Area

Provide watertight curbs or toe boards to contain spills and prevent materials, tools, and debris form leaving the barge, platform, dock, etc. Secure all materials to prevent discharge to the watercourse via wind.

Photo 1

Key Point #4 – Inspection and Maintenance

Ensure timely and proper removal of accumulated waste. Inspect equipment for leaks and spills on a daily basis and ensure necessary repairs are done. Ensure proper procedures of storage and use of materials and equipment are being followed. Inspect and maintain all associated BMPs and perimeter controls to ensure continuous protection of the watercourse.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
A discharge to the watercourse occurs.	Report the discharge to the RE immediately. Clean up the discharge as much as possible. Determine the cause and secure the area.
A spill occurs without discharging into the watercourse.	Deploy spill clean up kits and supplies.
Vehicles and equipment parked over water bodies leak fluids.	Place drip pans under all vehicles and equipment that are placed on structures over water bodies that will be idle for more than one hour.

NS-14 CONCRETE FINISHING

Following proper procedures in performing concrete finishing methods will minimize the impact of potential pollutants on runoff.

Applications

All sites where concrete finishing operations are performed.

Key Points

Key Point #1 – Containment

Ensure containment of all waste materials from high-pressure water blasting, sandblasting, grinding, etc. Without containment or water suppression of particles, these operations can become problems (Photo 1).

Photo 1

Key Point #2 – Disposal

Refer to NS-2, "Dewatering" and the Dewatering Manual for options. Ensure disposal method is approved by the RE and is in compliance with applicable permits in advance of disposal.

Key Point #3 – Secure the Area

Protect all inlets that may be affected by any concrete finishing work. Direct any water, through non-erodible methods, to collection areas for infiltration or other disposal means.

Key Point #4 – Inspection and Maintenance

Inspect containment structures prior to use, during use, and prior to rainfall. If any repairs are required, ensure these are done in a timely manner and especially before a rain event. After use or at the end of the shift, ensure containment structures and general work area are clean and the wastes are disposed of properly.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Concrete finishing waste materials are not contained or cleaned up.	Ensure the Contractor knows he must contain all finishing wastes and remove them from the project in a timely manner.
Inlets are not protected.	Ensure all inlets that may be affected are protected during concrete finishing.
Containment structure is inadequate.	Ensure the Contractor is aware of the situation and makes any necessary repairs or maintenance immediately.

NS-15 STRUCTURE DEMOLITION/REMOVAL OVER OR ADJACENT TO WATER

Following proper procedures during structure demolition or removal operations will protect watercourses from debris and wastes associated with these operations.

Applications

All construction projects with full or partial structure demolition or removal, e.g., bridge widenings, concrete channel removal, etc.

Key Points

Key Point #1 – Containment

Use attachments on construction equipment to catch debris or use covers or platforms to collect debris and prevent it from falling into the watercourse. Debris catching devices must be emptied regularly and the debris stored away from the watercourse and protected until removal.

Photo 1

Key Point #2 – Disposal

Dispose of accumulated debris in a timely manner and at an approved disposal site. For hazardous waste disposal, refer to WM-6.

Key Point #3 – Inspection and Maintenance

Inspect equipment and any debris catching devices on a daily basis. Ensure any stockpiles are protected and disposed of properly. Any discharge must be reported to the RE immediately.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
A discharge to the watercourse occurs.	Report the discharge to the RE immediately. Clean up the discharge as much as possible. Determine the cause and secure the area.
A spill occurs without discharging into the watercourse.	Deploy spill clean up kits and supplies.
Vehicles and equipment parked over water bodies leak fluids.	Place drip pans under all vehicles and equipment that are placed on structures over water bodies that will be idle for more than one hour.
Debris falls into the watercourse.	Remove as much as possible with the available means, e.g. floating booms.
Inlets are not protected.	Ensure all inlets that may be affected are protected during concrete finishing.
Containment structure is inadequate.	Ensure the Contractor is aware of the situation and makes any necessary repairs, maintenance, or modification immediately.

NS-16 TEMPORARY BATCH PLANTS

Proper control and use of equipment, materials, and waste products from temporary batch plant facilities will reduce the potential of pollutant discharges to storm drain systems and/or watercourses, reduce air emissions, and mitigate noise impacts.

Applications

Construction projects where temporary batch plant facilities are used. Batch plants may be on or off site.

Key Points

Key Point #1 – Planning

A Notice of Intent (NOI) must be submitted to the SWRCB for construction and operation of a temporary batch plant. Consideration for minimizing nuisance noise and impacts to air and water quality should be observed during construction and operation. Appropriate BMPs must be implemented within the boundaries of the batch plant in accordance with the approved SWPPP.

Key Point #2 – Layout and Design

Batch plants should be located at least 300 ft away from any recreational area, school, residence, or other structure not associated with the construction project. AC or PCC berms should be constructed around plant equipment to facilitate proper containment and cleanup. Runoff should be directed to a collection area or baker tank.

Key Point #3 – Operational Procedures

Designate a concrete washout area in accordance with WM-8. All operations should be conducted so as to have no visible emissions including fabric or cartridge type filters for dry material transfers, dust-tight service hatches on silos and auxiliary bulk storage trailers, wet suppression systems at all transfer points, and covered conveyors and transporting vehicles. All plant roads shall be stabilized, watered, treated, or paved so as to control dust and tracking. All entrances and exits shall likewise be stabilized.

Key Point #4 – Materials Storage and Disposal

Refer to WM-1, “Material Delivery and Storage” as well as WM-2, “Material Use” for proper handling procedures and secondary containment requirements. All stockpiles within the batch plant boundaries shall be in accordance with WM-3, “Stockpile Management.” Refer to WM-4, 5, 8, and 10 for further discussion of handling and disposal of wastes.

Key Point #5 – Inspection and Maintenance

Inspect batch plant equipment, components, and BMPs daily during construction and operation.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Cement transfer to silos produces excessive dust.	Check fabric or filter at transfer point and repair if necessary.

NS-17 STREAMBANK STABILIZATION

Proper planning and procedures for work in and around streams and channels can reduce the potential for discharge of sediment and other pollutants and minimize the impacts of construction activities on watercourses and habitat.

Applications

Construction projects that disturb or occur within stream channels and associated riparian areas.

Key Points

Key Point #1 – Planning

Planning should consider scheduling, avoidance of in-stream construction, minimizing disturbance area and construction time, using pre-disturbed areas, selecting crossing location, and selecting equipment.

Key Point #2 – Associated BMP Selection for Streambanks

Preservation of existing vegetation (SS-2) in a streambank provides water quality protection, streambank stabilization, and riparian habitat. Hydraulic mulch (SS-3), hydroseeding (SS-4), soil binders (SS-5), straw mulch (SS-6), or a combination may be used on disturbed streambanks to provide temporary soil stabilization. Be sure to review the limitations of each so that a selection of the most appropriate one for the given conditions may be made. Also consider possible use of other soil stabilization and sediment control BMPs provided the application is appropriate and the limitations are not applicable.

Key Point #3 – In-stream Sediment Control

The primary goal while working in a stream is minimizing turbidity. There are three general ways to achieve this: construct a water diversion away from the work area, implement a water barrier around the work area, or employ practices that minimize sediment suspension.

Key Point #4 – Inspection and Maintenance

Inspect BMPs and equipment daily and ensure necessary repairs for both are done in a timely manner. If a piece of equipment leaks, remove it from the stream immediately for repairs.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Equipment in stream leaks fluids.	Remove it immediately for repairs.
Erosion occurs along the streambank.	Use appropriate BMP to stabilize streambank or repair/replace current materials as necessary.

WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL

WM-1 MATERIAL DELIVERY AND STORAGE

Materials associated with construction activities must be delivered and stored using practices that prevent these materials from polluting receiving waters. Typical materials include PCC components, petroleum products, pesticides, herbicides, fertilizers, detergents, plasters, acids, lime, glues, adhesives, paints, and solvents.

Applications

All construction sites with applicable material storage

Key Points

Key Point #1 – Storage Areas

Store materials indoors in existing structures when available. Temporary storage sheds must meet building and fire code requirements and should be located away from vehicle traffic. Storage instructions should be posted (Photo 1), and employees should be trained in proper storage and delivery procedures.

Key Point #2 – Hazardous Materials

Do not store hazardous materials directly on the ground. Store liquid chemicals in drums and bags on pallets under cover and in secondary containment. Store materials in original containers with their original product labels (Photo 2).

Photo 1

Photo2

Key Point #3 – MSDS

The contractor must provide the Resident Engineer with the Material Safety Data Sheets (MSDS) for all materials stored on the site.

Key Point #4 – Liquid Materials and Petroleum Products

Do not store incompatible materials in the same temporary storage facility. Allow sufficient space between stored containers to allow for spill cleanup and emergency response access.

Key Point #5 – Containment

Temporary containment facilities for storage must be of sufficient volume to contain precipitation from a 24-hour, 25-year storm event, plus the greater of 10% of the aggregate volume of all containers or 100% of the capacity of the largest tank within its boundary, whichever is greater. (Photo 3). Accumulated rainwater or spills should be removed from containment areas promptly.

Photo 3

Key Point #6 – Bagged/Boxed Materials

Store materials delivered in bags and boxes on pallets. Cover bagged/boxed materials on non-working days and prior to rain events to protect materials from wind and precipitation.

Key Point #7 – Spill Cleanup

Contain and clean up spills immediately in accordance with BMPs detailed in Spill Prevention and Control (WM-4).

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Hazardous materials are not stored in temporary containment devices.	Place hazardous materials in an appropriate temporary containment facility.
Hazardous substances are not labeled.	Re-label items with an original label or remove substances from the site.
Hazardous chemicals, drums, or bagged materials are stored directly on the ground.	Place material on a pallet and when possible, under cover and in temporary containment.
Temporary containment facilities have standing water in them.	Pump out standing water into a containment device and dispose of properly. The water should be tested for possible pollutants and disposed of properly.
Materials are stored outside.	Place materials on a raised platform and cover as needed to provide run-on and runoff control.
Incompatible materials such as chlorine and ammonia are stored together.	Place incompatible materials in separate temporary storage facilities.
Temporary containment facilities are not covered.	When practicable, cover containment facilities at all times. At a minimum, cover containment facilities on non-working days and prior to rain events.
There are no spill clean-up materials onsite.	Instruct contractor to purchase an ample supply of clean-up materials for materials being stored onsite and keep them close to the temporary storage areas.

WM-2 MATERIAL USE

Materials associated with construction activities must be used in accordance with practices that prevent them from polluting receiving waters. Typical materials include AC, PCC, PCC compounds, petroleum products, pesticides, herbicides, fertilizers, detergents, plasters, acids, lime, glues, adhesives, paints, solvents, and curing compounds.

Applications

All construction sites with applicable material uses

Key Points

Key Point #1 – MSDS

The contractor must provide the Resident Engineer with the Material Safety Data Sheets (MSDS) for all materials used on the site.

Key Point #2 – Paint Materials

Mix paint indoors or in a containment area. Allow time for drying before rain events. Never clean brushes or rinse equipment so waste water enters street, gutter, storm drain, or receiving water. Items used with water-based paint can be cleaned, discharging rinse water to a sanitary sewer. When dry, empty latex paint cans, brushes, etc. can be disposed of with other construction debris. Filter used paint thinner/solvents and reuse. Paint thinners and solvents that cannot be recycled must be disposed of as hazardous waste.

Key Point #3 – Landscaping-Related Products

The contractor must complete a "Report of Chemical Spray Form" when spraying herbicides and pesticides. Products must be applied by a licensed applicator. Do not over-apply fertilizers or pesticides and follow product usage recommendations. Apply in small amounts, allowing time for product to work in or dry before rain events.

Key Point #4 – Spill Cleanup

Maintain spill clean-up materials near areas that products will be used.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Improper disposal of waste water from washing paint brushes occurs.	When practicable, wash paint brushes in a drain that is connected to a sanitary sewer system or into a concrete washout pit or temporary sediment trap.
Paint mixing occurs onsite.	Mix paints indoors or in a containment area.
Disposal of latex paint occurs onsite.	Collect all excess paint. Paint cans, brushes, rags, absorbent materials, and rags, when thoroughly dry, may be disposed of with other construction debris.
Paint thinner or solvent is spilled during use.	Clean up spills on pavement with absorbent. Spills on soil should be cleaned up by removing contaminated soil and disposing of properly.

WM-3 STOCKPILE MANAGEMENT

Construction stockpiles of materials such as soil, PCC, AC, PCC/AC rubble, aggregate base, aggregate sub-base, and asphalt based cold-mix have the potential to pollute receiving waters if not protected from contact with storm water.

Applications

All construction sites with applicable stockpiles

Key Points

Key Point #1 – General Guidelines

Stockpile protection is a year-round requirement. Install temporary barriers around stockpile perimeters to prevent contact with storm water when required. Temporary barriers can be berms, dikes, silt fences (Photo 1), straw bales, or sandbag barriers. All active stockpiles are to be protected by linear sediment barriers prior to rain events.

Key Point #2 – Soil Stockpiles

During the rainy season, cover inactive soil stockpiles (Photo 2) or protect them with soil stabilization at all times (Photo 3). During the non-rainy season, cover inactive soil stockpiles or protect them with linear barriers prior to rain events.

Photo 1

Photo 2

Key Point #3 – Paving Material Stockpiles

During the rainy season, cover inactive stockpiles of PCC, AC, AC/PCC rubble, and aggregate base and sub-base, and protect with a temporary perimeter barrier at all times. During the non-rainy season, cover inactive stockpiles or protect with a linear barrier prior to rain events.

Key Point #4 – Asphalt Based Cold-Mix Stockpiles

Place active and inactive cold-mix stockpiles on plastic and cover with plastic prior to rain events (Photo 4). The key is to prevent contact between rainfall and run-on with the stockpiles.

Photo 3

Photo 4

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Soil stockpile erodes.	Cover stockpile with plastic sheeting or spray with a soil stabilizer. Protect with a temporary perimeter sediment barrier around the stockpile.
Stockpile is in flow line.	Remove stockpile from drainage path or protect with a berm, dike, or temporary diversion device.
Storm water run-on impacts the stockpile.	Protect the stockpile by using temporary perimeter sediment barriers such as berms, dikes, silt fencing, or sandbags.
Wind causes erosion and or blowing dust.	Cover stockpile or spray with a soil stabilizer. Use a water application to suppress dust.
Cold-mix stockpile is on the bare ground.	Remove stockpile and place on plastic or comparable material.
Cold-mix is stored in curb drainage way.	Remove stockpile from flow line.

WM-4 SPILL PREVENTION AND CONTROL

Spill prevention and prompt appropriate spill response reduces the potential for polluting receiving waters with spilled contaminants. Spills of concern include chemicals and hazardous wastes such as soil stabilizers/binders, dust palliatives, herbicides, growth inhibitors, fertilizers, de-icing products, fuels, lubricants, paints, and solvents.

Applications

All construction sites where chemicals or hazardous materials are stored or used

Key Points

Key Point #1 – Spill Types

Be prepared for spills. Locate and clearly label spill kits and used absorbent containers (Photo 1). Respond to all spills immediately upon discovery. The appropriate spill response is determined by the quantity and/or composition of spilled substance, as follows:

- A "minor spill" involves a small quantity of oil, gas, paint, etc. that can be controlled by the first responder upon discovery of the spill.
- A "semi-significant spill" can be controlled by the first responder with the aid of other personnel and may require cessation of all other activity.
- A "significant/hazardous spill" is a spill that cannot be controlled by personnel in the immediate vicinity.

Photo 1

Key Point #2 – Minor Spill Response

- Contain the spill.
- Recover the spilled material.
- Clean the spill area. Use absorbent materials. Do not hose down the area.
- Dispose of clean-up materials appropriately.

Key Point #3 – Semi-Significant Spill Response

- On impermeable surfaces, surround the spill with absorbent material to contain it. Clean spill using absorbent material.
- On dirt areas, construct an earthen dike to contain the spill. Dig up contaminated soil and dispose of properly.
- If spill occurs during rain, cover spill area to prevent contaminating storm runoff.

Key Point #4 – Significant/Hazardous Spill Response

- Contractor notifies the RE immediately.
- Contractor calls 911 and appropriate county officials.
- Contractor notifies the Governor's Office of Emergency Services Warning Center (805) 852-7550.
- For spills meeting federal quantities, the contractor notifies the National Response Center (800) 424-8802.
- All verbal notification must be followed up by written reports.
- Contractor obtains services of spill contractor or a HazMat team immediately. Contractor staff is not to attempt cleanup until qualified assistance has arrived onsite.

Key Point #5 – Education

Train employees regarding the appropriate response for spills for the materials they use. Incorporate spill response procedures into regular safety meetings.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Material spills occur on a permeable surface.	Contain spread of spill with an earthen dike. Dig up and properly dispose of contaminated soil.
Material spills occur on an impermeable surface.	Use dry absorbent materials to encircle and contain the spill. Place clean-up materials in a drum and dispose of properly.
The spill exceeds the capacity of spill cleanup materials on site.	Contain spill. Obtain enough spill clean-up materials to completely clean up the spill. Contact Caltrans Maintenance. Store additional spill clean-up materials as necessary.
Spilled material encroaches onto travel way.	Contact Caltrans Maintenance. Use additional spill clean-up materials as necessary and replenish these materials in adequate quantity for future use.

WM-5 SOLID WASTE MANAGEMENT

Solid construction wastes must be collected, stored, and disposed of using practices that minimize contact with storm water. Solid wastes include such items as used brick, mortar, timber, steel, vegetation/landscaping waste, empty material containers, and litter.

Applications

All construction sites

Key Points

Key Point #1 – Waste Storage Areas

Solid waste storage areas should be located in an area with little potential for flooding and at least 15 m (50 ft) from drainage facilities and receiving waters. Use berms, dikes, or temporary diversion structures to protect stockpiled waste materials from contacting storm water. During foul weather, waste should be stored in watertight dumpsters or securely covered. Salvage or recycle waste as appropriate.

Key Point #2 – Litter Control

Provide adequate trash receptacles in the yard, field trailer areas, and where workers gather for breaks and meals (Photo 1). Do not place litter receptacles near drainage inlets or receiving waters. All litter within the construction site is to be collected weekly, regardless of the litter's origin. Litter is to be removed from the site by trash hauling contractors.

Photo 1

Key Point #3 – Dumpsters

Provide an adequate number of watertight dumpsters to collect the anticipated volume of construction waste. Plan for additional dumpsters and dumpster pickups during demolition phases. Do not place dumpsters near drainage inlets or receiving waters. Full dumpsters are to be removed from the site and disposed of outside the highway right-of-way. Washing out dumpsters on the project site is prohibited.

Key Point #4 – Litter and Debris

Do not let litter interfere with the functioning of the storm drain system. Ensure that litter and debris are removed regularly from drainage grates and ditch lines (Photo 2).

Photo 2

Key Point #5 – Hazardous Wastes

Separate potentially hazardous waste from non-hazardous waste. Do not dispose of toxic liquid wastes in dumpsters designated for construction wastes. Dispose of hazardous wastes in accordance with WM-6.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Runoff runs through waste stockpiles.	Locate stockpiles away from drainage courses or place a berm, dike, or temporary diversion structure around stockpiles.
Lunch trash is left on the ground.	Place trash receptacles in yards, field trailers, or where workers gather for lunch and breaks. Instruct personnel on waste disposal procedures.
Trash containers leak.	Install watertight liner, remove, or replace leaky containers.
The public dumps trash on site.	Block access to areas where dumping occurs. Keep trash cleaned up to discourage dumping. Place sign that illegal dumping is prohibited.
Hazardous waste is intermixed with solid waste.	Segregate hazardous waste from solid waste. Instruct employees and workers to identify and properly dispose of hazardous waste.

WM-6 HAZARDOUS WASTE MANAGEMENT

Hazardous wastes should be collected, stored, and disposed of using practices that prevent contact with storm water. The following types of wastes are considered hazardous: petroleum products, concrete curing compounds, palliatives, septic wastes, paints, stains, wood preservatives, asphalt products, pesticides, acids, solvents, and roofing tar. There may be additional wastes on the project that are considered hazardous. It is also possible that non-hazardous waste could come into contact with these hazardous wastes, such that they become contaminated and are therefore considered hazardous waste.

Applications

All construction projects

Key Points

Key Point #1 – Hazardous Material Use

Use containment berms in fueling areas. Provide secondary containment in paint mixing areas (Photo 1) and paint clean-up areas. Place hazardous waste collection containers at convenient locations.

Photo 1

Key Point #2 – Hazardous Waste Storage Areas

Ensure that adequate waste storage volume is provided and is located away from storm drains and receiving waters. Provide temporary containment sufficient to contain precipitation from a 24-hour, 25-year storm event, plus 10% of the aggregate volume of all containers or 100% of the capacity of the largest tank within its boundary, whichever is greater. Temporary containment should be impervious to spilled wastes for a minimum of 72 hours (Photo 2). Equip storage areas with appropriate spill clean-up materials. Allow sufficient space between storage containers to allow for spill cleanup and emergency response access.

Key Point #3 – Hazardous Waste Containers

Store hazardous wastes in appropriate sealed containers that are clearly labeled with contents and starting date of accumulation. Do not mix different types of waste together in one container. Do not store incompatible wastes in the same temporary containment facility. If dry waste containers are not watertight, store containers on pallets. Prior to predicted rain events, cover the containment area (Photo 3).

Photo 2

Photo 3

Key Point #4 – Disposal

Hazardous waste is to be transported from the site by a licensed hazardous waste transporter and disposed of at an authorized, licensed disposal or recycling facility within 90 days of being accumulated. Properly dispose of rain water removed from temporary containment that may have mixed with hazardous waste.

Key Point #5 – Education

Contractor and subcontractor employees should be educated regarding identification, storage, and disposal of hazardous wastes. Ongoing hazardous waste training should be incorporated into regular safety meetings.

Key Point #6 – Inspection and Maintenance

Ensure that hazardous waste storage areas are inspected in conformance with contract provisions. Repair or replace perimeter controls, containment structures, covers, and liners as needed.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Rain water mixes with hazardous materials.	Collect rain water and then properly dispose of as hazardous waste.
Hazardous waste containers are stored in the open.	Place hazardous waste containers in temporary containment and cover prior to rain events.
Hazardous waste containers are not labeled.	Clearly label all hazardous waste containers with the waste being stored and the beginning date of accumulation.
Temporary containment area is inadequate to contain waste or hazardous materials.	Temporary containment facilities should be constructed to contain precipitation from a 24-hour, 25-year storm event, plus 10% of the aggregate volume of all containers or 100% of the capacity of the largest tank within its boundary, whichever is greater.
Temporary containment facilities are not covered.	When practicable, cover containment facilities at all times. At a minimum, cover containment facilities on non-working days and prior to rain events.
Dry wastes are stored on the ground.	Unless in watertight containers, store dry wastes on pallets

WM-7 CONTAMINATED SOIL MANAGEMENT

Contaminated soil on construction sites should be managed to prevent any pollutants from entering storm drain systems or receiving waters. Typical soil contamination is due to spills, illicit discharges, underground storage tank leaks, or aerially deposited lead (ADL). Contaminated soils tend to occur on projects in urban or industrial areas. Soil contaminants and locations are often identified in the project plans and specifications.

Applications

Areas of contamination as identified on project plans and specifications
Suspected areas of contamination due to site history, spills, leaks, soil discoloration/odor, abandoned tanks, pipes, or buried debris
Highway widening project where adjoining soils may contain ADL

Key Points

Key Point #1 – Aerially Deposited Lead (ADL)

Soil from areas with ADL may be used as indicated in the contract special provisions providing that operations result in no visible dust. When excavating soils containing ADL, monitor air quality. Soils containing ADL may also be transported to a licensed landfill or other disposal site. At all times, prevent storm water, groundwater, etc. from mixing with and transporting contamination.

Key Point #2 – Identification and Coordination

If needed, staff from a Caltrans-approved certified lab shall test suspected soil. Upon confirmation of contamination, contractor shall work with appropriate local, state, and federal agencies to implement appropriate excavation, transportation, and disposal practices.

Key Point #3 – Stockpiling

Avoid stockpiling contaminated soils. If stockpiling is necessary, cover stockpile with plastic sheeting or tarps, install a berm around stockpile to prevent run-on, and locate the stockpile away from storm drains and receiving waters. Photo 1 shows contaminated soil stockpiled too close to an inlet.

Photo 1

Key Point #4 – Underground Storage Tank Removal

Obtain required approvals and permits from applicable local, state, and federal agencies prior to removal. If tank contains liquid or sludge, ensure that it is tested for hazardous substances prior to removal. Test underlying soils to determine if there is contamination. Prevent storm water, groundwater, etc. from mixing with and transporting contaminated substances from the storage tank. Ensure that tank and any liquid, sludge, or contaminated soils are transported and disposed of properly.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Contaminated soil must be stockpiled onsite.	Cover the stockpile with plastic sheeting or a tarp. Construct a berm around the stockpile to prevent runoff from leaving the area. Do not place stockpiles near storm drains or watercourses.
Water becomes mixed with contaminated soils.	Collect the water and treat or transport to an appropriate disposal site.

WM-8 CONCRETE WASTE MANAGEMENT

Concrete waste materials must be properly managed to minimize or eliminate contact with storm water.

Applications

On construction sites where new concrete is placed or demolition of concrete structures occurs
Where concrete slurries are generated such as sawing, coring, grinding, and grooving
At mortar mixing stations

Key Points

Key Point #1 – Concrete Slurry Waste

Place temporary berms or sandbags around coring and saw-cutting locations to contain slurry. Vacuum slurry waste or collect it in a temporary lined pit and allow it to dry. Dispose of concrete waste in compliance with Solid Waste Management (WM-5).

Key Point #2 – Temporary Concrete Washout

Wash out concrete trucks in designated areas only (Photo 1). Locate washout facilities a minimum of 15 m (50 ft) from storm drains or receiving waters. Keep the washout areas away from areas of construction traffic. A sign shall be installed at each location in accordance with Standard Specification Section 56-2, "Roadside Signs." The facility shall have a pit or berm to provide sufficient volume to contain all concrete waste resulting from washout. Allow concrete waste to dry and then dispose of on a regular basis in conformance with Standard Specifications, Section 15-3.02, "Removal Methods."

Photo 1

Key Point #3 – Above Grade Washout Facilities

Above grade facilities (Photo 2) shall be constructed as shown in the details. A minimum length and width of 3 m (10 ft) is recommended, but the area should have sufficient volume to contain the anticipated waste. The lining material shall be a minimum of 10-mil polyethylene sheeting, free of holes or other defects.

Photo 2

Key Point #4 – Below Grade Washout Facilities

Below grade facilities shall be constructed as shown in the details. A minimum length and width of 3 m (10 ft) is recommended, but the area should have sufficient volume to contain the anticipated waste from operation. The lining material shall be a minimum of 10-mil polyethylene sheeting, free of holes or other defects. Commercial type lath and flagging shall be used.

Key Point #5 – Inspection and Maintenance

Washouts should be maintained to provide a minimum 100 mm (4 in) freeboard for above ground facilities and 300 mm (1 ft) freeboard for below grade facilities. Maintenance includes removal and disposal of hardened concrete as previously described. Existing facilities must be cleaned or additional facilities constructed when the washout is 75% full (Photo 3).

Photo 3

Key Point #6 – Washout Removal

Materials used to construct the facility become the property of the contractor and shall be removed and disposed of outside the highway right-of-way in conformance with Standard Specifications, Section 7-1.13. Holes and depressions shall be backfilled and repaired in conformance with Standard Specifications, Section 15-1.02, “Preservation of Property.”

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Concrete washout overflows.	Discontinue using washout and construct new facility to contain anticipated washout operations.
Concrete washout discharges into storm drain.	Notify the Construction Storm Water Coordinator of potential non-compliance. Clean up as much of the waste as possible. Place washout at least 15 m (50 ft) from drainage facilities or receiving waters. Ensure the washout is designed to contain the volume of anticipated wastes. Protect storm drain while conducting washout with inlet cover, sandbags or other BMP.
Drivers wash out trucks at locations of their choosing.	Place sign at washouts and instruct drivers of the washout locations.

WM-9 SANITARY/SEPTIC WASTE MANAGEMENT

This BMP includes procedures to prevent the introduction of wastes from construction site toilet facilities to storm drains or receiving waters.

Applications

All construction sites that use temporary or portable sanitary/septic waste systems

Key Points

Key Point #1 – Installation

Temporary sanitary facilities should not be located near drainage facilities (Photo 1) or receiving waters, nor should they be located in areas that will collect water (Photo 2). If the site is deemed to be a high wind area by the RE, the facilities shall be secured to prevent overturning.

Photo 1

Photo 2

Key Point #2 – Sanitary Sewer Discharge

Discharges direct to the sanitary sewer should be in compliance with local health agency and sewer district requirements. Ensure that the temporary facility is properly connected to the sanitary sewer to prevent illicit discharges.

Key Point #3 – On-Site Disposal

Waste water shall not be discharged or buried within the highway right-of-way (Photo 3). Ensure that any on-site disposal systems comply with local health agency requirements.

Photo 3

Key Point #4 – Inspection and Maintenance

The contractor's Water Pollution Control Manager (WPCM) shall monitor sanitary/septic waste storage and disposal procedures weekly. Ensure that the sanitary/septic facilities are maintained in good working order and wastes are transported offsite by a licensed service.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Sanitary facilities tip over.	Place sanitary facility on level surface and out of drainage paths or traffic areas. Use Spill Prevention and Control (WM-4).
Sanitary facility leaks.	Repair or replace sanitary facility.
Sanitary facility is cleaned onsite near storm drain.	Place sanitary facility away from drainage inlets or receiving waters. Contain water in a temporary trapping device.

WM-10 LIQUID WASTE MANAGEMENT

This BMP includes procedures to prevent pollutants related to non-hazardous liquid wastes from entering storm drains or receiving waters. Liquid wastes include drilling slurries, drilling fluids, wastewater that is free from grease and oil, dredgings, and other non-storm water liquid discharges not covered by separate permits. This BMP does not apply to the following:

- Dewatering operations (See NS-2)
- Solid wastes (See WM-5)
- Hazardous wastes (See WM-6)
- Concrete slurries (See WM-8)
- Liquid wastes covered by specific laws or permits
- Non-storm water discharges permitted by any Caltrans NPDES permit unless Caltrans determines that the discharge contains pollutants

Applications

All construction sites where liquid wastes are generated

Key Points

Key Point #1 – Capture

Capture all liquid wastes that have the potential to impact water entering the storm drain system. Use temporary dikes or berms to direct surface flow of liquid wastes to a containment structure or device. If liquid waste contains sediment, capture and treat the flow to remove sediment or capture in a containment structure to allow sediment to settle.

Key Point #2 – Containment

Contain liquid wastes in a controlled area that is structurally sound, leak-free, and provides sufficient storage for the anticipated volume. Appropriate structures include holding pits, sediment basins, roll-off bins, and portable tanks. Locate the containment structure such that accidental releases do not discharge to storm drains or receiving waters or threaten health or safety.

Key Point #3 – Disposal

Some liquid wastes may require testing and certification that they are non-hazardous before an appropriate disposal method is selected. Liquid waste may need to be treated to remove sediment or other pollutants prior to disposal. Typical liquid waste disposal requires Dewatering (NS-2) with disposal of resulting solids per Solid Waste Management (WM-5) or Standard Specification Section 7-1.13, "Disposal of Material Outside the Highway Right-of-Way."

Key Point #4 – Inspection and Maintenance

Frequently inspect liquid waste containment areas and capturing devices for damage. Repair as needed.

Preventive Measures and Troubleshooting Guide

Field Condition:	Common solutions are:
Liquid waste is sediment- laden.	Construct a temporary Sediment Trap (SC-3) and allow sediment to settle. Properly dispose of liquid waste.
Liquid waste discharge is uncontrolled.	Capture flows by using temporary dikes or berms to intercept flows and direct them to a containment device.

PART IV: NOTES

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CALTRANS HEADQUARTERS ENVIRONMENTAL WEBSITE

[redacted]

COMMENTS AND QUESTIONS

Please fax comments, questions, or concerns regarding this manual or other BMP news to [redacted]

Last Updated: Monday, September 26, 2016 7:56 AM

REPORTS

- Monitoring and Characterization Studies
- Tahoe
- Erosion
- Litter
- New Technology
- Public Education
- Stormwater Management Plans, Annual Reports, RWPs, Permit
- Water Quality Guidelines & Protocols
- Construction Handbooks - Link to Construction Website
- Landscape and Design Handbooks - Link to Design Landscape Architecture Website

All reports are in Adobe PDF format, unless otherwise noted.

Monitoring and Characterization Studies

CTSW-TM-09.176.16.1 Document Size: 929 KB
District 8 Dry Weather Runoff Investigations-Coachella Valley
March 2009
Summarizes dry weather runoff investigation conducted within Coachella Valley for District 8 facilities.

CTSW-RT-05-073.02.6 Document Size: 2,239 KB
Data Appendix Document Size: 65,793 KB
First Flush Phenomenon Characterization Report
August 2005
Study jointly performed by UCLA and UCD. Most of the data presented was collected from three highly urbanized highway sites in west Los Angeles. Much effort went into developing a quantitative way of defining the mass first flush. Other aspects include: variability of water quality during storm events, litter characteristics, correlation among constituents, first flush of organics and particle size distribution, new methods for measuring oil and grease, and grab and composite sampling strategies.

CTSW-RT-05-73-19.7 Document Size: 2,255 KB
Management of Pathogens Associated with Storm Drain Discharge:

Methodology for Quantitative Molecular Determination of Viruses, Bacteria and Protozoa
July 2005
Addresses the development of quantitative molecular methods based on PCR to analyze human viruses present at low concentrations in stormwater and stormwater-impacted locations.

CTSW-RT-08 -167.02.03 Document Size: 372 KB
Monitoring and Research Program Annual Data Summary Report
February 2008
Summary of the monitoring and research program data.

CTSW-RT-03-069.51.42 Document Size: 7363 KB
2002-2003 Annual Data Summary Report
August 2003

CTSW-RT-03-065.51.42 Document Size: 17400 KB
Discharge Characterization Study Report
November 2003
Overview of the Department stormwater characterization activities, descriptions of the methods used to produce and evaluate the data, results of the characterization monitoring and data analysis, and conclusions pertinent to management of stormwater runoff from transportation facilities.

CTSW-RT-03-059.73.15 Document Size: 4323 KB
A Review of the Contaminants and Toxicity Associated with Particles in a Stormwater Runoff
2003
Primary purposes are to (1) document known relationships between particle size, pollutant levels, and toxicity in stormwater runoff from highway facilities, (2) critically examine existing methods for the collection of stormwater samples and subsequent measurements of toxicity, heavy metals, organic pollutants, and particle size distributions, and (3) identify knowledge gaps that currently limit Caltrans ability to mitigate stormwater pollution.

CTSW-RT-03-036 Document Size: 10918 KB
Compost Stormwater Filter System Monitoring Report, State Route 73
June 2003
This report presents the results of two years of monitoring compost strom filters. In general, the CSF system removed some metals and TSS. However, most of the removal was in the equalization basin and not in the filter itself. Additionally, the filters leached nutrients.

CTSW-RT-03-028 Document Size: 569 KB
Roadside Vegetated Treatment Sites (RVTS) Study
November 2003
Study to evaluate the removal of stormwater contaminants by existing vegetated slopes adjacent to freeways.

CTSW-RT-02-055 Document Size: 1814 KB
Caltrans Construction Sites Runoff Characterization Study
September 2002
Results and findings of a 4-year construction site runoff characterization study for over 30 different construction sites.

CTSW-RT-02-040 Document Size: 5211KB
North Coast River Loading Study Road Crossings on Small Streams
July 2002
Volume I. Status of the Salmonids
Volume II. Stressors on Salmonids
Volume III. Impact of Stressors on Salmonids

CTSW-RT-02-039 Document Size: 1828 KB
Herbicide Effects on Fish Reproduction Endocrine Disruption Capabilities of Suflan and Oryzalin.
July 2002
Presents toxicity impacts of selected herbicides on certain fish at two highway sites in District 1, North Coast area.

CTSW-RT-02-025 Document Size: 611KB
Management of Pathogens Associated with Storm Drain Discharge-Results of Investigations of the Presence of Human Pathogens in Urban Storm Drains.
May 2002
Presents results of study to detect pathogens in stormwater runoff from Caltrans facilities in District 7 (Los Angeles) and District

11 (San Diego).

CTSW-RT-00-016 Document Size: 4547KB
Caltrans 1999/2000 First Flush Study Report
June 2000
Presents the results of the first flush characterization study conducted at three highway sites in District 7.

Tahoe

CTSW-RT-05-157.04.02 Document Size: 4,244 KB
Caltrans Lake Tahoe Stormwater Small-Scale Pilot Treatment Project
Phase IV Final Report
April 2006
Presents the results from the fourth year (Phase IV) of the pilot testing program.

Chemical Dosing Studies:

CTSW-RT-06-073.13.1 Document Size: 1,641 KB
Small-Scale Studies on Low Intensity Chemical Dosing (LICD) for Treatment of Highway Runoff
April 2006
Project to determine the feasibiligy of low intensity chemical dosing (LICD) for improving highway stormwater runoff quality in the lake Tahoe Basin.

CTSW-RT-03-063.33.41 Document Size: 51.5 MB
Caltrans Lake Tahoe Stormwater Treatment Pilot Project Jar Test Results and Summary Report
January 2003
Presents the results of jar tests performed on up to 13 coagulants in an effort to identify a promising coagulant for the Tahoe Small-Scale Facility treatment technology tests.

CTSW-RT-05-157.01.2 Document Size: 1,922 KB
Caltrans Highway 267 Filter Fabric Sand Trap Pilot Study, 2004-2005 Interim Report
February 2006
Presents data from the first year of this study, collected during the wet season from Dec. 2004 through May 2005.

CTSW-RT-03-079.51.37 Document Size: 13354 KB
Caltrans Lake Tahoe Stormwater Small-Scale Pilot Treatment Project, phase II report.
December 2003
Project to identify and evaluate stormwater treatment technologies that may be capable of meeting the Tahoe Basin numeric surface water discharge limits for turbidity, total phosphorus, total nitrogen, total iron, and oil/grease. Results and analyses from the second year (Phase II) of the pilot testing program.

CTSW-RT-03-054.36.02 Document Size: 18.8 MB
Caltrans Tahoe Highway Runoff Characterization and Sand Trap Effectiveness Studies, 2000-2003 Monitoring Report.
Revised March 2005
Presents the results of highway runoff characterization in the Tahoe Basin and the effectiveness of sand traps.

CTSW-RT-03-017 Document Size: 10604 KB
Caltrans Tahoe Basin Geotechnical Site Investigations for Large Scale Pilot Systems, Infiltration Basins B101 and B109-Report of Findings
April 2003
This report describes the results of a geotechnical site investigation performed to characterize the subsurface physical and chemical conditions including, but not limited to, seasonal high groundwater elevation, lithology, thickness, infiltration rates, and pollution capture potential in soils underlying two proposed infiltration basin sites (B101 and B109) on Route 50 near Meyers.

CTSW-RT-01-038 Document Size: 6931 KB
Final Report Caltrans Tahoe Basin Stormwater Monitoring Program, Monitoring Season 2000-2001
August 2001
Presents summary results of the stormwater runoff, snowmelt runoff, thunder storm, and precipitation characterizations from three highway sites in Districts 3 (Tahoe Basin) during the 2000/01 monitoring season

Erosion

CTSW-TM-172.35.1 Document Size: 152 KB
Soil Stabilization BMP Research for Erosion and Sediment Controls
Cost Survey Technical Memorandum
July 2007
A matrix of the average installed costs for soil stabilization Best Management Practices (BMPs) as well as supporting graphics of the distribution of the installed cost information.

CTSW-RT-06-137.20.1 Document Size: 1,474 KB
Cellular Confinement System Research
January 2006
Provides supporting information to construction staff on appropriate uses of Cellular Confinement Systems as a temporary construction site BMP.

CTSW-RT-05-069.06.2 Document:
Native Shrub Germination Relative to Compost Type, Application Method, and Layer Depth
July 2005
Roadside erosion control and management experiments to statistically test for significant differences in water quality and vegetation establishment among existing soil stabilization spcifications to better reduce runoff and sediment transport.

CTSW-RT-04-069.06.1 Document Size:
Performance of Erosion Control Treatments on Reapplied Topsoil
May 2005
During 2003-2004, two experiments were performed that have direct relevance to projected revegetation during phases of the Route 46 Corridor Improvement Project scheduled to begin construction in Summer 2007.

CTSW-RT-05-073.20.1 Document: Link to Landscape Architecture
Soil Resource Evaluation - a stepwise process for regeneration and revegetation of drastically disturbed soils
June 2005
Revegetation fails to establish on many harsh cut and fill sites, mainly because of limitations of soil moisture and long term nitrogen. This report outlines the many reasons for revegetation failure and provides examples of soil regeneration for improved revegetation establishment, and provides information in a computer-based, expert system program.

CTSW-RT-04-069.01.1 Document Size: 2680 KB
Effective Planting Techniques to Minimize Erosion
January 2004
This experiment sought to identify and compare vegetation planting techniques that provide immediate soil surface stability and long-term erosion control to reduce soil loss and improve water quality using native vegetation.

CTSW-RT-03-049 Document Size: 5916 KB
Caltrans Erosion Control New Technology Report
June 2003
An evaluation of erosion control, focusing on practices and products applicable to upland areas

CTSW-RT-03-030 Document Size: 3987 KB
SR-73 1085L GSRD with Sediment Trap- Operations, Maintenance and Monitoring Plan, Monitoring Season 2002-03
January 2003
Provides guidance and all necessary procedures and standards to conduct gross solids monitoring at GSRD pilot sites along SR-73. For the first year, only Basin 1085L was ready for monitoring.

CTSW-RT-02-054 Document Size: 18119 KB
Caltrans Hydraulically Designed (CHD) Biofilter Strip Evaluation Program; Water Quality , Monitoring, Sampling and Analysis Plan
September 2002
The Roadside Vegetated Treatment Sites (RVTS) Study is a two-year water quality monitoring project undertaken to evaluate the removal of stormwater contaminants by existing vegetated slopes adjacent to freeways.

CTSW-RT-02-040 Document Size: 5211 KB
Small Stream Crossing Impact Research Project; North Coast River Loading Project
July 2002
Presents effects of runoff from road crossings on small river streams at highway site in the North Coast area, District 1.

CTSW-RT-02-039 Document Size: 1828 KB
Estrogenicity of Selected Herbicides and Adjuvants

July 2002
Presents toxicity impacts of selected herbicides on certain fish at two highway sites in District 1, North Coast area.

CTSW-RT-02-038 Document Size: 5916 KB
Caltrans Arid Region Non-Vegetative Erosion Control, Study Plan and Experimental Design
July 2002
The purpose of the following is to address the need for non-vegetative erosion control technologies in roadside conditions that are typical of arid regions of California where vegetative systems may not be successful.

CTSW-RT-02-052 Document Size: 6001 KB
Rainfall Simulation: Evaluating Hydroseeding & Plug Planting Techniques for Erosion Control & Improved Water Quality
September 2002
Compares establishment of a native Central Coastal California seeding mix and a non-native seeding mix using hydroseeding versus the existing seed bank for rapid cover and respective effectiveness at controlling sediment transport under intense simulated rainfall at 45 and 70 days, and hydroseeded versus plug-planted California Brome at 70 days. Compares the effects of six erosion control treatments on the germination rates of eight plant species at ¼ and ½ inch depths. Also discusses possible causes for heavy metal transport and ways to reduce this transport in runoff water.

CTSW-RT-01-066 Document Size: 2.4 MB
Temporary Non-Vegetative Soil Stabilization Evaluation Study for 2000-2001 Season
February 2002
This report presents the results of a field study designed to evaluate the performance of seven temporary non-vegetative erosion control materials in Orange County, California.

CTSW-RT-01-067 Document Size: 75903 KB
Caltrans Statewide Erosion Control Review
February 2002
Provide a comprehensive, data-rich, and timely review of common Caltrans erosion control problem sites throughout the state. The study included 57 sites statewide.

CTSW-RT-01-078 Document Size: 924 KB
Vegetation Establishment for Erosion Control Under Simulated Rainfall
April 2002
Treatments were conducted in soil test boxes set at a 2:1 (H:V) slope. Erosion control treatments included combinations of five erosion control materials. Boxes were planted with the same native seed mix that included shrubs, forbs, and grasses. Erosion control effectiveness was evaluated.

CTSW-RT-01-079 Document Size: 4228 KB
District 5 Advisory Guide to Plant Species Selection for Erosion Control
November 2001
This guide, and the geographic information system (GIS) in development from which it is derived, are intended as advisory resources in the specification of plant species to aid, district landscape architects, biologists, or other personnel primarily responsible for specifying plant species.

CTSW-RT-00-012 Document Size: 34.3 MB
District 7 Erosion Control Pilot Study
June 2000
Discusses laboratory evaluation of five soil roughness techniques on erosion rate and runoff on bare soil using simulated rainfall; lab and field evaluations of erosion rate and water quality for 15 soil stabilization techniques plus bare soil using simulated and natural rainfall, and irrigated cut and fill highway slope conditions; effect of increasing plant cover; study of runoff for four vegetation types plus bare soil on cut and fill highway slopes. Presents data and comparative testing results.

Litter

CTSW-RT-05-73-18.1 Document Size: 9,878 KB
Laboratory Testing of Gross Solids Removal Devices
May 2005
Details the results of tests to assess the performance of three alternative Gross Solids Removal Devices (GSRDs).

CTSW-RT-03-091.51.43 Document Size: KB
Assessment of Drain Inlet Cleaning and Waste Disposal
November 2003

Assesses District 4 Vactor operations and BMPs for drain inlet cleaning, characterizes dry waste at decanting sites, assesses current decanting sites, and recommends placement and configuration of decanting sites and waste management.

CTSW-RT-03-057.36.1 Document Size:3010 KB
Drain Inlet Cleaning Efficacy Study (DICE)
June 2003
Results of a study designed to determine whether drain inlet cleaning is effective as a BMP. Summary of multi-year drain inlet cleaning (DICE), solids transport and deposition study (STDS), and drain inlet and inspection and cleaning program (DIIC).

CTSW-RT-05-130.03.02 Document Size: 11,068 KB
Phase IV Gross Solids Removal Devices Pilot Study: 2004 - 2005
December 2005
Evaluates the performance of non-proprietary devices that can capture gross solids and that can be incorporated into existing highway drainage systems or implemented in future highway drainage systems.

CTSW-RT-05-130.03.01 Document Size: 4503 KB
Phase III Gross Solids Removal Devices Pilot Study: 2002 - 2005
December 2005
Evaluates the performance of non-proprietary devices that can capture gross solids and that can be incorporated into existing highway drainage systems or implemented in future highway drainage systems.

CTSW-RT-03-097.31.22 Document Size: 1010 KB
Phase II Gross Solids Removal Devices Pilot Study: 2001-2003 Final Report
November 2003
Phase II GSRDs pilot study to evaluate the performance of one non-proprietary device that can capture gross solids and that can be retrofitted into existing highway drainage systems.

CTSW-RT-03-072.31.22 Document Size: 3890 KB
Phase I Gross Solids Removal Devices Pilot Study: 2000-2002 Final Report
Phase I Gross Solids Removal Devices (GSRDs) Pilot Study to evaluate the performance of non-proprietary devices than can capture gross solids and can be implemented into highway drainage systems. Three design concepts developed for this pilot study were the Linear Radial, the Inclined Screen, and the Baffle Box.

CTSW-RT-03-044 Document Size: 2.40 MB
Survey of Fresno Area Residents Concerning Litter.
April 2003
Follow-up tp 2001 survey of Fresno, CA residents concerning measure of awareness, attitudes and behaviors relative to littering on roadways and highways.

CTSW-RT-02-021 Document Size: 3517 KB
Caltrans Public Education Litter Monitoring Study 2001-2002
June 2002
Presents raw data and data summary for litter monitoring and characterization efforts during 2001-02 for the Fresno Public Education Litter Monitoring Study.

CTSW-RT-00-013 Document Size: 8,813 KB
Caltrans Litter Management Pilot Study Final Report
June 2000
Summarizes the findings of the Litter Management Pilot Study (LMPS). The LMPS study investigated the effectiveness of structural and non-structural litter Best Management Practices (BMPs).

New Technology

CTSW-RT-01-050 Document Size: 2470 KB
BMP Retrofit Pilot Program - Final Report
January 2004
Pilot program to acquire experience in the installation and operation of a wide range of structural BMPs for treating stormwater runoff from existing Caltrans facilities and to evaluate the performance and costs of these devices.

CTSW-RT-01-05A Document Size: 154 KB
BMP Retrofit Pilot Program - Final Report Appendices
January 2004
Appendices of the BMP Retrofir Pilot Program Final Report

CTSW-RT-09-239-06 Document Size: 258 MB
Caltrans Stormwater Treatment BMP Technology Report
April 2010
Includes assessments of potential permanent BMPs.

CTSW-RT-13-239.15.02 Document Size: 173 KB
Stormwater Monitoring and BMP Development Status Report:
Fiscal Year 2012/13 UPDATE
September 2013
This Status Report summarizes the stormwater treatment technology studies, source control studies (including erosion control studies), and stormwater quality characterization studies conducted by Caltrans during the 2012/13 fiscal year (FY; July 1, 2012 through June 30, 2013).

CTSW-RT-03-025 Document Size: 82.8 KB
Infiltration Basin -Site Selection Study, Volumes I,II, and III
June 2003
Presents procedures to select proper sites for infiltration basin as a best management practice to manage of stormwater runoff from Caltrans highway facilities.

CTSW-RT-02-035 Document Size: 2690 KB
Caltrans Hydraulic Application Study
June 2002
This study assesses the performance of seven hydraulically-applied erosion control products applied to soil plots at the San Diego State University Soil Erosion Research Laboratory (SDSU/SERL). A secondary project goal was to identify the erosion control performance and water quality data.

CTSW-RT-02-020 Document Size: 65 KB
Level Spreader Effectiveness Evaluation
May 2002
Presents the results of a study evaluating the performance of level spreaders as a construction BMP.

Public Education

Don't Trash California

Protect Every Drop

CTSW-RT-03-043 Document Size: 11594 KB
Public Education Research Study- Final Report
June 2003
A study conducted in the Fresno Metropolitan Area to determine the effectiveness of public education as a Best Management Practice (BMP) for reducing the volume of pollutants entering the California highway storm drain system.

CTSW-RT-01-045 Document Size: 745 KB
Public Education Research Study Literature Review
August 2001
A review of literature on a variety of litter programs that were developed as anti-litter campaigns.

Stormwater Management Plans, Annual Reports, RWPs, Permit

CTSW-RT-02-008 Document Size: 5575 KB
Statewide Storm Water Management Plan
May 2003
This document describes Caltrans program to reduce the discharge of pollutants associated with the storm water drainage systems that serve highways and highway-related properties, facilities and activities. It identifies how Caltrans will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) permit.

District Work Plans

Annual Report

CTSW-RT-08-822-03.1 Document Size: 6.94 MB
2008 Year End Performance Report, A Summary of Construction Compliance Inspections
March 2009
A Summary of stormwater task force construction compliance inspections, July 1, 2007 - June 30, 2008.

Caltrans NPDES Statewide Stormwater Permit Document Size: 240 KB
Caltrans Statewide Stormwater Permit
September 2012
This permit regulates all municipal stormwater activities by Caltrans in California, including construction that requires a permit under federal regulations.

CTSW-PL-16-999 Construction Compliance Evaluation Plan (CCEP) Document Size: 1.09 MB
Annual Construction Compliance Review Plan
April 2016
Describes the independent quality assurance portion of the self-audit program implemented by Caltrans for reviewing construction field activities as required by the National Pollutant Discharge Elimination System (NPDES) Statewide Stormwater Permit Waste Discharge Requirements (WDRs) for Caltrans (Order No. 2012-0011-DWQ; NPDES No. CAS000003) (Permit, section E.2.m.2) for construction sites.

CTSW-PL-13-299.02.5 D12 Document Size: 507 KB
Annual Maintenance and Operation Compliance Review Plan
April 2015
Description-This document describes the process for Caltrans to self-audit Maintenance facilities and activities for stormwater compliance with its MS4 Permit and other regulations.

CTSW-OT-03-006 Document Size: 1.56 MB
Department of Finance Review of the Stormwater Program
November 2003

Water Quality Guidelines & Protocols

CTSW-RT-06-171.02.1 Document Size: 2842 KB
BMP Pilot Study Guidance Manual
January 2009
Guidance for a Project Delivery Team to use in planning, performing, evaluating, and reporting Best Management Practices (BMP) pilot studies. Typical BMPs discussed in this Manual include temporary construction BMPs, maintenance BMPs, and source control and treatment BMPs, such as preserving existing vegetation, slope/surface protection systems, biofiltration strips and swales, and detention basins. This manual is intended to be used in conjunction with existing Caltrans guidance manuals and protocols for water quality monitoring, and BMP design and implementation.

CTSW-OT-15-999.43.01 Document Size: 11 MB
Caltrans Stormwater Monitoring Guidance Manual
November 2015
The Manual presents guidance for California Department of Transportation (Department) staff, and consultants to use in the planning and implementation of the Stormwater Monitoring Projects. This guidance supersedes the previous document Caltrans documents (CTSW-RT-03-105.51.42, Nov 2003 and CTSW OT 13 999.43.01, Nov 2013).

In addition the following tools for processing Caltrans stormwater monitoring data are available by emailing Division of Environmental Analysis, Stormwater Unit.

1. Hydrologic Utiltiy
2. Data Analysis Tool

CTSW-RT-03-116.31.30 Document Size: 4.96 MB
Construction Storm Water Quality Sampling Guidance Manual
December 2003
This guidance manual provides information on how to design and evaluate a construction site water quality sampling plan to comply with Caltrans and the General Construction Permit requirements. Included in this guidance manual are model sediment/siltation or turbidity and a non-visible pollutant sampling and analysis plans.

CTSW-RT-03-073.35.17 Document Size: 3528 KB
Guidance for Temporary Soil Stabilization
July 2003

Helps planning, selection, and implementation of temporary soil stabilization BMPs. Review of water quality monitoring of construction sites, and solutions to common soil stabilization problems. Use with Caltrans Stormwater Quality Handbooks.

CTSW-RT-99-082 Document Size: 312 KB
Soil Stabilization for Temporary Slopes
November 1999
The purpose of this document is to provide supporting information to construction staff on appropriate products and techniques for soil stabilization of temporary slopes at construction sites.

CTSW-RT-02-068 Document Size: 749 KB
2002-2003 Litter Data-Reporting Protocols
December 2002
Provides necessary information and protocol for reporting of all litter data with relevant site and event description information.

Statewide Stormwater Quality Practice Guidelines
May 2003
These guidelines describe each approved Best Management Practice (BMP) included in the Statewide Stormwater Management Plan (SWMP) for statewide application. The document provides Caltrans staff with instructions on implementing each approved stormwater management practice or BMP.

This document has been superseded by the following three reports:

CTSW-RT-02-057 Document Size: 5.57 MB
Caltrans Stormwater Quality Handbooks- Maintenance Staff Guide
May 2003 with November 2007, October 2009, and September 2012 revisions
A guidance manual prepared for maintenance staff to deal with stormwater quality and to the extend possible to protect the integrity of receiving water.

CTSW-RT-16-314.11.1
Caltrans Stormwater Quality Handbooks- Project Planning and Design Guide
Feb 2016
This document provides guidance on the process and procedures for evaluating project scope and site conditions during the planning and project development process to determine the need for and feasibility of incorporating Best Management Practices (BMPs) into the appropriate scoping document and the design of those BMPs..

CTSW-RT-03-071.33.40
Construction Site BMP Manual
March 2003
Caltrans Stormwater Quality Handbooks - Construction Site
Best Management Practices (BMP) Manual

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FOR MORE INFORMATION CONTACT

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Barry Klein
[redacted]

WARNING !

Traffic models are deceptive!

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Dear fellow motorists and taxpayers:

TxDOT uses a computer forecast to predict gridlock if roads are not widened. The agency ignores reports from the Census Bureau showing that congestion changes road users decisions so that traffic stabilizes.

In 2014, **Tim Lomax**, the legendary traffic engineer associated with the periodic **Urban Mobility Reports** published by Texas Transportation Institute located at Texas A&M, made statements about a projected *two hour* one-way commute in 2035 on I-35 from Austin to Round Rock. Dr. Lomax explained the dynamics of congestion which Texas Tribune reporter Arman Batheja summarized with these words:

"Such a forecast might sound bleak, but it's also never going to happen, said Lomax. He explained how his model used population projections that do not consider how congestion might affect where people live and work. If travel times get significantly worse on popular corridors, he said, many people would make different life decisions.

'People who live in Round Rock will ether move to jobs closer to Round Rock or move to downtown Austin,' Lomax said." (April 9, 2014; emphasis added)

TxDOT is proposing a needless redesign of the local freeway system in central and north Houston. $4 billion will be spent just on changes in the downtown network … including tearing down the Pierce Elevated and redirecting traffic into an enlarged US 59, placing it below grade. To repeat: ***BELOW*** grade! … instead of leaving it elevated where it is safe from flooding.

The No Build option is the wiser choice. This would mean acknowledging that:

1. bottlenecks are something we motorists live with and they do not cripple our ability to travel, with proof being Census Bureau reports showing that the average commute time is under 30 minutes and has been for decades.
2. the external costs will be huge, including land takes, ruined businesses, lost jobs, endless road work, narrowed lanes, fewer safety lanes for the duration, etc)
3. Tim Lomax, the country's best known traffic engineer, has explained how a populace adjusts to traffic growth by changing homes or jobs when congestion becomes intolerable.

Lastly, **Alan Clark,** head of transportation planning in the Houston area, has acknowledged that our average commuting time is less than half an hour. See …

OVER —->
~~~~~~~~~~~~~~~

Road users make spontaneous adjustments to keep individual travel times tolerable

How road planners mislead the public

The highway planners of Texas always refer to their traffic models to discuss what traffic will look like in 20 years without a massive investment in new roads. Usually they rely on the Urban Mobility Reports published by the Texas Transportation Institute (Texas A&M) to discuss CURRENT traffic conditions which is based on formulas and estimates of speeds on highways during peak periods.

The TTI reports always find huge time delays imposed by congestion which is a function of growth in jobs and population.

In my experience road planners do not acknowledge any other reports that reflect the impact of congestion on worker commute times. The one exception (shown here) occurred in 2002 when Alan Clark, then and now the head transportation planner for Houston-Galveston Area Council, the regional planning body, acknowledged that the Census Bureau report issued at that time showed the average commute time for Texans to be only 22 minutes.

In spite of what traffic models say, the census bureau reports reveal that commuters are able to adjust to changing traffic conditions ... they are not trapped in gridlock.

One would have thought that such wonderful news for Texans would be worth a headline and front page above-the-fold treatment. Sadly, only the TTI reports with their negative conclusions about Texas traffic qualify for that kind of coverage.

Texas taxpayers in 2015 need to keep this in mind when TxDOT and its allies in the highway lobby press legislators for another four to five billion dollars in annual spending to keep up with population growth. The traffic models do not reflect what is occurring when congestion is stimulating changes in road user behavior.

Texas law should mandate that all transportation planning in the future will put the different analyses of traffic outcomes and dynamics before voters. Currently taxpayers are captive of the TTI biased reports. A web search on "Criticisms of TTI mobility reports" will expose the many long standing criticisms of the TTI approach.

— Barry Klein / November/ 2014
713-224-4144 / gov.refrom.pro@gmail.com

<— OVER

Houston Chronicle Feb. 5, 2002

Impact of new speed limit depends on length of trip

In Texas, where people routinely drive long distances for business and pleasure, getting there as soon as possible is important. So how much difference will the 55-mph speed limit actually make?

On short trips, the impact is likely to be more perceived than real: If you're used to driving 70 mph or faster, 55 just *feels* slow.

Alan Clark, in charge of transportation planning for the Houston-Galveston Area Council, cites a Census Bureau finding that the average trip to work for a Houston resident is about 11 miles. For some, of course, it's a lot longer.

At 70 mph, an 11-mile trip takes a little more than nine minutes. At 55 mph it takes about 12 minutes — a small difference, even if you could drive that fast.

More realistically, Clark notes, the census shows typical one-way commuting time here as 22 minutes, and the two numbers work out to an average speed of 30 mph. During rush hour it's even slower, and at slack times much faster.

On the open road and at off-peak hours on freeways, the time saved by traveling at higher speeds becomes greater. A 40-mile commute, for instance, takes about 10 minutes longer at 55 mph than at 70 mph, and the 200-mile trip from Houston to San Antonio would take an extra 45 minutes.

Time matters little, of course, if drivers never make their destinations alive.

Supporters of the new traffic speeds note that deaths statewide jumped nearly 18 percent in 1996, when the former nationwide 55-mph speed limit was replaced with a 70-mph maximum on Texas highways.

Frank Liu
[redacted]

TX DOT
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AUG 0 1 2017
HOUSTON MAIL OPERATION

To whom it may concern:

We are writing to support the rerouting of the freight rail north of Downtown to create a reconstructed interchange. These plans were referenced by Mr. Christof Spieler on Twitter on July 27, 2017 and are attached below.

Currently, the freight lines north of Downtown serve to sever valuable green space, Harmony House and the University of Houston Downtown from the urban fabric of our CBD. Despite their proximity to the Theatre District, Harmony House and to a lesser extent UHD exist as isolated islands of development, cut off from the energy, vitality and social capital associated with downtown Houston. Moreover, the Warehouse Arts District, home to Last Concert Café is cut off from the Bayou.

As Houston moves into the 21st century, we must commit to a more integrated and walkable city. We share with TXDOT the belief that the first step in creating a more integrated and dynamic city is repairing connections between neighborhoods. We hope that TXDOT will take this generational opportunity to reshape transit in Houston and redesign the freight rail system. As Mr. Spieler has noted, this is the one chance that we have to repair the connection between Harmony House and UHD with downtown as well as bring the promise of Buffalo Bayou Park closer to its neighbors.

Regards,

Frank Liu

ATTACHMENT:

Christof Spieler [redacted]

(1) This project is an opportunity to fix freight rail north of downtown. Build a new line to combine best parts of current lines.

Terminal Subdivision existing conditions

1 3

Natasha Morillo

[redacted]

July 27, 2017

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386

RE: NORTH HOUSTON HIGHWAY IMPROVEMENT PROJECT – Houston District

To Whom It May Concern:

I recently came across a few suggestions made by Christof Spieler on Twitter regarding the idea of rerouting the train tracks north of downtown Houston, and I fully support this notion. I work near I-10 and Studemont where there are multiple train tracks in the area which are always causing lots of traffic/congestion. Additionally, there are often days when the system is being worked on and the gate arms are permanently down (I've waited well over 5 minutes before – trains usually do not take long to appear once the arms are down), and my fellow employees and I have to dangerously cross through the tracks hoping it is safe I am sure there are better locations for the trains to pass through for where they are delivering to.

I appreciate your time and look forward to viewing the outcome of this project, should it be approved.

Sincerely,

Natasha Morillo

Natasha Morillo

[redacted]

Texas Department of Transportation
125 East 11th St.
Austin, TX 78701

RE: TxDot North Houston Highway Improvement Project

I strongly object to the current TxDot plan to place both the exit and entrance ramps for 288 Managed Lane traffic to/and from downtown at Chenevert & Elgin. My understanding is that TxDot's research (as reported on a local news station) estimates this will lead to 19,000 inbound and 15,000 outbound vehicles per hour in that area, which is a significant increase into a residential area onto streets not designed to handle that kind of traffic. The existing exit ramp drops off by a school, and right by a very actively use community park where there are throughout the day may adults with children and pets. Those traveling into downtown via the 288 Managed Lanes would end up dropping off onto Chenevert, a narrow residential street, or detouring on Elgin up Crawford, Austin, or other northbound streets in Midtown. Likewise traffic out of downtown onto 288 heading south will increase traffic on LaBranch, Caroline, and other southbound streets to access the new entrance ramps. As someone who lives on Crawford Street, I daily witness buses and cars already traveling at a high rate of speed each morning up Crawford. I can't tell you how many accidents I have witnesses from those travelling up Crawford who blow through the stop sign at Tuam, hitting another car crossing Crawford. So, I am concerned about not just about the # of vehicles it will add into the area but also those travelling at a high rate of speed. This could dramatically increase the # of accidents on residential streets both north and southbound through Midtown into downtown. Midtown residents are striving for a sustainable, walkable community. Commuters using the 288 Managed Lanes are more likely to be headed into downtown than Midtown, so dropping off into Midtown first will cause additional delay, confusion, and potentially frustration. I foresee a decrease in walkability and pedestrian safety due the significant increase in traffic. I think a better alternative would be to tie the Managed Lanes into the frontage roads that are between McGowen Street and Elgin street.

Some additional concerns/suggestions that I have are:

* Ensuring that the bridges between Midtown and the Third Ward, and others across I69 and 288, can be safely traversed by pedestrians and bicycles, with either dedicated bike lanes or sidewalks wide enough to allow those traversing to feel safe. In particular, there should be a safe way for bike/pedestrian traffic to get across 59 to traverse between Baldwin Park and Emancipation Park.

* I strongly encourage that options be left open as long as possible for re-purposing the Pierce Elevated rather than tearing it down and leaving more undeveloped open space, as well as for optional cap parks/green space at Wheeler and east of the GRB. Although I understand private funding would be needed for these efforts, it is an opportunity to create extended greenways around downtown that will encourage development and make the area a destination.

Thank you,

Carol Ramey
[redacted]

French F. Thompson, III
Director Public Projects
and System Design

BNSF Railway Company
[redacted]

Texas Department of Transportation, Houston District Office
Director of Project Development
P.O. Box 1386
Houston, TX 77251-1386
HOU-piowebmail@txdot.gov (Attn: Ms. Kelly Lark)

Re: BNSF Railway Company's Comments on North Houston Highway Improvement Project ("NHHIP") Draft Environmental Impact Statement (CSJ: 091200-146)

Dear Texas Department of Transportation ("TxDOT") Director of Project Development:

BNSF Railway Company ("BNSF") submits the following comments on the April 2017 Draft Environmental Impact Statement ("DEIS") for the North Houston Highway Improvement Project prepared by the TxDOT.

INTRODUCTION AND REFERENCE TO RELATED COMMENTS

As a preliminary matter, BNSF incorporates by reference comments on the project DEIS submitted to TxDOT by the Houston Belt & Terminal Railway Company and the Union Pacific Railroad Company. Like BNSF, these companies also have rail infrastructure and operations in the project area that will be impacted by construction and/or operation of the planned highway facilities. BNSF encourages TxDOT to engage in additional consultation with all potentially impacted railroad entities between now and preparation of a Final EIS and a Record of Decision. These discussions will assist TxDOT to more accurately and fairly assess how the project could affect railroad facilities and to identify mitigation measures to address those potential impacts.

CONCERNS WITH THE PROJECT DEIS

The pressing need for further consultation stems from fundamental problems with the DEIS – it fails to acknowledge, assess, and compare potential project impacts to existing and planned railroad services between proposed project alternatives. As a general matter, the DEIS lacks sufficient detail that would permit us or other third parties to draw any conclusions concerning potential interference with rail operations and infrastructure.

While the DEIS briefly identifies existing freight rail lines in the proposed project area, see DEIS at pg. 3-37, the document fails to describe any impacts to those rail lines, ancillary railroad facilities, and property owned and maintained by the railroads. It seems fair to conclude from even the somewhat vague information presented in the DEIS that the project will adversely impact certain rail operations over one or more of those rail lines. Similarly, the DEIS explains in the broadest terms how private property owners would be made whole through requirements of the federal Uniform Relocation Assistance Act resulting from planned right-of-way acquisitions required for project development. DEIS at pg. 6-37-38. The DEIS summary of mitigation contains no reference to rail lines and property that could be impacted by the project. More important, the DEIS makes no effort to describe how likely interference with rail operations during project construction will be addressed.

These omissions in the agency's current administrative record should be remedied before publication of a Final EIS. BNSF concurs with other comments that urge TxDOT to include in any future

analysis a summary of the project's potential adverse impacts from the possible conversion, relocation or redirection of existing rail lines and infrastructure. BNSF also respectfully requests that the agency identify and consider the best means to mitigate for any disruptions (temporary or otherwise) to the movement of goods through the project area.

BNSF is pleased that selection of the final preferred Build Alternative for this major project will not be made until after comments on the DEIS have been considered and after the agency has had the opportunity to fully evaluate all potential environmental impacts. Incorporating analysis of project impacts to railroad transportation services should be an essential element in the selection of the preferred Build Alternative.

CONCLUSION AND REQUEST FOR FURTHER COORDINATION

BNSF supports TxDOT's planned improvements to highway infrastructure in the project area and is prepared to work with the agency to ensure that the NEPA process for the NHHIP accurately analyses all project impacts and incorporates appropriate planning and mitigation to address likely impacts to railroad lines and infrastructure.

Sincerely,

French F. Thompson, III
Director Public Projects and System Design
BNSF Railway

TX DOT
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AUG 22 2017
HOUSTON MAIL OPERATION

SCANNED ON
0066668975
AUG 22 2017
MAIL OPERATIONS HOUSTON

August 11, 2017

Quincy Allen, P.E.
District Engineer,
Texas Department of Transportation, Houston District
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project

Dear Mr. Allen,

Thank you for extending the public comments deadline on the Draft Environmental Impact Statement (DEIS) for the proposed North Houston Highway Improvement Project, Houston District (NHHIP). As you are aware, the proposed project is located in our districts and we have heard from a number of concerned organizations and residents in our district about this project.

The proposed NHHIP project is of significant importance to this region and will have an impact on the economic vitality of this region. It will also have a significant impact on the adjacent communities, especially those that are abutting the subject project. The DEIS clearly states that the proposed project will have a "disproportionate impact on low-income and disadvantaged communities". TxDOT should identify solutions to reduce such impacts on adjoining communities and also mitigate them. It is our understanding that TxDOT had held multiple community meetings as requested and has made some changes based on previous comments. However, there are still some major concerns that have not been addressed, which are outlined in the attached letter from a coalition of Houston neighborhood, civic, parks, transportation and historic preservation groups. Addressing the comments outlined in the letter is important to ensure the project improves the quality of life of the residents of this region.

We strongly encourage you to engage the community and these organizations to address their comments and concerns prior to the publication of the Final Environmental Impact Statement. We would appreciate receiving a copy of TxDOT's response to the attached letter as well as its community engagement plan after the public comment period.

Respectfully,
Harris County Commissioner Rodney Ellis
Congresswoman Sheila Jackson-Lee
State Senator Sylvia Garcia
State Senator Boris Miles
State Representative Harold Dutton
State Representative Jessica Farrar
State Representative Jarvis Johnson
Houston City Council Member Dwight Boykins
Houston City Council Member Jack Christie
Houston City Council Member Ellen Cohen

July 27, 2017

Mr. Quincy Allen, P.E.
Houston District Engineer
Texas Department of Transportation
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

We write to you as a coalition of Houston neighborhood, civic, parks, transportation, quality of life and historic preservation groups. All of our organizations have worked for many years to improve our city. And although we all fully recognize the need for thoughtful infrastructure and mobility improvements for our growing region, we share strong concerns that TxDOT's North Houston Highway Improvement Project is being designed in a manner that runs counter to our work and to what makes Houston great – our diverse neighborhoods, our parks, our connections to one another, and our bayous.

Our groups believe that this project must be evaluated in the context of Mayor Turner's drive for Complete Communities, particularly given the unfortunate legacy of highway projects that split communities, especially low-income neighborhoods. The project must serve Houston's current and future economic development needs – not just from the perspective of developed land which will permanently come off the tax rolls and be unavailable for commerce and industry – but also from the perspective of all those qualities which make our city a desirable place to live.

We understand from TxDOT's "purpose and need" statement that the I-45 expansion must be viewed in a regional context. Some of the traffic the project is estimated to carry will have its destination inside the City of Houston, but much of it will have regional destinations. For this reason, it is critical that TxDOT delivers a project that leaves Houston in a better position than before, and takes care to ensure that the I-45 expansion does not negatively impact the city in order to deliver benefits to surrounding areas.

We believe that while the I-45 expansion may offer regional mobility benefits, it must also be evaluated against the broader goal of intra-city and neighborhood mobility. To serve Houston's interests, at a minimum, the project should improve mobility across all transportation modes within the city, and it should improve mobility on surface streets for all modes of transportation, whether people or engine-powered.

Our concerns have grown as we have closely reviewed the Draft Environmental Impact Statement (DEIS) that TxDOT has made available for public comment. Many organizations within this coalition participated in the scoping process for the proposed project in 2015, as did the City of Houston. The DEIS does not reflect far too many of the scoping suggestions made by both the City and our

organizations during that public comment period. Furthermore, despite these suggestions, TxDOT has made very few commitments in response to those scoping comments.

The proposed rebuilding and rerouting of I-45 / I-10 at the expense of numerous neighborhoods, signature parks, and Houston's evolving linear park system represents the kind of single-purpose, massive highway project that most American cities are actively dismantling, not building. Projects such as this divide and often have the effect of destroying communities. This potential for division is not adequately addressed in the DEIS. At a time when Houston seeks to build complete communities, TxDOT takes a single-purpose approach to land use in Houston. Where the DEIS does disclose certain impacts, it transfers the necessary mitigation of these impacts to others. Furthermore, the DEIS does not adequately identify which other entities will be responsible for mitigation or the agreements reached with those third parties. Other than passing references to Metro and the Houston Bike Plan, it largely fails to put the Highway Improvement Project into a comprehensive transportation plan context. Consideration of integrating mass transit, local streets and pedestrian / bike routes, and new linear parks being built around the city are not contemplated in the DEIS.

We have set forth below general comments and examples of how this project does not meet Houston's transportation, neighborhood and quality of life needs. We have also attached a detailed list of the specific issues we urge TxDOT to address. In our comments, we have broadly characterized these deficiencies across several areas:

- Disproportionate impact to low-income communities
- Impact to economic development opportunities
- Impact to parks and recreation areas
- Poorly conceived highway/urban interfaces
- Noise impacts
- Air quality impacts
- Visual impacts
- Impacts on walkability and cycling
- Water quality and flooding impacts

We understand the North Houston Highway Improvement Project's automotive benefits, but the project will have significant impacts on communities, multi-modal safety, and the environment that the DEIS does not adequately address. Given the substantive deficiencies in the DEIS, it should be supplemented and the public process kept open until such time as TxDOT fully addresses the impacts as summarized in this letter and its attached detailed comments.

Disproportionate Impact to Low-Income Communities

The DEIS clearly states that the proposed project will have a "disproportionate impact on low-income and disadvantaged communities." A plain reading of the DEIS indicates that these impacts include visual, noise, air pollution, and the splitting of communities.

Executive Order 12898 requires that Federal agencies make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority populations and low-income populations. The Federal Highway Administration delegated to TxDOT their Federal

and NEPA compliance responsibilities; the document fails to explain how this responsibility is being fulfilled by TxDOT.

The DEIS makes clear that the project will displace dozens of single-family homes, many hundreds of multi-family housing units (many of which are public housing), thousands of jobs, houses of worship, schools and social services. These impacts will occur largely in low-income black and Hispanic communities. The project will exacerbate physical barriers between neighborhoods, and between neighborhoods and downtown, and again, most of these affected communities are low-income.

The proposed project further separates low-income neighborhoods from opportunities. For example, Polk Street's connection to downtown will be eliminated, despite its important role as a critical east-west connector between Downtown and routes to the East End and Third Ward for vehicles, pedestrians, and bicyclists.

On the segment between 610 and Beltway 8, which includes the edge of the historic Acres Homes neighborhood, TxDOT proposes widening I-45. Unlike higher income areas of town, or even in the areas between I-10 and 610, TxDOT does not propose to build the highway below grade.

The U.S. Census Bureau shows the largest share of people who bike, in large car-dependent cities like Houston, are in lower-income brackets. Given the immediate surrounding neighborhoods and the location of our Bayou Greenways, current and future bicycle infrastructure, bicycle connectivity is of paramount concern for these low-income communities (see below for more detail).

Impact to Economic Development Opportunities

The proposed project will take significant amounts of private land currently on Houston's tax rolls and will eliminate the possibility of economic activity on a permanent basis. These include high value real estate in the EaDo area and many other acres of land across the city. TxDOT estimates an annual $789,000 residential property tax loss, $1.2 million business property tax loss, $1.0 million other property tax loss, and $5.2 million potential sales tax loss. These losses do not account for degradation of property values due to visual and noise impacts. Discounting these losses at the City of Houston's cost of capital of approximately 4%, the present value of these losses is on the order of $200 million, again without accounting for the loss in value to adjacent properties due to noise and visual impacts.

The DEIS does not propose any mitigation strategy for these impacts, other than the possibility of platforms upon which to build parks costing hundreds of millions of dollars, paid for by unidentified third parties, that may enhance nearby property values.

Impact to Parks and Recreation Areas

The DEIS simply ignores or dismisses the impact of the project on parks, recreation, and open space, and dramatically underestimates the impact to Houston's bayou parkland. Using TxDOT's May 2017 Schematic to estimate Bayou Greenway and parks impacts, Houston will lose approximately 27 acres of current open space. These impacts are not disclosed or contemplated in the DEIS. The following tables estimate the park and recreation area impacts of the proposed project.

	Freeway to be Added	Freeway to be Removed	Net Total
White Oak Bayou Greenway / Freed Park	22 ac	4 ac	18 ac
Little White Oak Bayou Greenway	13 ac	3 ac	10 ac
Buffalo Bayou Greenway / Downtown Parks	4 ac	5 ac	-1 ac
		Net Loss of Greenway	**27 ac**

Detailed Breakdown of Park Impact (acreages <u>are</u> included in the above Greenway calculations)

	Freeway to be Added	Freeway to be Removed	Net Total
Freed Park	0.17 ac	-	0.17 ac
Linear Park	2.35 ac	0.01 ac	2.34 ac
Sam Houston Park	0.63 ac	-	0.63 ac
Sabine Promenade	0.13 ac	-	0.13 ac
		'Current' Parkland Impacted	**3.27 ac**

Existing Trails (By Others) Lost by Freeway Expansion

	Trail Removed
Little White Oak Bayou Greenway	0.2 mi

As TxDOT points out in the DEIS, "Section 4(f) of the Department of Transportation Act of 1966 prohibits the Secretary of Transportation from approving any program or project that requires the "use" of 1) any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance as determined by federal, state, or local officials having jurisdiction thereof..." This project has considerable impact on such areas.

White Oak Bayou Greenway

The White Oak Bayou Greenway is part of Bayou Greenways 2020, a $220 million public/private investment by the City of Houston to provide continuous linear parks and recreation areas, with hike/bike trails, along 150 miles of Houston's major waterways. The White Oak Bayou Greenway extends over 15 miles from the city limits to UH Downtown where a federally funded TIGER project, currently under construction, is connecting White Oak Bayou Greenway to Buffalo Bayou Park. That TIGER project also includes neighborhood connections to Main St. and Leonel Castillo Community

Center, plus bikeways to the transit centers on Fulton. It represents the kind of complete community effort that Houston is working toward and for which federal funds are currently being deployed.

The 1,100 feet of White Oak Bayou Greenway from the current I-45 overpass at UH Downtown west to Hogg Park are completely open to the sky and the bayou except for small under crossings at the railroad bridge and Hogan Street. The linear park features wildflowers and a hike / bike trail maintained by the Houston Parks Board. It offers amazing views of downtown for most of its length. The impact to this visual resource and to the Greenway itself is not described in the DEIS. All that sense of open space will be significantly impacted by the North Houston Highway Improvement Project. The project will extend seven new highway over-passes above the Greenway's widest stretch. The new overpasses would create an overwhelming new visual and audible intrusion onto the landscape. Moreover, additional lanes parallel to the bayou encroach further into the south side of the Greenway to the point where they impose on the bayou itself.

The DEIS appears to suggest that if the project maintains just the hike/bike trail, no impact results. That ignores the impact to the Greenway and open space itself of which the hike/bike trail is just a component. The project eliminates that open space. While some freeway will be removed by the project, the Houston Parks Board estimates a net loss of 18 acres of open space effectively covered by the project in just the stretch between UH Downtown and Hogg Park. That open space will be lost forever. Because the DEIS fails to identify the impact, it fails to offer alternatives or mitigation to minimize that impact as required.

Little White Oak Bayou Greenway

The project will remove and/or impair greenspace that now de facto serves the community as a place of respite and even as an active park with informal trails. Houston has active plans to take that acreage and make it a greenway park. The DEIS does not discuss this impact. The Final EIS should address acreage of open land lost on Little White Oak, both to be covered and impaired.

Little White Oak Bayou represents a prime opportunity to extend open space connectivity north from White Oak Bayou Greenway to Woodland and Moody Parks and beyond up to Halls Bayou and ultimately Acres Homes. This connection between Acres Homes and downtown would benefit many of the underserved communities directly impacted by the North Houston Highway Improvement Project. Through most of Segment 2 the project follows the course of the Little White Oak Bayou. The 20 lanes of the new I-45 will eliminate 10 acres of open space along Little White Oak Bayou. It is imperative that the project fully embrace the ecological values and open space potential offered by Little White Oak Bayou. The DEIS must be supplemented with specific design features to preserve this potential.

The DEIS suggests that lack of immediate funding for some of these related projects relieves the North Houston project from addressing or mitigating impacts it creates. That is not the point. The project has an obligation to fit within larger identified Houston land use initiatives, not become another single-purpose barrier to larger land use schemes. Attachment 1 contains specific segment by segment comments on these impacts.

Woodland, Sam Houston, and Other Parks

The DEIS identifies less than an acre of impacts to City of Houston parks. It dismisses that impact as related to marginal greenspace rather than the "use of facilities". The Houston Parks Board calculates the total loss of open space in City parks at 3.27 acres (see above). In a letter to the City of Houston's Parks and Recreation Department dated February 24, 2017, TxDOT is seeking a "de minimis" certification from the City of Houston for these impacts. The City of Houston, to date, has not concurred with this conclusion. Our coalition would not support such a conclusion. As with the Bayou Greenways, the DEIS dismisses the impact to green space and open space as non-existent if the project does not impact other features of the park.

The DEIS ignores the noise and visual impact to all of these parks. Although currently below grade at Woodland Park, I-45's constant din of freeway noise is already part of the fabric of a Woodland Park visit. With an added upper deck, above grade, the noise will be even more oppressive and incessant.

In recent years, the Sabine Promenade/Buffalo Bayou Park area has undergone a nearly $90 million enhancement. TxDOT's plan for this area is not appropriate since it encourages faster turn movements in a location where people should be driving slowly to be aware of people walking and biking. In addition, given the visibility of downtown from Buffalo Bayou, TxDOT's freeway standards are not appropriate. Furthermore, nearby Sam Houston Park is one of Houston's most important historical destinations, featuring the oldest building on its original construction site in Houston and the oldest surviving building in Harris County. Sam Houston Park is also a State Archaeological Landmark and contains four buildings designated as Registered Texas Historic Landmarks. One of these buildings is also registered under the NRHP. The DEIS fails to mention the visual and noise impact to this showcase of Houston's heritage. The DEIS fails to disclose whether or not these properties are registered under the NRHP, and whether the Texas SHPO has or has not concurred with the effects of the project.

Deck Parks

The DEIS makes reference to potential deck parks while clearly absolving the project from any responsibility in funding and creating the parks. Many of our organizations have been involved over the years in raising private and public funds to expand parks in Houston and provide other amenities. These deck parks discussed in the DEIS can only be designed if the capping greenspace is designed to account for the weight of the parks. These designs must be created and paid for as part of the highway project, or TxDOT's suggestion of decking is meaningless.

It will be difficult to raise private and public money for deck parks if TxDOT is permitted to destroy the open spaces unlocked by the Bayou Greenways Initiative. The project exacerbates divides created in Houston by freeways by creating a massive trench with double freeway width on the east side of downtown. A proposed deck park there appears to be approximately 30 acres in area adjacent to the convention center. Klyde Warren Park is a great asset for Dallas but it is comparatively small at five acres and provides a limited connection over one freeway at a cost of over $100,000,000. Projecting similar costs for Houston, a deck park would cost more than $500 million. Without full funding, the deck park proposal has limited meaning and **attempts to shift the cost from the proponent of the project to the community impacted**. In doing so, it fails to mitigate the impact created by the project. Houston already has major fundraising initiatives before it to improve and expand its current park system. Diverting those efforts to cover up an expanded freeway expansion by the state would be very difficult, especially given the strong need to improve

parks across the city. Furthermore, by failing to analyze the impacts of the project "with and without deck," TxDOT makes a full evaluation of the impacts of the project impossible to achieve.

Because of these deficiencies in the DEIS, our organizations request that TxDOT conduct a Supplemental DEIS under applicable Federal law as carried out by TxDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated 12-16-2014, and executed by FHWA, in order to properly measure park and open space impacts, options, and to propose reasonable mitigation strategies.

Poorly Conceived Highway/Urban Interfaces

TxDOT does an enviable job of designing highways for efficient flow of traffic, a track record of which the Department is justifiably proud. Nevertheless, over the years TxDOT has done a very poor job of ensuring that its projects integrate with an urban context where traffic slows from 65 to 30 MPH. The cumulative result over the years has meant that in Houston freeways become barriers between neighborhoods, dump freeway traffic into residential areas with very serious impacts, eliminate pedestrian walkability, erect barriers to bicycle access, and create many unsafe conditions for motorists and non-motorists alike.

In its comments to TxDOT in May of 2015 as part of TxDOT's scoping process, the City of Houston's Planning Department pointed out that "The City of Houston has adopted a Complete Streets policy to ensure streets are constructed for all users of the system. The City also required the streets should be built using Context Sensitive Design guidelines as those recommended in the *ITE - Design Walkable Urban Thoroughfares: A Context Sensitive Approach* and *NACTO – Urban Street Design Guide*, and others." Since the project location is within an urban area of the city, including Downtown, any future engineering design should meet these guidelines. Unfortunately, multiple streets have been shown with sweeping, large radius turns. Several of these match the existing roadway curb lines which may have been designed at a different time for different users. TxDOT should not ignore the opportunity to modernize its approach and correct these outdated designs as it expands I-45.

In its comments during the 2015 scoping process, the Houston Parks Board suggested that "the termination of the proposed spur at Allen Parkway should be designed in order to accommodate safe pedestrian crossings at that intersection and in a way that drivers are reminded that they are entering a park." TxDOT has ignored this suggestion.

There is no indication that TxDOT intends to design the project's highway-urban interfaces taking into account Houston's Complete Streets policies. Section 7.3 of the DEIS includes no reference to these criteria or to the City's scoping comment.

Noise Impacts

The DEIS states that the I-45 expansion will have noise impacts. The brunt of these noise impacts will be borne by low-income communities like Acres Homes, Near Northside, Brooke Smith Addition, and the Fifth Ward.

Nevertheless, TxDOT avoids making any affirmative commitments to mitigate noise impact, and instead sets forth obtuse language about neighborhood choices that will enable TxDOT to avoid

sound walls in the future. The DEIS sets forth countless ways to avoid having to construct noise barriers. In some instances, TxDOT claims that abatement is reasonable when "there was more than 50 percent residential land use, otherwise abatement was not considered feasible and reasonable" – thus excluding any neighborhood with many empty lots. In other instances, TxDOT carves out another exemption by stating that "traffic noise barriers would be located along the outside of the frontage road/right-of-way where barriers could be continuous, without gaps for driveways or streets." Note that TxDOT has not followed this practice in high-income areas like Bellaire. We request that TxDOT ensure that low-income areas and park users are afforded the same deference as other parts of town with populations that have higher household incomes.

The DEIS is silent with respect to noise impacts on parks and recreation areas, another reason why we believe that TxDOT should conduct a Supplemental DEIS to disclose the impact on parks and recreation areas. Failing to do so would violate the terms of its MOU with the FHWA that delegated Federal responsibility for analyzing such impacts under Section 4(f).

Air Quality Impacts

The DEIS states that the project "would be included in the Statewide Transportation Improvement Program (STIP)/Transportation Improvement Program (TIP) and RTP, and the STIP/TIP and RTP would conform to the State Implementation Plan (SIP)." Purportedly, this inclusion would assure that the project is in compliance with air quality under the Clean Air Act (CAA) and environmental justice under Title VI of the Civil Rights Act of 1964 and Executive Order 12898. As TxDOT is well aware, air quality impacts are notoriously complex.

This group requests that TxDOT incorporate in its Final EIS all of the information gleaned from TCEQ studies of air quality impacts along Houston's highways (see http://www.houstonchronicle.com/news/houston-texas/texas/article/State-to-measure-air-pollution-along-freeways-4769770.php for more information.

Our coalition is particularly interested in the incorporation of this air quality analysis given the close proximity of the project to low-income areas, schools, and churches, as well as the project's many interfaces with Houston's signature Sabine Promenade, Buffalo Bayou Park and White Oak Bayou.

Visual Impacts

TxDOT adopts the assumption that "most viewers do not pay full attention to the I-45 corridor because the presence of the transportation infrastructure has become integrated into their routine" and that therefore "the sensitivity of the residential viewer ranges from low to moderate depending on the location of the viewer." To our organizations, it is inconceivable that the visual impact of a highway expansion of this scope and magnitude, creating one of the largest highways in the United States, does not rise beyond the level of "low to moderate."

The DEIS seems to imply that "most viewers" are residents or daily commuters that travel along I-45; it fails to recognize in this visual impact analysis that many users are from out of the region, and that tourists, visitors or newcomers to Houston would experience this visual effect for the first time.

In fact, the terrible appearance of I-45 has for many years been recognized by the business and civic communities of Houston as a major first-impression problem that negatively affects the city's ability to attract visitors, events, and job relocations to Houston. I-45 as the main airport corridor gateway

is recognized as the most important viewshed in Houston from an economic development perspective, yet it's widely understood that businesses explicitly instruct potential new hires not be transported from the airport on I-45 because of its unsightly character. While TxDOT has utilized federal grants over the last number of years to add trees and landscaping along area freeways, TxDOT offers no plan here to integrate context-sensitive design elements to ensure that the I-45 project is a visual asset, not a concrete scar across the community.

A part of the impact, it must be said, has the potential to be positive in the corridor: the removal of a number of billboards. TxDOT makes no mention of how they are to be removed. The cost of removal must be entirely part of the project. TxDOT makes no mention of its plan at all in the DEIS, no mention of the number of billboards to be removed, when or how they are to be removed or the cost of removal. The full cost of total removal of the billboards must be included in the project and not be transferred to local government. Nor should the removed billboard structures be forced on other stretches of Houston freeway through relocation.

The DEIS states that "elevated lanes in the center of I-45 would create an additional visual barrier and potentially alter the existing visual conditions of the area." In another section of the DEIS, TxDOT claims that "the vividness of this landscape unit is moderately low. The areas containing Moody Park, Little White Oak Bayou, and the historic cemeteries provide a distinct viewshed within this landscape unit. The overall visual quality of this landscape unit is moderate."

Apparently because the quality of these park and historic cemetery landscapes is "moderate" in TxDOT's estimation, additional impact does not merit further attention. By this logic, because Houston's scenic beauty is relatively limited, further impacts are entirely acceptable.

TxDOT fails to consider the visual impact of the I-45 expansion on historic structures in Sam Houston Park. TxDOT's DEIS has no information with respect to how the new highway will be lit and how that lighting scheme will affect adjacent low-income neighborhoods, making an evaluation of such impacts impossible at this stage. In terms of impacts on other historic resources, the project segment between 610 and I-10 impacts several historic neighborhoods. Three designated historic districts are located along I-45 south of North Main Street. The project's effect on the National Register-listed Near Northside Historic District on the east side of I-45 must be addressed as part of the review process along with potential impacts on two city-designated historic districts on the west side of I-45: Germantown and Woodland Heights. Both of the city-designated districts are potentially eligible for listing in the National Register. The Brooke Smith Addition on the west side of I-45 and the north side of North Main Street is also potentially eligible for listing in the NRHP. The project's potential impact on historic resources in the First Ward, on the west side of I-45 south of I-10, should also be considered, particularly the National Register-listed Jefferson Davis Hospital (1925).

TxDOT's visual impact analysis concludes by saying that "because significant adverse impacts are not anticipated, this resource is not anticipated to be analyzed further in the detailed cumulative impacts analysis."

Our group disagrees with TxDOT's DEIS conclusions on visual impact, and requests that in the Final EIS, TxDOT include detailed visual simulations from the roadway, from all the perspectives of affected parks and recreation areas, neighborhoods, cemeteries, and historic structures. These analyses should include information on daytime and nighttime visual impacts. Tree and landscape plantings impact the visual nature of the freeways and air quality, runoff, and water quality. TxDOT should

address how landscape and tree planning, Green Ribbon and other funds will be used within this project, and should address whether special actions being taken to accumulate the required expenditures as mitigation within this specific project or whether or not the funds will be spent throughout the region.

Impacts on Walkability, Cycling and Other Transportation Modes

In scoping comments prior to the preparation of the DEIS, both the City of Houston's Planning Department and the Houston Parks Board commented on the dangers of "the proposed 15' shared use lane along frontage roads due to safety concerns arising from the speed differential between bicycles and other vehicles in these environments. Bicycle accommodations should be provided in the form of a 10' shared use path or protected bike lane." TxDOT ignored this comment in the DEIS; we can find no evidence of an analysis performed on this important safety issue.

The City of Houston requested that TxDOT ensure all bridges across the freeway and street crossings under the freeway provide for a minimum 6' unobstructed sidewalk, and that NACTO criteria are incorporated in all highway/surface street intersections. There is no indication in the DEIS that such criteria will be incorporated into the project, and we can find no reference to an analysis performed on this important accessibility issue.

For example, as the City of Houston noted in 2015, many intersections in Segment 1 are proposed with suburban intersection design considerations. This segment falls within an urban area and all intersections should be designed to improve pedestrian and bicycle accessibility. To this end, an intersection design that incorporates a free flow right turn lane with a pedestrian island creates an unsafe environment for pedestrians since many drivers do not yield to pedestrians at such intersections. There is no indication that TxDOT has incorporated ideas like this in the DEIS.

As another example, a wider freeway through the Near North Side will create a significant community impact further dividing the Woodland Heights and Near Northside communities. Eliminating North Street removes a very practical, low volume, multi-purpose crossing of the current I-45. A deck park may help mitigate the further divide and loss of connectivity resulting from the project, but only if the deck and park are fully funded by the project, and the park is not separated from the community by the high-speed access roads set forth in the DEIS (see above for general discussion of Deck Parks).

As the site of many fatal accidents in Houston, access roads should be designed to be safe. Twelve foot lanes, three one-way lanes, and high design speeds, mixed with entering and exiting traffic, does not make for a safe road. The DEIS does not explain why high speed designs and high volumes are required on these roads. The Final EIS should explain why TxDOT has made these trade-offs of faster highway access at the expense of public safety.

Flooding Impacts and Water Quality Impacts

The DEIS recognizes that "potential impacts on surface water quality from the proposed project would be primarily related to storm water discharges into streams and drainageways that traverse" the project. Unfortunately, the DEIS analysis of water quality impacts falls into the same trap as the visual impact analysis. The latter suggests that because Houston is generally unsightly, making it a bit less attractive is not of great consequence. The water quality analysis basically says that Houston's bayous are hopelessly polluted, so a bit more pollution is not impactful.

The DEIS recognizes that Buffalo Bayou, Little White Oak and White Oak Bayou are classified by TCEQ as "impaired streams", and that "the discharge of storm water runoff into these drainage features" (i.e., in our parlance, bayous), would be unavoidable. Further, it argues that because White Oak, Buffalo and Little White Oak are impaired, TxDOT has a lesser burden to protect existing water quality. Because these streams are impaired, TxDOT should have a greater obligation not to harm them further—especially since TxDOT itself is already contributing to the problem with its current practice of dumping freeway water directly into Houston's bayous.

Any Houstonian who has walked along a bayou underneath a freeway in Houston knows exactly what this means – **every time it rains, or even when it's windy, tons of trash are dropped into our waterways, and flow into Galveston Bay, an important estuary for the greater region.**

TxDOT's DEIS sets forth that it will meet stormwater discharge requirements during construction. Nowhere is it clear how TxDOT will prevent the flow of the thousands of tons of trash that are transported from freeways to bayous during Houston's frequent "gullywashers".

Needless to say, the project will produce much more impervious surface with the potential to increase flooding and accelerate pollutants into the natural waterways. The DEIS should more clearly define creative strategies to minimize those potential impacts. Those strategies may include wet bottom detention basins that can filter water and roadside drainage filters to capture trash at its source. That work could be further expanded to include recreation and additional water quality functions.

Waterways affected by the project are already listed as impaired waters. We ask that TXDOT model the runoff and stormwater discharges into Buffalo, White Oak, Halls and Little White Oak Bayous in order to meet state requirements that prohibit the addition of any pollutant load into impaired waters and focus instead on improving those waters through the additional application of more rigorous best management practices for stormwater and runoff. Similarly, please further adopt and disclose the best management practices and plans that will be adopted, including source controls, to avoid further discharge of trash into these waterways.

Some of TxDOT's more recent flood control structures have made good strides in integrating the landscape with detention. Others have not. The detention basins planned on either side of Little White Oak Bayou, south of Patton, require thoughtful planning so that water edges are accessible to wildlife, and pedestrian and bicycle trails connect both to the existing bike trail going north along Little White Oak Bayou from Cavalcade and to Moody Park to the southeast. The detention basin recently constructed in the Heights stands out as an example of lost opportunity, where despite extensive community involvement, citizen input and repeated requests from local City Council members, TxDOT built a detention pond with a single use that is completely isolated from the surrounding community – this in one of the highest land value areas of the City of Houston.

Despite requests to this effect during the scoping period in 2015, TxDOT has rejected the possibility of wet bottom detention areas unless someone else maintains them. We request that TxDOT further explain in the Final EIS why it should not have the responsibility for doing everything possible to deliver into Houston's bayous cleaner water from the highways it maintains and owns.

Conclusion

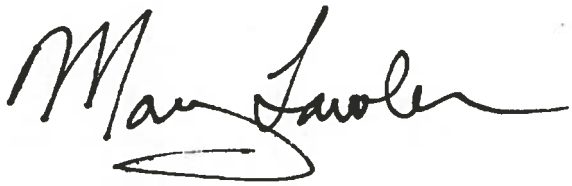
The I-45 Expansion Project is a once-in-two-generations project that needs to be executed very carefully to avoid the serious impacts to the community at large that the current plan represents. Without a truly comprehensive review of the project, the DEIS fails in its fundamental purpose to inform the design and decision making process required before creating such a serious impact on the City of Houston.

We urge TxDOT to go back and take the hard look required under NEPA and review required by Section 4(f) to more fully address the issues outlined here. The undersigned organizations stand ready to work directly with TxDOT on the North Houston Highway Improvement Project to produce the best possible result for the greater Houston area, but that work can only proceed from a planning document that fully acknowledges the impacts of the project and seeks to identify ways to improve it.

Thank you for your careful consideration of these issues.

Sincerely,

Bakeyah Nelson
Executive Director
Air Alliance Houston



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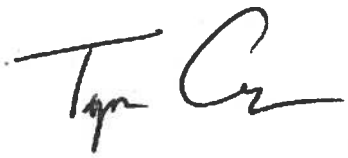

Tyson Greer
President
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CC:

Local Representatives & Officials

Sylvester Turner, Mayor of the City of Houston

Mike Knox, Houston City Council, At-Large Council Member, Place 1
David Robinson, Houston City Council, At-Large Council Member, Place 2
Michael Kubosh, Houston City Council, At-Large Council Member, Place 3
Amanda Edwards, Houston City Council, At-Large Council Member, Place 4
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Jerry Davis, Houston City Council, Council Member, District B
Ellen Cohen, Houston City Council, Council Member, District C
Dwight Boykins, Houston City Council, Council Member, District D
Dave Martin, Houston City Council, Council Member, District E
Steve Le, Houston City Council, Council Member, District F
Greg Travis, Houston City Council, Council Member, District G
Karla Cisneros , Houston City Council, Council Member, District H
Robert Gallegos, Houston City Council, Council Member, District I
Mike Laster, Houston City Council, Council Member, District J
Larry Green, Houston City Council, Council Member, District K

Ed Emmett, Harris County Judge
Rodney Ellis, Harris County Commissioner, Precinct 1

Jack Morman, Harris County Commissioner, Precinct 2
R. Jack Cagle, Harris County Commissioner, Precinct 4

State Representatives & Officials

John Whitmire, Texas State Senator, District 15
Borris L. Miles, Texas State Senator, District 13
Sylvia R. Garcia, Texas State Senator, District 6

Senfronia Thompson, Texas State Representative, District 141
Armando Walle, Texas State Representative, District 140
Jarvis Johnson , Texas State Representative, District 139
Harold V. Dutton Jr., Texas State Representative, District 142
Jessica Farrar, Texas State Representative, District 148
Carol Alvarado, Texas State Representative, District 145
Sarah Davis, Texas State Representative, District 134
Garnet Coleman, Texas State Representative, District 147

Tryon D. Lewis, Chair, Texas Department of Transportation Commission
Jeff Austin III, Commissioner, Texas Department of Transportation Commission
J. Bruce Bugg, Jr., Commissioner, Texas Department of Transportation Commission
Laura Ryan, Commissioner, Texas Department of Transportation Commission
Victor Vandergriff, Commissioner, Texas Department of Transportation Commission

Federal Representatives & Officials

John Cornyn, U.S. Senator for the State of Texas
Ted Cruz, U.S. Senator for the State of Texas
Sheila Jackson Lee, U.S. Representative for the 18th District of Texas
Ted Poe, U.S. Representative for the 2nd District of Texas
Gene Green, U.S. Representative for the 29th District of Texas
Al Green, U.S. Representative for the 9th District of Texas

ATTACHMENT 1

DEIS COMMENTS FOR
NORTH HOUSTON HIGHWAY IMPROVEMENT PROJECT

CONNECTIVITY AND MULTIMODAL CONSIDERATION

The City of Houston adopted a Complete Streets policy in 2013 to ensure streets are constructed for all users of the system. The City also requires that streets should be built using a Context Sensitive Design guidelines as those recommended in the Institute of Transportation Engineers (ITE) - Design Walkable Urban Thoroughfares: A Context Sensitive Approach and National Association of City Transportation Officials (NACTO) – Urban Street Design Guide and others. Since the project location is within the urban core of the City, the design on the proposed project should meet these guidelines.

The existing freeway infrastructure built in the 1960's separated communities, impacted neighborhoods and had a significant impact on the City of Houston. The NHHIP should improve connectivity between communities in and around Downtown; not reduce it. Where possible, strong connections should be maintained and new ones should be added to the existing street network. Reducing street connectivity in areas in the urban core of Houston should be avoided or mitigated wherever possible. Connectivity should be considered not only for vehicular traffic, but for all modes of transportation; inclusive of people on foot, people on bicycles, transit users, and for freight.

Based on the schematic exhibits it's not clear if local street network operations have been analyzed at the same level of detail as freeway operations. While the freeway operations are critical for regional circulation, the local circulation is critical for the City of Houston and for the adjoining communities impacted by this project. Improving connectivity, by providing multiple routes where people can travel, is critical to avoid relocating congestion from freeways to local streets.

The NHHIP project should be built to reflect the infrastructure needs for the next 50 years. This can only be achieved if multimodal consideration of transit and freight are integrated into the proposed design. Houston is a multi-centric city. Activity centers are located throughout the region and integrating two-way high capacity transit into the design benefits the overall region. The proposed MaX Lanes concept could be designed and operated to ensure that reliable and frequent high capacity transit could be operated to connect all regional activity centers. The existing HOT lanes operations do not allow for reliable transit operations resulting in significant increase in single occupancy trips in our region.

The U.S. Census Bureau shows that the largest share of people who bike, in large car dependent cities like Houston, are in lower-income brackets. Given the immediate surrounding neighborhoods and the location of our bayou greenways, current and future bicycle infrastructure, bicycle connectivity is of paramount concern. Providing for high-comfort bikeway connectivity across and along the proposed project is essential to the changing demographics in our region. It is also needed to address the additional barrier between neighborhoods, especially the increased barrier between lower social-economic neighborhoods and the Central Business District. In areas where vehicular connectivity may be removed, options should be evaluated to preserve pedestrian and bicycle connectivity.

The proposed schematic drawing does not identify sidewalks along sections of the proposed project. In general, sidewalks should be identified along all frontage roads and public streets on the schematics in

all typical sections. All bridges should have wide sidewalks for safe crossing. Ensuring access to pedestrian and ADA accessibility along all public streets is critical.

We look forward to coordinating with TxDOT on the proposed deck structure across the freeway; however, it is also important to have safe connectivity and accessibility to these areas across the proposed frontage road. The deck structure should also be coordinated with the City and other adjoining entities to ensure appropriate design and infrastructure for proposed improvements over these decks.

SEGMENT 1

- Consider extension and direct connection from I-45 MaX lanes to Greens Road to serve Greenspoint area. This will help with redevelopment of the area and support potential METRO Limited Stop Downtown to Airport Route (e.g., Downtown> Shepherd> Greenspoint> IAH)
- Ensure Halls Bayou Crossing north of W. Mt. Houston is designed to allow trail crossings under freeway and frontage roads.
- Connections on Crosstimbers, Victoria/Lyerly, Tidwell Rd., Cortlandt/E Witcher, Rosamond, W Parker Road, Rittenhouse, etc. should be designed with high comfort intersections for bicyclists and pedestrians. These are vital connection for the Independence Heights, Garden Oaks, Oak Forest and Acres Homes areas to safely reach either Little White Oak Bayou or the Red Line into downtown.
- The HOV ramp from Airline Drive providing access to Independence Heights and Northside Community is being removed. Provide alternative access for the communities to managed lanes.
- Provide local street connection between Veterans Memorial and I-45 southbound frontage road along the METRO T-Ramp.
- Little White Oak Bayou extends north of I-610 to Crosstimbers in Independence Heights and ultimately to Acres Homes. See Segment 2 comments and apply to Segment 1. Also, design any detention basins along this section of the bayou to be accessible green space.

SEGMENT 2

- Clarify end of streets like North Street, Woodland Street and Farwood Street on the east side of I-45. Ensure connectivity to the Frontage Road for some, if not all streets.
- Consider extending IH-610 Segment east to allow Helmers Street connection across the freeway. Helmers would be a very useful north-south connection, potentially as a residential minor collector, as it is continuous from Fulton Street on the South to Berry Street on the north, a distance of almost 3 miles. Right now, only north-south connections through here are Fulton and Irvington and Fulton has Red Line impacts. Extension of Helmer may allow for safe pedestrian and bicycle connectivity between neighborhoods across IH-610.
- Assess the option to bring pedestrian and bicycle trail underneath freight railroad north of Stoke Street. If pedestrian and bicycle connection cannot be provided under the freight rail line, integrate pedestrian and bicycle facility into frontage road design to cross rail ROW and provide connection to Stokes Street.

- The removal of North Street Bridge creates greater access issues between Heights and Northside possibly leading to more traffic congestion. Provide pedestrian and bicycle connection along I-45 and Little White Oak Bayou to mitigate the removal of the North Street bridge.
- Little White Oak Bayou: This bayou section is an important piece of the expanding high comfort bicycle network that provides connectivity from outside the N Loop 610, under I-45 away from traffic, and into downtown making further east and west connections through Buffalo Bayou. Acknowledgement of this bayou as a necessary connector for bicyclists, pedestrians, and naturalists is unaddressed in this design and crossings (Hogan/Crockett, Houston, Quitman/White Oak Dr., Main St, Patton, Cottage etc.) allowing full access to Little White Oak Bayou need to be maintained and carefully designed with high comfort bicycle and pedestrian crossings. Surrounding neighborhoods are historically under-served and connections via bicycle and on foot are measurably significant. The project should replace the existing culvert north of Patton Street with a bridge span designed to allow trails on both sides of the bayou. At I-610, a safe route along the bayou should be included (could suggest replacing this culvert, also or high comfort bike lane at signalized frontage road intersections). The new trail should connect to the existing bike trail along Little White Oak Bayou between Enid and Calvacade, on the west side of I-45 and to a new park at the retention pond areas on the east side of I-45 (where Love's Truck stop is currently), and on to Moody Park/Woodland Park/White Oak Bayou trail. Mitigate for loss of green space along the bayou in this area and replace the existing trail with an equivalent trail.
- Deck Park over I-45 near North Main - The original I-45 construction bisected one community into two. This has become a permanent separation resulting in different community cultures on either side of the freeway. There are constant efforts to reunite the communities but the swath of freeway that separates them remains a physical barrier. Create a deck park over the freeway near North Main. This will be a physical reattachment point, reuniting the divided communities. Address the accessibility issue to the proposed Deck Park location near Main Street with the proposed multilane frontage roads and U-turn ramps.
- Justify the need for 1 lane northbound frontage road from Quitman Street widening to 4-lanes near Main Street. Ensure pedestrian and bicycle accessibility along he proposed frontage road.
- The proposed design has significant impact on the adjoining neighborhoods. Address the additional barrier between neighborhoods, especially the increased barrier between the Northside neighborhood and the Central Business District. See Segment 3 comment about a Fulton-North San Jacinto Street connection.
- Connectivity in and out of Northside neighborhoods needs to be addressed in a way that it becomes improved not worse by new design.

SEGMENT 3

SOUTH: US 59/I-69

- Ensure proposed design does not prohibit future two-way high capacity transit on I-69/US 59 with focus on Spur 527. Direct or expedited connections from the existing HOV/HOT to Wheeler

TC should also be explored.

- With the proposed reconfiguration of I-69 at Wheeler Transit Station, there is an opportunity to improve multi-modal circulation, access to the transit center and plan for future capacity needs with the University Corridor and US 90A transit connections. Coordinate with City and METRO to ensure this area is designed to maximize future transit and development opportunities. The Deck Park Cap at this location provides an opportunity for public and private investment to develop a Transit Oriented Development. TxDOT should actively engage in the development and implementation of the Wheeler Area Park Cap and related street and transit connections.
- Evaluate options to maintain Blodgett connection from San Jacinto to Main St. This is very useful connection and very helpful to the bus operations at the Transit Center. With the redesign of the San Jacinto on-ramp to east side of street, this should be achievable.
- IH-69 exit to Main Street near Wheeler TC should be designed to allow improved pedestrian and bicycle connectivity and safe crossings as identified in Houston Bike Plan/METRO Bike & Ride studies.
- Ensure all bridges, including Montrose, La Branch, Austin and Almeda bridges are wide enough for safe pedestrian and bicycle crossings.
- The proposed project allows for separated pedestrian and bicycle facility along the south side of US 59 between Graustark and Main Street and the Center Point utility corridor. This would safely connect the Montrose and Boulevard Oaks neighborhoods to the Wheeler Transit Center. Evaluate feasibility of grade separated trail extension below Montrose bridge since midblock crossing at the bridge may be challenging.
- Links to Downtown should support high-quality, fast, reliable connections to major activity centers.
- As currently proposed, the primary access to and egress from the SH 288 Managed Lanes or Toll Lanes would be provided on Chenevert Street south of Elgin, adjacent to the Houston High School for International Studies and Baldwin Park. This configuration is suboptimal for everyone involved. Drivers using the Managed Lanes will more likely be destined for Downtown than Midtown, or might be trying access another freeway to continue. Either way, ending up on Chenevert Street will introduce unnecessary delay and confusion. Presence of the existing freeway ramps disrupt the neighborhood fabric and introduce unsafe vehicle speeds in a residential area. The proposed design would set this problem in concrete for another 50 years. Like other managed lanes connections, the SH 288 Managed/Toll Lanes could just be connected to the SH 288 main lanes near Alabama. The other option would be reconfigured the ramps to connect to Hamilton and Chartress that serve as the frontage road along this section of the freeway. Doing so would make access much more intuitive, improving the chances of success for the Managed Lane project. It would also give drivers headed toward Downtown or other connecting freeways a more convenient route for doing so than Midtown surface streets.
- As part of the removal of the ramps from the neighborhood, the grid of local streets be reconnected including Francis Street, Chenevert Street, and Holman Street. Re-gridding the streets would create surplus land for redevelopment to mitigate the impact of the project on adjacent neighborhoods. Connecting Holman Street through to Hamilton Street would obviate the need for the freeway-style ramps connecting to Chenevert Street south of Holman Street.

Removing them would be more consistent with the context of the neighborhood while improving safety, reducing right-of-way acquisition, and creating more surplus right-of-way.

EAST: I-69, I-45, SH 288

- Connectivity on the east side has historically been limited and the project should ensure that this issue is appropriately addressed. There is no proposed street that provides direct two-way east-west access between Downtown and the East Downtown / East End area along the stretch between IH- 45 South to IH-10, a distance of nearly 2 miles. Even those streets that cross the proposed IH- 45/IH-69 trench require switching to an adjacent street through several turns to continue east/west.
- The loss of connections such as Polk, Leeland/Bell and Runnels are significant. Include Runnels to McKee or Canal to Ruiz connection. The loss of Runnels cuts off the area of the East End north of the West Belt Subdivision rail line and Buffalo Bayou and limits access to Downtown to just the Franklin/Navigation underpass. Other option for residents is to backtrack to Harrisburg, which doesn't connect to downtown that well due to the street network, stadiums and large parking lots in the area. One of these proposed connections would be significant improvement.
- Evaluate options for northbound exit from US 59 main lanes to Runnels Street.
- Evaluate options for extending Canal Streets across I69/US 59/I-45 between Downtown and Second Ward.
- Existing two-way connection of Nance Street to Jensen is being replaced by one-way frontage road along Rothwell. Identify another two-way connection between Jensen and Nance Street. This is especially important since the westbound frontage road along I-10, which is not proposed to be extended across I-69.
- Maintain Jensen Street exit from IH 10 eastbound or provide other alternatives to maintain connectivity without at-grade rail crossings.
- Identify option for ingress and egress from I-69 near the Buffalo Bayou areas to improve access to and from Downtown, East Downtown, East End, and 5th Ward.
- Proposed design still has limited connectivity to the 5th ward areas north of Buffalo Bayou. The exit ramp for Jensen previously proposed has been removed. Provide alternate access from 5th Ward to mitigate any loss of access. Evaluate options to extend Bringhurst across I-10 to enhance connectivity across I-10. Providing an additional crossing of IH-10 between Gregg St and Hirsch St would be very beneficial, given the potential Midway East River development of the KBR site and Lovett Homes development on MDI superfund site in the East End.
- Evaluate options to maintain Polk Street Connection across I-69 / I-45
  Coordinate with the City, adjoining management entities to evaluate design options to bring I-45 Main Lane ramps and I-45 to I-69 N ramps down below grade between Polk and Rusk. Maintain critical Polk Street connection (Adjust Polk alignment and grades as needed). This proposal eliminates crossings for Dallas, Lamar, McKinney (similar to today).
    - This change would reduce the size of the proposed Park Cap by several blocks (from 10+ blocks to 7) to a more manageable size. For reference, Klyde Warren is about 5 acres, the east side park cap as proposed is nearly 30 acres.
    - The potential park area as currently conceived is as big as 15 Market Square Parks or 2.5 Discovery Greens. That is a lot of park space to program and maintain. Some of the space should be envisioned with the potential to be developed with walkable one to two story buildings, potentially as a home for the businesses displaced in East

Downtown. Freeway support structure should be designed with this in mind. For example you could relocate all the bars and restaurant along St. Emanuel demoed by the freeway widening to location on top of the cap creating an instant destination linking the convention center and stadiums. Would be similar to the bar/meeting space that is on top of Klyde Warren and provide revenue to support maintenance.

- Polk Street pedestrian and bicycle connection is a critical connection to Downtown. The Lamar Street separated bike lane is proposed to be extended along Polk Street to connect East Downtown and other East End neighborhoods to Downtown, Main Street Rail and Buffalo Bayou as part of TIGER Grant. In any scenario, maintaining this pedestrian-bicycle connection is vital for residents and businesses in the area.
- The loss of Downtown to East End/East Downtown connectivity at Polk and Runnels also impacts METRO service from the East End to Downtown. Routes 40, 41, 48 will need to find separate routes for eastbound and westbound trips. This will increase complexity, impact reliability for customers, and potentially incur service costs for METRO. Keeping Polk open would mitigate some of these issues and is recommended.
- Proposed Lamar St at St. Emanuel intersection is difficult to see on the schematic but seems awkward with difficult geometry. Keeping Polk open (with related ramp changes) would address connectivity issues and eliminate need for this funky design.
- Connect Leeland to a Leeland/Bell one-way pair as it is currently. This will require redesign of the freeway off-ramp connected to Bell, which seems achievable. If Polk connection is eliminated, TxDOT should identify funds for grade separation of Leeland at the West Belt Subdivision rail lines so that major east west connection exists without barrier between Eastwood and downtown.
- Maintain Walker Street crossing between St. Emanuel and Hamilton as an extension of Columbia Tap trail to west side of SB frontage road (instead of as a street crossing) then bring trail south to Polk St. along the back of the convention center.
- Ensure Buffalo Bayou trails can connect to East End/Fifth Ward though detention area and freeway crossings. This is critical connection for the East End and must be excellent.
- Consider making more bridges and related traffic control two-way (e.g., Leeland, Commerce). This should be paired with consideration of more two-way streets in downtown. At the proposed box/beam structure behind the GRB, Rusk, Capital, Leeland, and Commerce Street connectivity travel is diminished between downtown and southeast Houston.
- Southeast Houston is a historically under resourced area and an area that relies on bikes to safely travel throughout the city. Crossings at these points need to be designed with wide sidewalks and high comfort bike lanes complete with physical barriers, green paint, signage, and a continuation of the Bike Plan's programmed projects to build these streets out as dedicated on-street bicycle lanes. In addition, consider sustaining the connection on Polk Street as it connects to the Harrisburg and Columbia Tap trails.

NORTH: I-45, I-10

- This realigned segment of I-10 and I-45 has significant impact on existing businesses and could benefit by improving the connectivity in this area, which is already hampered by freight rail lines and the Bayou. Coordinate with the City and UPRR on the potential to realign the freight main along the passenger main to remove existing freight crossings through Downtown.

- Integrate connection to link area north of UPRR on the north side of the post office site to Downtown. This could potentially be incorporated into Downtown Connector, Bagby, Washington Avenue extension design.
- Plan for the extension of San Jacinto Street to Fulton including potential grade separation at the UP Passenger Main crossing which is hugely impactful to drivers and transit in this area. This extension could help mitigate the impacts along the north side of Downtown.
- Provide improved version of existing pedestrian and bicycle bridge crossings of freeway east of Elysian and link to a new north-south trail connecting to Near Northside.
- The schematic drawings do not define street network under the freeway segment of IH-10 north of Downtown. This area is designated "Excess ROW" and has significant potential to transform the warehouse district area. Coordinate with the City and Downtown District on the alignment of roadway network to ensure circulation in this area.
- Consider abandoning Conti Street between McKee and Frontage Road. Space could be abandoned and reallocated to development space. Also evaluate the option to clean up transition from Lyons to McKee to make smoother and more legible. McKee and Hardy streets provide pedestrian bicycle connectivity between Buffalo Bayou and the Northside neighborhood. Ensure bridges across I-10 are designed to incorporate safe and high comfort bike facilities.
- Links to Downtown should support high-quality, fast, reliable connections to major activity centers or the northwest transit center. The loss of the existing downtown connector tied into Franklin, should be re-evaluated to see if it could be better used as part of high capacity transit network or as an alignment for a light rail extension.
- Coordinate with City, METRO and TCP to explore High Capacity Transit connection to northwest Transit Center and proposed High Speed Trail Terminal. The existing I-10 corridor west of Segment 3 could be planned to include the extension of METRO's purple and green light rail lines. The current North Houston Highway Improvement Project plans do not consider this connectivity, and in fact, would preclude it, since the plans call for the demolition of the HOV ramp.

WEST: Downtown Connector, Pierce Elevated

While the planned project will remove the I-45 main lanes from the west side of downtown, the planned "downtown connectors," their ramps and related surface streets will have significant impacts on Buffalo Bayou, Sam Houston Park, Fourth Ward and Midtown. With the assistance of the Downtown District, community representatives from the surrounding area have achieved consensus on modifications we are asking TxDOT to make to its plans from Buffalo Bayou to Pierce Street during its FEIS phase:

Buffalo Bayou and Sam Houston Park

Sam Houston Park is Houston's most historic park, and Buffalo Bayou is Houston's greatest natural resource. The project should protect and even benefit both important civic assets.

- Configure NB cloverleaf and SB ramps to and from Allen Parkway to allow for a cleaner bridge design over Allen Parkway and Buffalo Bayou.
- The design of both bridges over Buffalo Bayou (elevated connectors and surface street) should minimize bridge piers and be carefully coordinated with design features of the park and bayou.

- Our groups are inclined to support a proposal for a "signature bridge" over the park and Buffalo Bayou (pending design details)

Downtown Connectors South of Buffalo Bayou

In many areas, the project is converting overhead freeway lanes to below-grade except here where a freeway underpass is being replaced with an overpass at West Dallas.

- With "low profile" bridge structures (thin slabs) and minimal re-grading, current standards can be met and still allow the elevated connectors to pass over Allen Parkway and then go below West Dallas as the I-45 main lanes do today.
- Continue the downtown connectors below grade south of Andrews.
- Include a direct pedestrian connection and gateway at Andrews Street from downtown to Fourth Ward.
- Shift all roadways within the existing right-of-way to open up more space on the Fourth Ward side for a linear green space and high-comfort trail (see below).
- Include the possibility of a small cap park on the north side of Andrews as part of the Fourth Ward Gateway.

Surface Streets

Reconnecting with Complete Streets communities that were split apart by the freeway is a critical component of the project scope.

- Provide direct connections from Walker and McKinney to Houston Avenue (terminate two-way north-south surface street at this direct connection on north side of bayou).
- Eliminate the Walker Street roadway to Allen Parkway that bisects Sam Houston Park.
- Reduce the two-way surface street north of Allen Parkway by one lane in each direction.
- Reduce Heiner Street to two lanes (three lanes once the Bagby ramp merges with Heiner Street) to accommodate the green space and high-comfort trail (see below)
- Extend the NB Pease Street to West Dallas over the depressed downtown connectors to access Allen Parkway.
- As an Option to #5, consider extending the two-way surface street north of Allen Parkway along Heiner Street to St. Joseph Parkway to improve the legibility of the street network.

Multi-Modal Trails and Green Space

Multi-modal connections between the area's high-density urban populations and Buffalo Bayou is a critical component of the project scope.

- Along the west side of the right-of-way from Pierce to Allen Parkway, provide a high-comfort multi-modal trail from Midtown, south downtown and Fourth Ward to Buffalo Bayou.
- It is critical that the at-grade Allen Parkway crossing be designed for pedestrian and cycling safety.
- Provide a safe connection at Andrews Street from this high-comfort trail into the green space between the downtown connectors and then to Pierce Street (and possibly the Pierce Sky Park).
- Preserve the option for the Pierce Sky Park from Andrews Street to Pierce Street, including a transition to the high-comfort trail accessing Buffalo Bayou.
- Include gateways to Fourth Ward/Freedmen's Town at Andrews Street and West Dallas Street.

Other comments

- Review need/potential to maintain IH-10 HOV Connector near Amtrak Station coordinating with Metro's upcoming planning to address express transit connectivity from downtown to NW transit center. Maintenance as a transit only facility could have significant value. If the existing IH-10 Connector is removed as currently proposed, Washington Avenue should be connected to the Post Office site. Ideally the connector could be maintained and designed to allow the Washington Avenue connection, and incorporate a transit stop to serve post office redevelopment.
- Coordinate with the City of Houston, and adjoining communities and management districts on the opportunity to along the Pierce Elevated between Downtown and Midtown to ensure the preservation of multimodal opportunities to connect East Downtown, to Buffalo Bayou Park.

DESIGN

This project represents a once in a lifetime opportunity, and the details which impact how people safely get around need to be fully thought out. This requires careful planning and a greater level of detail than has been provided by the current schematics. Focus on well thought out design of safe intersections, sidewalks and bikeways, transit stops, frontage roads, and connections have the potential to greatly enhance mobility options. Failure to do so would be a huge detriment to the project. Elements like wide outside lanes for bicyclists, which are likely to be eliminated as guidance from the next AASHTO bikeway design guide, should not be included in this project. The design needs to be forward looking and incorporate best practices for safe multimodal streets. Transit, including how the NHHIP can be designed to support faster transit trips between major activity centers and destinations, should be much more prominently considered in the plan. This should include rail expansion opportunities as well as the potential for an optimized express bus network.

Ensure bridge widths throughout the project include sufficient space for quality sidewalks and high comfort bikeways as called for in City of Houston standards and guidelines, and not be designed to match existing cross-section or old standards. Ensure all bridges across the freeway and street crossings under the freeway provide for a minimum 6' unobstructed sidewalks. Where appropriate wider sidewalks should be provided since there is limited buffer between the vehicular lanes and the pedestrian.

All lanes on city streets and frontage roads should comply with City of Houston's 11' lane standards and encourage appropriate travel speeds and safe travel. Having different lane width for different roads create inconsistent driver experience. 12' lanes are freeway lane standards and not local streets. They encourage excessive speeds through urban area where higher speeds are out of context and unsafe. It is also recommended that the local street network and the frontage road be designed with target/design speed not to exceed 30 mph, especially in the urban areas.

Define which intersections are proposed with traffic signals and all-way stop control. It is impossible to truly assess whether the design supports safe walkability, bikeability, and transit use without this information. Traffic control recommendations should be developed with multi-modal safety and connections in mind.

Entire design should be reviewed to ensure optimized bus stop locations have been considered. Stops (and access to stops) must be designed to ADA and METRO standards with room for shelters to support high quality transit experience.

Of the bicycle features proposed, a clear design criterion with the safety of bicyclists in mind is not apparent. The City of Houston has committed to building only high comfort bicycle lanes and facilities through the recently adopted Bike Plan. A high comfort bicycle lane minimizes people's interaction with high volume, high speed traffic, and requires more separation and protection as these traffic characteristics increase. Design standards for bicyclists and pedestrians need to be set to reflect the Houston Bike Plan's high comfort commitment.

Design bikeways for people of All Ages and Abilities in line with the high-comfort bikeway guidelines set out in Houston Bike Plan. Protected bikeways or side paths set behind the curb should be designed for all bike connections. Bike lanes should be 6' wide minimum. 14' wide outside lanes designed as shared bicycle facilities are unacceptable and should not be included in this project. Intersections should be designed for safe crossing to accommodate bikeways and sidewalks.

Along frontage roads, the bikeways constructed in this project need to sustain a high level of comfort for both motorists and cyclists to create a clear and safe space for both parties to travel with no room for misinterpretation.

The proposed bicycle lanes along the outside of the frontage roads do not provide adequate protection for cyclists and create more opportunity for bicycle/motorist collisions. Instead, it is recommended any bikeway associated with these roadways be completely separated from vehicular traffic, be positioned behind the outermost curb, be at least 6 feet wide and separated from pedestrian traffic.

An intersection is the most likely place for a vehicle-bicycle collision. A protected intersection (or Dutch Junction) for bicyclists and pedestrians is recommended and makes travel considerably safer for all parties. This design includes small islands as buffers from right-turning motorists. Green paint is then used to direct the cyclist from one protected lane to the next in a circular fashion moving counter-clockwise. College Station, TX has already completed a similar design and the protected intersection in the Energy Corridor in Houston is planned to be implemented in the fall. It is recommended that TxDOT use such safer intersection design treatments and consider design guidance from NACTO in the design of intersections.

Multiple streets have been shown with sweeping, large radius turns. Several of these match the existing roadway curb lines which may have been designed at a different time for different uses. This project should take the opportunity to minimize these issues, especially in areas where large numbers of people walking can be expected around Downtown and Buffalo Bayou. Sweeping right turns, not limited to Sabine Street and the IH-69 exit to Main Street, need to be avoided. This design makes it difficult for both the motorist and the cyclist to anticipate a potential collision.

It is not clear if local street network and intersections have been analyzed in any way. Given the impact of the project on adjoining communities and the City, coordinate with the City and included this analysis in the plan and FEIS analysis. If not, it is a serious oversight to understand the proposed plan impacts.

In general, creating excess unproductive space should be avoided in street design (e.g., small triangles of isolated land) unless there is clear plan to address the use of the space (e.g. public art projects).

Consider all detention areas and how to make these attractive and usable green spaces.

The City of Houston has adopted a Complete Streets policy to ensure streets are constructed for all users of the system. The City's Infrastructure Design Manual also requires streets should be built using a Context Sensitive Design guidelines as those recommended in the ITE - Design Walkable Urban Thoroughfares: A Context Sensitive Approach and NACTO – Urban Street Design Guide, and others. Since the project location is within the dense urban core of the Houston, especially Segments 1 and 2 any future engineering design should meet these guidelines. Segment 3 should be designed to General Urban context guidelines.

While the freeways are designed to FHWA and AASHTO design guidelines; all frontage roads, adjoining local streets and intersection should be designed consistent with the City's Context Sensitive design guidelines.

It is important to ensure that all freeway overpasses are designed with lighting to ensure safety of all user of the roadway. Coordinate with the City, adjacent community, and management entities for identify opportunity for peacemaking improvements under the freeway.

SEGMENT 1

- Evaluate how the Airline, Victoria Drive and Northbound I-45 Intersection would operate safely and legibly to people traveling through any mode of travel. Existing configuration should be improved to ensure safety for all users of the roadway.
- Clarify plan for Werner Street in northeast corner of Tidwell intersection with I-45.
- All intersection should also be designed with special care for safe, comfortable crossings for pedestrians. Most arterials crossing I-45 are on METRO's bus network, have significant nearby boardings and will require safe crossings to serve stops for people traveling in both directions. Additionally, development adjacent to I-45 should be safely accessible for people walking. In particular, the intersection of Shepherd and I-45 is directly adjacent to the N. Shepherd Park & Ride. This intersection should be assessed to ensure that is safely traversable by people walking.
- N. Shepherd Transit Center would be logical extension for METRO Red Line. We encourage consideration of how that connection could be made and to consider that in design so as to not preclude options. For example, consider making West Little York and Parker crossing spans wide enough as these would be potential point for light rail to cross I-45 to reach N. Shepherd.
- Most intersections in Segment 1 are proposed with suburban intersection design considerations. This segment falls within an urban area and all intersections should be designed to improve pedestrian and bicycle accessibility. To this end, an intersection design that incorporates a free

flow right turn lane with a pedestrian island creates an unsafe environment for pedestrians since many drivers do not yield to pedestrians at such intersections. Additionally, several intersections have dedicated right turn lanes. Ensure the traffic counts warrant dedicated right turns. 5-6 lane/multi-lane frontage roads are daunting for pedestrians to cross. Coordinate with City of Houston on all intersection designs.

- Ensure adequate clearance across Halls Bayou to allow for adequate natural drainage conveyance, and a pedestrian and bicycle trail along the bayou.
- Provide dedicated left turn lane at the proposed Blue Bell Interchange.
- Justify the need for 5-lane frontage road for portion I-45 between West Road Blue Bell Road, a minor collector street.

SEGMENT 2

- The proposed extension of frontage roads under IH-610 at I-45 interchange are beneficial. These roadways and intersections should be designed to also allow safe pedestrian and bicycle crossings as there is not another crossing for approximately ½ mile in either direction. The large radius turn lanes are not typically supportive of safe, comfortable crossings at these locations.
- Entire design should be reviewed to ensure optimized bus stop locations have been considered and stops (and access to stops) would be designed to ADA and METRO standards to support high quality transit experience. For Segment 2, this is most critical for the Cavalcade St. bridge crossing and the operation of the existing 44 Acres Homes which travels on a section of Main St and Houston Avenue impacted by the NHHIP project
- Justify the need for proposed multi-lane frontage road along northbound I-45 between Quitman and N. Main. A single lane north of Quitman is expanded to 4 lanes at N. Main Street creating significant impact on adjacent properties. Additionally, this creates a design that encourages high speed adjacent to the proposed park deck.
- Add safe pedestrian crossings, and bike lanes, to cross, and continue east, on Calvacade (has existing bike lanes), Patton, and Cottage St-Searle Dr. These are to have access to the red line train stops at Calvacade and Moody Park, as well as shops, the MD Anderson YMCA, the new park (see below), and neighbors
- Add shade trees along sidewalks and bike lanes on Calvacade, Patton, and Cottage St – Searle Dr.
- Ensure a location to post a Welcome to Brook Smith/Montie Beach sign at the I-45 and N. Main intersection
- Ensure the design maintains safe multi-modal accessibility across the I-45 and I-610 interchange.
- Reconfigure the design of the local network to the new frontage road along I-610 and I-45 on the northeast side of the interchange. Create two-way T-intersection instead of the proposed one way connection to Reid Road. Evaluate the option to extend Melbourne Street to I-45 northbound frontage road

SEGMENT 3

SOUTH: US 59/ I-69

- Ensure Wheeler Bridge is designed to accommodate University Corridor LRT, 4-lanes vehicular and pedestrian accommodations. Current proposal does not take into account the proposed high capacity transit along Wheeler Street.
- Consider widening Almeda bridge to allow simple buffer buildings (See example of I-670 in Columbus, OH). This would reduce view of freeway and make a more seamless commercial corridor experience on this important roadway.
- Justify why Caroline Street warrant 4-lanes with dedicated left turn lane at Wheeler Street. Maintain the current 4-lane configuration with wide median across I-69 to maintain the existing character of Caroline Street.
- Area south of Baldwin Park should be redesigned to more of a neighborhood context without sweeping high speed curves in streets. For example, Francis Street could be designed as a T-Intersection with Chenevert. This would allow block between Chenevert, Francis, Jackson and Stewart to be reassembled at full city block. This could be used for green space or redevelopment opportunities given the impact of the proposed project.
- Proposed access from Chenevert to the extension of Hamilton Street can be designed as a 2 lane local street and limit impacts on adjacent properties and would be a context sensitive design solution.
- Where frontage roads are proposed, such as between Midtown and Museum Park or between Downtown and the East End, it would be helpful to know which intersections would be proposed for signalization or all-way stop control. This will greatly impact people's ability to safely cross at these locations, especially those walking or biking. It would likely be beneficial if all of these are considered for either a signal or all-way stop control.
- Ensure Wheeler Transit Center can function effectively for all users with this project. Current Schematic does not show exit point for Transit Center driveway. This project presents opportunity to rethink operations.
- The design of the street network near Wheeler Transit Center should be optimized to maximize TOD opportunity. Main goal would be to minimize train/roadway conflicts (e.g., train does not cross streets in the middle of intersections) while maximizing transit operations and TOD potential. Design should be developed to accommodate future two-way express bus service on I-69/US 59 with particular focus on Spur 527. Direct or expedited HOV connections to Wheeler TC should also be explored.

EAST: I-69, I-45, SH 288

- Tuam Street is a local street and does not warrant 4 lane redesign as 2 lanes with left turn lane and dedicated bike lanes.
- Re-evaluate the need for 5 lanes on McGowen Street. Two lanes with dedicated left turn lane and bike lanes may be adequate based on the existing and projected capacity.

- Revise the design of Hamilton and McGowen Street to remove free flowing right turn lane.
- Propose Chartres Street at McGowen Street should be redesigned to limit ROW taking from the new residential development in Third Ward.
- Redesign Webster Street and Hamilton Street intersection as a T -intersection to improve pedestrian accessibility along Hamilton .
- Light new bridges along I-69 in a manner similar to those in Montrose along I-69.
- The project appears to take out HPD's South Central command station. How is this impact being mitigated and have alternate location been identified to relocate the facility in the area?
- Include bike lanes and wide sidewalks on Elgin, Tuam and McGowen bridges. Light new bridges in a manner similar to those in Montrose along I-69.
- Southbound Hamilton at McGowen and northbound Chartres at Elgin should be designed without sweeping right turn lane
- When reconstructing Green/Purple crossing of I-69/I-45 trench between East End and downtown, design larger radii turns to support faster train operation speeds. Improve signal operations for rail crossing at St. Emanuel and design Hamilton crossing to work effectively. Coordinate with the City of Houston and METRO and potential for dedicated transit lanes on Capital and Rusk as well as rail connection through proposed cap park.
- Ensure potential bottle necks are evaluated in the design process
    - Could I-45 to I-69N to I-10 ramp be separated to eliminate some of the likely weaving though that section? I-45 N to I-69 N connection could occur in vicinity of Runnels. This has potential to reduce weaving through that area overall.
    - I-69 S south of merges seven southbound lanes (2 from Hamilton/Webster, 4 from I-69 S main lanes, 1 from I-45N) in 6 lanes, which drop to 4 lanes once two lanes are peeled off to local streets on south end of midtown. This seems like it will end up as a major bottle next similar to existing I-69 NB at the Spur. Don't really have a solution but seems like it will be challenge at day one of opening.
- In the area, north of Minute Maid Park, the operations of the proposed southbound frontage road and existing Hamilton appears problematic. Having two parallel one-way street traveling the same direction and located 100' apart seems like a recipe for conflicting queues and confusing operation for motorists both on these streets and crossing them. There is significant potential for wrong way turns from crossing streets as drivers are used to the alternative pattern of one-way street Downtown. Consider consolidation of these streets or revisions to ramp access to Downtown.
- Ensure underpass at Commerce/Navigation proposed by GCFRD can be constructed with acceptable and safe grades/visibility for all modes of traffic.
- The intersection of Franklin and St. Emanuel frontage road seems poorly thought out given existing grades, typical travel speeds, and sight distance, should the full underpass mentioned above not come to fruition.
- Ensure rail underpasses are built with drainage improvement to avoid flooding.
- Ensure at grade crossing of railroads is avoided in the proposed design for enhance freight and vehicular circulation and safety.

- Design the proposed detention basin north of Runnels as a wet bottom basin that is publicly accessible gateway feature from the bayou trail system.
- Include landscaping and noise mitigation along widened freeway adjacent to Fifth Ward, East Downtown, East Downtown, Downtown, First Ward, Third Ward and Midtown.

NORTH: I-45, I-10

- Reconstruct Hogan, Quitman, McKee and Hardy bridges with safe pedestrian and bike friendly crossings and sidewalks.
- Ensure the design of Providence and Rothwell accommodates pedestrian and bicycle users.

WEST: Downtown Connector, Pierce Elevated

- Sabine Street at Allen Parkway should be shown as T-intersection without sweeping right turn design. These are not appropriate for the context, given walking and biking crossings and desired travel speeds along Buffalo Bayou Park.
- The removal of the existing freeway and the proposed configuration of Downtown Connector will have significant impact on Buffalo Bayou Park and Sam Houston Park. Coordinate on design and identifying opportunities to enhance the parks, with City of Houston, Buffalo Bayou Park, Downtown District and HCFCD is critical to minimize impact on our parks, bayous and its users.
- Minimize the number of piers supporting the downtown connector bridges over Buffalo Bayou.
- Realignment of I-45 along Pierce Elevated creates a unique opportunity to connect adjoining neighborhoods like East Downtown, Third Ward, Midtown, Downtown, and Fourth Ward with a unique urban space. We encourage the City, Midtown District, Downtown District, and other adjacent neighborhoods to develop the best solution that would meet the goals of the City and our neighborhoods. We look forward to these partners to work with TxDOT over the next few years to discuss options along this corridor since this is the last phase of the NHHIP Segment 3 project.
- Design and locate the downtown connectors to preserve the option of retaining some of the existing freeway bridge structures, similar to the Pierce Sky Park concept, where possible.
- Evaluate the opportunity to create a deck park or green belt extension between W. Gray and St. Joseph to allow for the opportunity to extend greenway along the Pierce Elevated, connecting Buffalo Bayou, Midtown and Downtown to Third Ward and East Downtown.

PARKS AND OPEN SPACE

The proposed project has a significant impact on parks, open space and recreation areas in the Houston Region. The project should identify opportunities to limit this impact and mitigate any impact proposed.

SEGMENT 1

- Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Little White Oak Bayou between I-610 and East Parker Road and Shepherd. Develop the detention basin between I-610 and Crosstimbers as a wet bottom basin and publicly-accessible green space tied the bikeway along the bayou. Install a trash mitigation system that will collect both heavy debris and floating debris.
- Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Halls Bayou along I-45.

SEGMENT 2

- Little White Oak Bayou represents a prime opportunity to extend open space connectivity north from White Oak Bayou Greenway to Woodlands Park, Moody Parks and beyond up to Halls Bayou. It also connects neighborhoods like Near Northside, Independence Heights and Acres Homes. This connection between Acres Homes and downtown would benefit many of the underserved communities directly impacted by the North Houston Highway Improvement Project. Through most of Segment 2 the project follows the course of the Little White Oak Bayou. It is imperative that the project fully embrace the ecological values and open space potential offered by Little White Oak Bayou.
- Improved greenspace and pedestrian accessibility to Woodland Park along Little White Oak Bayou east of I-45.
- In 1914 Woodland Park was a 26 acre park in a neighborhood which included the two communities of Woodland Heights and Near Northside. In 1959, TxDOT acquired one third of the park (8.5 acres) to construct I-45 just to the north of downtown. The remaining 17.5 acres of I-45 Woodland Park is now situated entirely to the west of I-45 within the Woodland Heights. Because of I-45, Near Northside residents no longer have access to this park except via the North Street Bridge. Improve greenspace along Little White Oak Bayou east of I-45, with hike and bike trails connecting to Moody Park. This will provide Near Northside residents with access to greenspace and Little White Oak Bayou.
- Connectivity from Woodland Park to the Little White Oak Bayou east of I-45. This could be through an improved channel conduit under I-45 that would provide a safe walking and biking path along the bayou connecting Woodland Park on the west of I-45 to the hike and bike path along Little White Oak Bayou on the east side of I-45.
- Connectivity of public parks, HPARD's "String of Pearls", can be achieved by connecting Woodland Park to Moody Park along Little White Oak Bayou. Coordinate with City of Houston and Houston Parks Board for opportunities to develop opportunities for parks and open space along Little White Oak.

SEGMENT 3

- The White Oak Bayou Greenway is part of Bayou Greenways 2020, a $220 million public/ private investment by the City of Houston to provide continuous linear parks and recreation areas, with hike/bike trails, along 150 miles of Houston's major waterways. The White Oak Bayou Greenway extends over 15 miles from the city limits to UH Downtown where a federally funded TIGER project, currently under construction, is connecting White Oak Bayou Greenway to Buffalo Bayou Park. The DEIS does not reflect the impact on White Oak Bayou greenway which clearly serves an open space and recreation area with the project. TxDOT should address this issue and work with the stakeholders to mitigate the impact on the White Oak Bayou Greenway.
- Sam Houston Park is one of Houston's most important historical destinations, featuring some of the oldest structures in the city. The proposed one-way connection from Walker/McKinney loop street should be removed since it separates Sam Houston Park from Buffalo Bayou. This roadway cuts through the original Sam Houston Park, which originally extended to Buffalo Bayou. This is also the primary biking and jogging route from downtown to the bayou and creates a very dangerous crossing point on a heavily-used route.
- Sabine Promenade/Buffalo Bayou Park area has undergone a nearly $90 million enhancement. TxDOT's should design roadways in a context sensitive manner to ensure accessibility and safety of people walking and biking.
- Lighting improvement is needed under the ramps at Lyons Avenue and Gregg Street. These Improvements should be coordinated by TIRZ 18 and the Houston Arts Alliance.

COORDINATION & PROCESS

This project will be transformative, for the region and City TxDOT closely coordinates with the City of Houston, METRO and other entities such as Management Districts, TIRZs to make the project as strong as possible. This means thinking beyond the direct right-of-way of the project to understand opportunities and impacts on street, bikeway, greenway, and transit networks. It also means working to tie communities together, not separating them further with ever wider freeways serving as barriers.

The project impact facilities managed by multiple agencies, entities and organization. While TxDOT has engaged these organizations on planning level concepts, additional coordination warranted ensuring the design drawings and details are coordinate with these agencies, entities and organization. Develop a process for coordination to ensure major issues are resolved early in the design phase of the project. This could be achieved through workshop for design level discussion and decision for the proposed project.

Several stakeholders have submitted recommendations that have potential to significantly improve connectivity but have not been reflected in current plans. Plans state that these are "subject to change". Clarify to the public the process to consider these changes.

Ensure coordination with the City and other organization to ensure safe pedestrian bicycle access for trails along Buffalo Bayou and White Oak Bayou.

Ensure coordination with local business being impacted during the construction phase of the projects to identify opportunities to limit impact to businesses.

ECONOMIC DEVELOPMENT

A project of this magnitude has significant impact on potential development, both positively and negatively. It will also impact the City's tax base through acquisition of valuable land in the City's urban core. The design should be optimized to support high quality development opportunities that are beneficial to the City of Houston and the surrounding communities. To pretend this is solely a mobility project and to overlook the development impacts would be huge missed opportunity. TxDOT and its partners should work to identify and incorporate development opportunities into the project in the initial design, especially in areas where the project eliminates significant existing tax base.

Segment 1 has significant impact, approximately 212 acres, proposed widening of the project. TxDOT should identify other options and meaningfully engage the neighborhoods to limit this impact on the community.

NOISE & ENVIRONMENTAL

In general noise and environmental impacts should be mitigated proactively as a part of the project. Plan should designate where noise walls are proposed to mitigate neighborhood impacts. Reduce road noise with grooved pavement and slower speed limits especially in the densely-populated and historic areas.

Roadway alignments and the project scope should allow for street trees and pedestrian realm designed to urban standards. Add landscaping along freeway lanes and frontage roads plus noise walls to mitigate for increased traffic from wider freeway. Develop a landscape plan and coordinate with the City and stakeholders along the corridor to reduce visual impacts along the corridor.

The NHHIP project will have a significant impact on Houston neighborhoods and businesses. Provide a landscape plan for the project where landscape screening will be provided along the project to screen the freeway and also help mitigate the air quality and noise impact from the freeway while improving aesthetics.

Waterways affected by the project are already listed as impaired waters. TxDOT should model the runoff and stormwater discharges into Buffalo Bayou, White Oak and, Halls and Little White Oak in order to meet state requirements that prohibit the addition of any pollutant load into impaired waters and focus instead on improving those waters through the additional application of more rigorous best management practices for stormwater and runoff. Similarly, TxDOT should adopt and disclose the best management practices and plans that will be adopted, including source controls, to avoid further discharge of trash into these waterways.

SEGMENT 1

- All alternatives would result in traffic noise impacts. The current DEIS does not adequately address mitigation.

SEGMENT 2

- Ensure all neighborhoods with noise impacts, irrespective of existing conditions, are mitigated appropriately with options such as noise/sound wall including the southeast corner of I-610 and I-45 adjacent to Delaney Street.
- Provide for noise mitigation along the eastern border of Woodland Park. There is constant din of freeway noise is part of the fabric of a Woodland Park visit. With an added upper deck, above grade, the noise will be even more oppressive and incessant. Provide state-of-the-art sound mitigation with an additional shielding of tall trees and vegetation.
- The TxDOT plan proposes to increase the amount of flow of Little White Oak Bayou under I-45 via a larger culvert or channel will result in hydrologic changes within the LWOB channel in Woodland Park. Increased water flow upstream, at the I-45 culvert, will add increased flooding pressure and erosion downstream within the park.
- Erosion can be mitigated with careful planting of appropriate vegetation particularly along the steep banks of the Little White Oak Bayou channel to prevent collapse and further instability due to increased flood water pressure.
- Little White Oak Bayou continues to be one of the top 10 polluted waterways in the greater Houston area. The bayou suffers from freeway pollution from both run-off and litter. It makes a small meander on the east side of I-45. Current TxDOT plans include detention basins on the east side of the freeway along the Little White Oak Bayou channel. Currently most of the channel is not accessible and is tremendously polluted with dissolved pollutants, heavy trash within the channel, and floating debris of cups and plastic bags, much of this coming from the freeway.
- Create detention ponds that are open and unfenced, planted with native plants which filter dissolved pollutants from freeway run-off.
- Install a trash mitigation system that will collect both heavy debris and floating debris. There are several locations along Little White Oak Bayou where this could be installed and maintained. Ideally it would be located upstream of both Moody Park and Woodland Park.

SEGMENT 3

- The proposed realignment of the freeway near Hardy Yards will have significantly larger noise and visual impact on the Hardy Yards area. The current DEIS does not adequately address mitigation along this area.
- Include landscaping and noise mitigation along widened freeway adjacent to Third Ward and Midtown.
- Impacts of run-off on Buffalo Bayou west and northeast of downtown. Provide wet bottom detention where detention is being proposed along this section.

- Ensure detention ponds that are open and unfenced, planted with native plants which filter dissolved pollutants from freeway run-off.
- Install a trash mitigation system that will collect both heavy debris and floating debris.

HISTORIC

The project segment between 610 and I-10 impacts several historic neighborhoods. Three designated historic districts are located along I-45 south of North Main Street. The project's affect on the National Register-listed Near Northside Historic District on the east side of I-45 must be addressed as part of the review process along with potential impacts on two city-designated historic districts on the west side of I-45: Germantown and Woodland Heights. Both of the city-designated districts are potentially eligible for listing in the National Register. The Brooke Smith Addition on the west side of I-45 and the north side North Main Street is also potentially eligible for listing in the NRHP. The project's potential impact on historic resources in the First Ward, on the west side of I-45 south of I-10, should also be considered, particularly the National Register-listed Jefferson Davis Hospital (1925).

HARRIS COUNTY
ENGINEERING DEPARTMENT

[redacted]

July 27, 2017

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386

SUBJECT: Comments – North Houston Highway Improvement Project

Gentlemen:

Harris County Engineering submits the attached comments for your consideration and action.

We look forward to discussing these with you directly as the project proceeds.

Sincerely,

Loyd Smith

Loyd Smith, P. E.
Manager, Transportation and Planning
[redacted]

Cc: John Blount, Harris County Engineer

Harris County Engineering Department Comments

North Houston Highway Improvement Project

1. Impacts to Harris County Roads

In Segment One, Harris County maintains the following roadways on the west side of I-45 intersecting the southbound I-45 frontage road:

West Gillespie Road

Winding Bayou Trace

Greens Landing Drive

West Road

Blue Bell Road

At **West Gillespie Road**, we request that the concrete pavement turnout be designed to accommodate the greater of either the existing roadway width or the ultimate street width of 41 feet.

The turnouts at Winding Bayou, Greens Landing and West should match the existing roadway widths.

In coordination with the City of Houston, in 2016 Blue Bell Road was designated as a collector street on the Houston Major Thoroughfare and Freeway Plan. We are pleased to see a proposed I-45 overpass with a diamond intersection and U-turns. These improvements will reduce congestion at adjacent major thoroughfare intersections with I-45 and will provide valuable cross-access to the neighborhoods east and west of I-45.

However, the schematic at **Blue Bell Road** shows only one eastbound lane and one westbound lane passing under the I-45 bridge, without a dedicated left turn lane in either direction. This design is typical at rural underpasses with low volumes. To accommodate expected traffic demand and to reduce signal delays, we request that the Blue Bell Road cross-section be revised to at least four lanes under I-45. The

turnouts and the connecting roadways to the east and the west should also be widened to match, with multiple lanes approaching the intersection from the east and west.

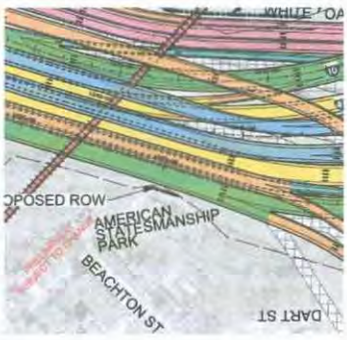
2. Direct Impacts to Harris County-Owned Property

We have identified two Harris County tracts that are immediately adjacent to the proposed improvements, both located in Segment Three.

American Statesmanship Park is located along the western ROW line of the I-10 / I-45 interchange. The schematic drawings show a relatively small ROW acquisition that certainly affects Bingham Street, the public street providing access to the site. It is not clear whether ROW acquisition will also include a portion of the adjacent Harris County park tract.

In either case, we request that TxDOT take additional steps to coordinate with Harris County Precinct Two during the environmental clearance process and during the design and construction phases.

Steps to mitigate impacts to the park site may be required.



Nance Street Parking Lot - The other directly impacted Harris County property is located at 2202 Nance Street (HCAD # 027111000001), which is adjacent to the westbound I-10 to southbound I-69 direct connector. Harris County currently operates a satellite parking facility for its employees on this tract. Last month Commissioners' Court authorized funding for expansion of the facility, which will be proceeding through design and construction without delay. The plans accommodate piers for HCTRA's proposed Hardy Toll Road bridge, which is currently designed to be constructed overhead.

The northwest corner of the Nance property is shown on the project schematic drawings as a proposed ROW acquisition serving a relocated I-10/I-69 direct connector to be built as an overhead bridge. Nance Street is proposed to be terminated with a cul-de-sac requiring a small secondary ROW acquisition along our tract's northern border.

To minimize damages to the County facilities, we request that TxDOT adjust the design of the proposed detention pond to be constructed under the adjacent structures in the I-10 / I-69 interchange. Creating

level areas under the ramp instead of a sunken detention pond opens up options for TxDOT and the County to work together toward an equitable solution that will minimize the loss of parking spaces. Similarly, exploring an alternative layout for the Nance Street cul-de-sac could lessen impacts to our access and circulation driveways within the site.

3. Significant Indirect Impacts to the County Courthouse / Criminal Justice Complex on the North Side of Downtown

In Segment Three, we have a number of concerns regarding access and connectivity between the proposed freeways and the north side of downtown. Harris County government owns multiple facilities on the north side of downtown, providing vital public services and serving as a workplace for several thousand employees.

Currently, the existing North San Jacinto Street connection to I-10 provides a primary point of access to some 15,000 vehicles per day accessing the County complex and other destinations in downtown. It is evident that this access – as well as the connectivity to the larger freeway network from the north side of downtown – will be negatively impacted by the proposed project.

Additional local street improvements – as well as modified or additional freeway access ramps - should be added to the TxDOT project, not left to local agencies and impacted landowners to sort out on their own.

Freeway and local street access to North San Jacinto Street, North Main Street, McKee Street and Hardy Street is either eliminated or left to other agencies to complete

The schematic is not sufficiently developed to fully understand the negative impacts of changes to the local street in the "warehouse district" near the I-10 / North San Jacinto intersection. A set of one-way frontage roads are shown adjacent to the proposed freeway between Main Street and the McKee Street / Hardy Street one-way pair, but there is incomplete definition of local street network restoration that must be included in TxDOT's construction in order to maintain connectivity to downtown via Main Street and North San Jacinto Street.

The schematic drawings merely show existing TxDOT roadways at the north end of North San Jacinto Street being designated as "surplus ROW". Thus only the removal of vital connecting roadways is indicated, with the result that existing Main Street, North San Jacinto, Vine Street, Walnut Street, Nance Street and other roadways in that area are shown as unconnected street segments. This is not a sufficient level of project definition to ensure all impacts are evaluated and mitigated.

The I-10 ramp configuration near North San Jacinto Street has negative impacts to drivers accessing the regional freeway system

Currently, the North San Jacinto route into downtown easily connects to multiple freeways via the Main Street / North San Jacinto / Nance Street ramps on I-10. The ramps being proposed to serve this area do not provide equivalent access.

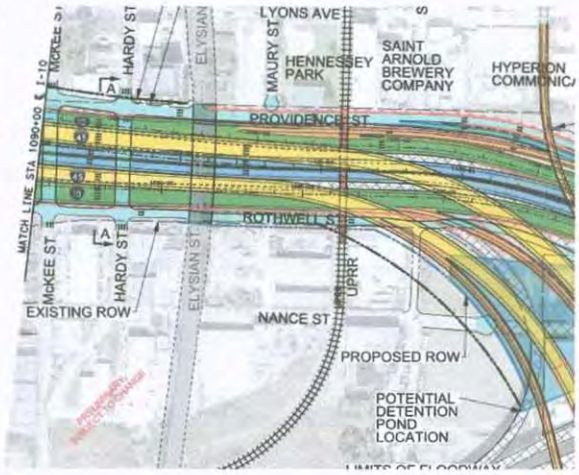
A few examples (an incomplete list):

- The I-10 westbound exit ramp to the surface street network has been relocated to east of the Hardy Street / McKee Street one-way pair, which will require all exiting vehicle to immediately pass through a traffic signal or all-way stop sign control at each of the two intersections.
- From there, a surface street / frontage road extends westbound to a turnaround near Main Street, then continues back to the east on the south side of the proposed freeway. This could be intended to maintain access to southbound North San Jacinto Street, except that no connection to North San Jacinto Street is shown as being part of the project.
- Similarly, there is no apparent westbound connection route between the I-10 westbound exit ramp and Main Street.
- A proposed entrance ramp to I-10 westbound is located just west of McKee Street, similar to the existing layout. However, this ramp no longer provides access to I-45 northbound.
- In the other direction, traveling from downtown to the East Freeway, there is currently an eastbound entry ramp onto I-10 located just a few feet from the north end of North San Jacinto Street. The apparent new route to the East Freeway entry ramp at Waco will be two miles in length via the proposed Rothwell extension under I-69, with traffic signals at multiple locations along the way. (Assuming surface street connectivity near North San Jacinto is restored as recommended above.) Alternatively, a proposed eastbound I-10 ramp located between Main Street and North San Jacinto Street could be accessed via a nearly one mile counterclockwise loop on the proposed frontage roads.

Additional evaluation should be conducted to ensure TxDOT has fully mitigated traffic and travel time impacts to the 15,000 drivers using North San Jacinto Street every day.

We believe such an analysis will show the need for improvements to the proposed freeway design to mitigate the impact of the apparent removal of the many connecting roadways and the freeway ramps

serving northern downtown and the North San Jacinto Street / North Main Street / McKee Street portals into downtown Houston.



The surface street configuration at the northeast corner of downtown near I-69 has negative impacts to drivers arriving or departing the eastern corner of the north end of downtown

Congress, Franklin and Commerce Streets are vital access routes to the County Courthouse Complex. Ruiz Street is also a significant collector street route to several facilities.

There are significant issues with lane balance, roadway capacity and incomplete design development where these streets intersect north-south streets at I-69, including existing Hamilton Street, the proposed southbound frontage road and the proposed St. Emanuel northbound connections to I-69 and I-10.

The most significant of these is an apparent reduction of the capacity of Franklin Street, the sole eastbound roadway providing direct egress from the eastern part of the Courthouse area across I-69 to the East End (via Navigation) and to ramps leading to the freeway network to the north. The negative effect is compounded by a missing design for the reconfigured Franklin Street intersection with St. Emanuel Street.

Currently there are three eastbound lanes of Franklin Street passing under I-69, two through lanes and a dedicated left turn lane. It appears that only two eastbound through lanes are provided in the schematic design prepared by TxDOT, creating the appearance that Franklin Street will connect only to Navigation Boulevard. This would be a result with excessive negative impacts to all drivers in the area.

The schematic shows proposed Franklin Street construction will end short of the St. Emanuel intersection, where eastbound drivers will expect to make a left turn to access the freeway entrance

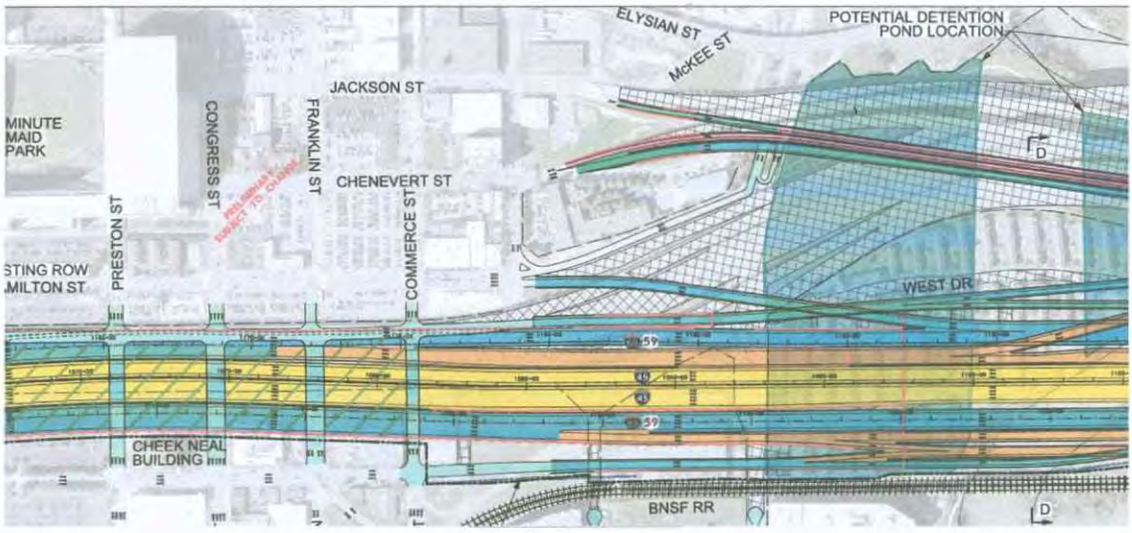
ramps to the north. In its current configuration, however, a raised median serves to prohibit those eastbound left turns.

There are clearly fundamental deficiencies in the Franklin street design details. These should be re-evaluated and corrected.

Similarly, Harris County recommends further analysis of apparent access and circulation deficiencies related to the closure of Runnels Street and the reconfiguration of ramps connecting to the new southbound frontage road, Hamilton Street, Chenevert Street and Jackson Street.

We believe there are a number of potential design improvements with significant benefits and a relatively low cost. They include:

- Adding a connection between Ruiz and the southbound frontage road
- restoring two lanes of southbound McKee Street transitioning to Jackson Street where a ramp is being removed
- adding a direct connection between southbound McKee and the southbound i-69 frontage road via existing Runnels pavement
- Refining the south end of the freeway / HOV ramps at the north end of Chenevert to ensure access to northbound McKee is maintained or expanded to two lanes to match the McKee roadway cross-section to the north



Finally, we note that there is an existing hike-bike trail under I-69 between Commerce and Runnels, providing a connection between the East End, Runnels Street, McKee Street, Bute Park and the Buffalo Bayou trails. (Much of the trail was constructed by Harris County and is maintained by the City of Houston.)

The proposed design should include an off-road hike-bike trail with equivalent accessibility and connectivity.

Mail Comments — Letters Also Sent by Email

To avoid duplication, the first pages of letters sent originally by email are included in this section. The complete letters are within the Comments Emailed section.

HOUSTON-GALVESTON AREA COUNCIL

July 21, 2017

Pat Henry, P.E.
Director of Project Development
Texas Department of Transportation – Houston District
P.O. Box 1386
Houston, Texas 77251-1386

RE: North Houston Highway Improvement Project (CSJ No. 0912-00-146)

Dear Mr. Henry:

The North Houston Highway Improvement Project (NHHIP) is a transformative project intended to enhance the region's mobility, economy and quality of life. The Houston-Galveston Area Council (H-GAC) is happy to support TxDOT's efforts in this endeavor. The Transportation Policy Council (TPC), likewise, has signaled its support for this project through their actions last February to contribute funding to the NHHIP's initial segment along IH-69/US 59 south of Downtown and Midtown.

Although this is a highway project, the NHHIP will have significant impacts on regional transit and bicycle/pedestrian connectivity as well. H-GAC will continue to support collaboration between TxDOT and the City of Houston, METRO and other organizations to ensure that this project provides mobility benefits for all modes and users as its design progresses. H-GAC also expects to explore this project's potential for future high-capacity transit (HCT) through its recently-created High Capacity Transit Task Force.

Our staff has reviewed the updated schematics and DEIS and has generated a list of remarks for your agency's consideration. These comments have been shared with, and reviewed by, the Technical Advisory Committee and the Transportation Policy Council.

As a participating agency, we look forward to continuing to work with TxDOT as this project progresses.

Sincerely,

Alan C. Clark
Transportation Manager and MPO Director

Mailing Address
[redacted]

Physical Address
[redacted]

Florence I. Clark

[redacted]

July 24, 2017

Mr. Quincy Allen, P.E.
Houston District Engineer
Texas Department of Transportation
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

We write to you as a coalition of Houston neighborhood, civic, parks, transportation, quality of life and historic preservation groups. All of our organizations have worked for many years to improve our city. And although we all fully recognize the need for thoughtful infrastructure and mobility improvements for our growing region, we share strong concerns that TxDOT's North Houston Highway Improvement Project is being designed in a manner that runs counter to our work and to what makes Houston great – our diverse neighborhoods, our parks, our connections to one another, and our bayous.

Our groups believe that this project must be evaluated in the context of Mayor Turner's drive for Complete Communities, particularly given the unfortunate legacy of highway projects that split communities, especially low income neighborhoods. The project must serve Houston's current and future economic development needs – not just from the perspective of developed land which will permanently come off the tax rolls and be unavailable for commerce and industry – but also from the perspective of all those qualities which make our city a desirable place to live.

We understand from TxDOT's "purpose and need" statement that the I-45 expansion must be viewed in a regional context. Some of the traffic the project is estimated to carry will have its destination inside the City of Houston, but much of it will have regional destinations. For this reason, it is critical that TxDOT delivers a project that leaves Houston in a <u>better</u> position than before, and takes care to ensure that the I-45 expansion does not negatively impact the city in order to deliver benefits to surrounding areas.

We believe that while the I-45 expansion may offer regional mobility benefits, it must also be evaluated against the broader goal of intra-city and neighborhood mobility. To serve Houston's interests, at a minimum, the project should improve mobility across all transportation modes within the city, and it should improve mobility on surface streets for all modes of transportation, whether people or engine-powered.

Our concerns have grown as we have closely reviewed the Draft Environmental Impact Statement (DEIS) that TxDOT has made available for public comment. Many organizations within this coalition participated in the scoping process for the proposed project in 2015, as did the City of Houston. The DEIS does not reflect far too many of the scoping suggestions made by both the City and our organizations during that public comment

July 27, 2017

Mr. Quincy Allen, P.E.
Houston District Engineer
Texas Department of Transportation
P.O. Box 1386
Houston, Texas 77251

Re: North Houston Highway Improvement Project – DEIS Review

Dear Mr. Allen,

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Our concerns have grown as we have closely reviewed the Draft Environmental Impact Statement (DEIS) that TxDOT has made available for public comment. Many organizations within this coalition participated in the scoping process for the proposed project in 2015, as did the City of Houston. The DEIS does not reflect far too many of the scoping suggestions made by both the City and our

downtown district

[redacted]

July 26, 2017

TxDOT Houston District Office
Director of Project Development
P.O. Box 1386
Houston, TX 77251-1386

RE: North Houston Highway Improvement Project — Draft Environmental Impact Statement

Dear Director:

The Houston Downtown Management District (HDMD) submits this letter and enclosed Memorandum for the public record in regards to the proposed North Houston Highway Improvement Project (NHHIP). This submission is specific to the planning exhibits and Draft Environmental Impact Statement (DEIS) provided on the project website and presented by the Texas Department of Transportation (TxDOT) at Public Hearings held May 9 and 11, 2017.

Acknowledging the stated need and purpose of this project, **HDMD offers full support for the NHHIP**. The attached comments further enumerate specific components of the project plan which are either acceptable to HDMD or require further consideration and modification by TxDOT as it advances the Final Environmental Impact Statement (FEIS) and the Record of Decision (ROD) as anticipated in 2018.

HDMD considers the NHHIP to be a potentially transformative urban infrastructure project that will relieve the current highway congestion around Downtown and throughout the Houston region. As proposed, the NHHIP will improve highway speed efficiency by approximately 20 MPH, expand high-occupancy vehicle and transit service with inclusion of MaX lanes for IH-45, improve roadway design standards resulting in higher levels of public safety, improve highway capacity for emergency and evacuation events, manage and detain storm water drainage, improve air quality standards as a result of decreased vehicle idling, and promote broader region-wide economic benefits related to intra- and interstate highway transport, travel and commuting with an estimated 50% reduction during peak hour delays.

The replacement of out-dated highway infrastructure provides a unique opportunity for both the State and the City of Houston to redevelop portions of the central city and areas along the project corridor. As currently documented, HDMD sees significant potential for enhanced connectivity between the proposed highway and arterial systems — and the neighborhoods they serve, utility infrastructure upgrades, new or restored public realm amenities within and adjacent to the future TxDOT right-of-way, and new economic development potential at areas identified as "Surplus ROW" where the existing facilities are realigned to the east and north of Downtown.

July 26, 2017

Via U.S. Mail and Electronic Mail

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386
HOU-piowebmail@txdot.gov (Attn: Ms. Kelly Lark)

Re: Union Pacific Railroad Company's Comments to the North Houston Highway Improvement Project (NHHIP) Draft Environmental Impact Statement (EIS) (CSJ: 0912-00-146)

Dear TxDOT Director of Project Development:

Union Pacific Railroad Company ("UPRR") appreciates this opportunity to comment on the April 2017 Draft Environmental Impact Statement ("Draft EIS") for the North Houston Highway Improvement Project ("NHHIP"), prepared by the Texas Department of Transportation ("TxDOT").

UPRR fully appreciates TxDOT's desire for transportation improvements in the North Houston region. However, after examining the Draft EIS, we believe that TxDOT's environmental review of the NHHIP requires supplemental analysis. The Draft EIS does not consider environmental impacts of the proposed project on rail infrastructure and operations, nor does it contain sufficient detail to enable third parties to fully understand the NHHIP's potential relevant environmental consequences.

UPRR has a specific interest in the proposed project since construction and implementation of the NHHIP will likely impact UPRR rail infrastructure and operations. Such impacts may include encroachments upon UPRR's right-of-way, re-routing or re-directing of existing rail lines and infrastructure, and disruptions to rail operations.

From recent conversations with TxDOT staff, UPRR is optimistic that it and TxDOT can work together to address the NHHIP's potential impacts to rail infrastructure and operations, but in an abundance of caution and to fully protect UPRR's rights, UPRR submits this formal comment letter to highlight particular oversights in the Draft EIS.

For reasons discussed more fully below, while UPRR is supportive of the proposed project as a whole, it opposes the Recommended Alternative identified in the Draft EIS to the extent that it impacts or potentially impacts UPRR rail infrastructure and operations without any environmental analysis or feasible mitigations.

Houston High-Speed Rail Watch

[redacted]

July 21, 2017

Director of Project Development
Texas Department of Transportation - Houston District
P.O. Box 1386
Houston, TX 77251-1386

To Whom it May Concern,

Houston High-Speed Rail Watch (HHSRW) is a volunteer coalition of neighborhood leaders formed in 2015 to monitor the development of the proposed Houston to Dallas high-speed rail project and ensure that it would not negatively impact our neighborhoods. We are submitting public comments for the North Houston Highway Improvement Project. HHSRW has serious concerns about this reconstruction project with regard to right-of-way availability for modes of transportation other than automobiles.

For the past several years, Texas Central Partners (TCP), a private company, has been working to connect Houston to Dallas via high speed rail. TCP plans to locate its Houston end terminus for the high-speed rail project near METRO's Northwest Transit Center.

HHSRW, along with several transportation agencies including METRO, are working on a strategic plan for connectivity to downtown for both high-speed rail riders and transit center riders. We propose using existing freeway corridors to avoid disrupting communities. An elevated lane for Bus Rapid Transit (BRT) or METRO light rail will travel the median of I-10 between TCP's end terminus and downtown using the existing HOV ramp by the old post office on Franklin. The current North Houston Highway Improvement Project plans do not consider this connectivity, and in fact, would preclude it, since the plans call for the demolition of the HOV ramp. We strongly recommend that the HOV ramp be reconstructed to support BRT and/or METRO light rail. Our intent is to maintain the Franklin connection so it will tie in with METRO's existing purple and green light rail lines.

We know TxDOT's primary focus is building highways for auto drivers, but BRT, light rail, bikes and other forms of existing travel need to be considered in the North Houston Highway Improvement Project to facilitate long-term transportation goals for the City of Houston and Greater Houston area. We ask that TxDOT be open to incorporating all methods of transportation as they finalize the plans for this massive undertaking.

A copy of our proposal and map for our idea is included for your review.

Sincerely,

The Members of Houston High-Speed Rail Watch
(Coalition Members and Neighborhood Affiliations Following)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

[redacted]

July 5, 2017

Pat Henry, P.E.
Director of Project Development
Texas Department of Transportation
Houston District Office
P.O. Box 1386
Houston, TX 77251-1386

Re: North Houston Highway Improvement Project; Draft Environmental Impact Statement; Harris County; US 59/I-69: At Spur 527 to I-45 at Beltway 8 North; Control 0912-00-146

In accordance with our responsibilities under Section 309 of the Clean Air Act (CAA) and the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the Texas Department of Transportation (TxDOT) Draft Environmental Impact Statement (DEIS) for the North Houston Highway Improvement Project (Project). The purpose of the Project is to create additional roadway capacity to manage congestion, enhance safety, and improve mobility and operational efficiency on Interstate Highway 45.

EPA's review identified a number of potential adverse impacts to economically disadvantaged communities and community resources, and historical resources. Furthermore, we request additional information be added to the final EIS regarding environmental justice communities, and coordination or consultation with the appropriate federal and State agencies. For these reasons, we have rated the overall Draft EIS as "Environmental Concerns – Insufficient Information" (EC-2). The EPA's Rating System Criteria can be found at https://www.epa.gov/nepa/environmental-impact-statement-rating-system-criteria.

EPA recommends that these issues be addressed in the Final EIS. We appreciate the opportunity to review the Draft EIS, and have enclosed detailed comments which clarify our concerns. Please send our office one copy of the Final EIS. If you have any questions or concerns, I can be reached at [redacted], or contact Stephanie Meyers of my staff at [redacted].

Sincerely,

Robert Houston
Chief, Special Projects Section
Compliance Assurance and
Enforcement Division

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President & Chief Executive Officer

Thomas C. Lambert

July 25, 2017

Mr. Quincy Allen, P.E.

[redacted]

DCN: 17.CP.ML00003
FBS: 75.030.4.1

RE: Comments on the North Houston Highway Improvement Project Draft Environmental Impact Statement

Dear Quincy:

The Metropolitan Transit Authority of Harris County (METRO) appreciates the opportunity to review and provide comments on the North Houston Highway Improvement Project Draft Environmental Impact Statement (NHHIP DEIS). METRO has a longstanding relationship with the Texas Department of Transportation (TxDOT) in improving mobility in the North Freeway corridor, and was pleased to accept the role of Cooperating Agency when invited by TxDOT. Historically, METRO partnered with TxDOT on the North Corridor Alternatives Analysis which led to the extension of the METRORail Red Line to Northline Transit Center and laid the groundwork for the NHHIP.

In our role as a Cooperating Agency for the NHHIP DEIS, METRO has worked with TxDOT through the scoping process, conceptual development and development of the NHHIP DEIS. METRO staff has reviewed the NHHIP DEIS and associated schematic drawings with respect to current and future transit operations and are pleased to see that TxDOT has incorporated many conceptual design change requests to better accommodate future transit improvements and operations. While the proposed project offers opportunities for increased mobility and improved transit operations with the inclusion of the Managed Express (MaX) Lanes and associated direct connects, we have identified additional issues that will need to be addressed in the Final Environmental Impact Statement (FEIS). We have also been working directly with you to incorporate project needs at the Wheeler Transit Center to ensure future operations. We look forward to continuing our partnership as the FEIS and Record of Decision are prepared and finalized. A matrix is attached with specific comments; however, below are our primary concerns

1. The short-term impacts of the construction on transit operations, as well as the long-term impacts of the proposed project need to be addressed more fully in the FEIS. The effects of the NHHIP project on bus stops, bus routes, deadhead trips, layover space, and MaX lane access, as well as HOV/HOT lane access to other corridors should be specified and proposed mitigation measures identified, as appropriate. Operational costs to the agency have not been documented.

Tx Dot- I45 North and More Freeway expansion comments:

I am a board member of Avenue Community Development Corporation, Resident of First Ward, Railwatch Advocate and transportation liason for Super Neighborhood 22. I am an advocate for I-45 coalition comments and Make I45 Better Coalition letter. I am offering my support for the expansion project, but requesting that areas requiring further development, or parts of the expansion that remain unclear during schematic are completed vetted with neighborhood stakeholders and downtown entities. I suggest a process is developed to address the specific comments during design development and report back to stakeholders regarding both the actual design and Tx Dot's revisions to meet requirements of the environmental impact study.

Part 1

Comments regarding **First Ward Neighborhood in Segment 3,** Near Northside residential and Heights residential neighborhoods.

- All new **roadway bridges over the new freeway expansion** should have separated bike and pedestrian sidewalks with pedestrian friendly lighting. In the instances they are connecting residential neighborhoods, we are requesting attractive designs. We are requesting Tx Dot to work with the adjoining communities on specific bridge designs and give the cultural arts district an opportunity to consider added art installations particularly on bridges into the cultural arts district located in First Ward on Houston Avenue and Crockett.
- Continue to protect the President Head statues and park titled Statesmen park adjacent to the freeway in First Ward as shown on current plans.
- Tx Dot to ensure the bike path at Spring Street in First ward remains. Current plans show lanes on grade, and engineers were unable to clarify the design intent at the meetings. We are requesting roadways remain somewhat elevated to accommodate the bike pedestrian clearances facilitating connectivity from Northside to First Ward and Heights.
- The roadway at 1201 Spring Street is shown to have more right of way for the expansion. Removing vehicular access along the road is a detriment to property access and again this area needs re-evaluation to maintain both the house and the access to the driveway etc.
- Tx Dot installed temporary stick bollards on the Houston Avenue Bridge driving lane to create a temporary bike alternative path during recent ramp construction in this area. They are an extreme safety hazard as cars are driving over them mowing those down daily. They are not sufficient interim protection for pedestrians and cyclists. Tx Dot needs to provide barricades capable of preventing cars from driving onto a roadway bike path which has no visibility over the crown of the bridge.
- Work in and near the "Trigas Company" at the exchange of I-45 and I-10 requires a **safety plan** for freeway demolition and construction to mitigate any potential for a gas explosion endangering adjacent communities and motorists.

Page/

[redacted]

Page Southerland Page, Inc.
[redacted]

July 27, 2014

TXDOT Houston District Office
Director of Project Development
P.O. 1386, Houston, Tx 77251-1386

(Letter sent via email to HOU-PIOWebmail@txdot.gov)

Re:
Project: Repurposing the Pierce

The Pierce Skypark team is writing to Tx Dot encouraging they maintain the opportunity to potentially re-purpose the abandon sections of Pierce Elevated into an elevated public space beyond the Tx Dot I-45 Expansion project record of decision in Segment Three. Allowing the City of Houston to further analyze the logistics and potential of this project. The Houston Downtown Management District is in process of a project called "Plan Downtown" to look at the urban planning prospects for the 20 year future of Houston's downtown. As noted in public meetings, TxDot suggested it can credit any demolition costs saved by leaving components of Pierce Elevated in place to the City of Houston. The City of Houston should have the opportunity to use the real estate for public use as it was purchased with taxpayer funds. Our team has spent 4 years bringing awareness to many entities for the potential of re-purposing the Pierce Elevated may have to become an amenity and an economic driver to positive growth of our city.

In addition, our team was involved with studying the potential green belt and depressed lanes on the west side of segment three along with other entities. The connection from Midtown to Buffalo Bayou Park on the west portion of the I-45 expansion is crucial to facilitating a more complete connection that begins to circle downtown. We are in favor of depressing lanes in this area and support all the comments that have been outlined in detail below and the letter of DEIS comments from "Make I-45 Better Coalition."

General Statement
While the planned project will remove the I-45 main lanes from the west side of downtown, the planned "downtown connectors," their ramps and related surface streets will have significant impacts on Buffalo Bayou, Sam Houston Park, Fourth Ward and Midtown. With the assistance of the Downtown District, community representatives from the surrounding area have achieved consensus on modifications. We are asking TxDOT to add to its plans from Buffalo Bayou to Pierce Street during its FEIS phase:

Buffalo Bayou and Sam Houston Park
Sam Houston Park is Houston's most historic park, and Buffalo Bayou is Houston's greatest natural resource. The project should protect and even benefit both important civic assets.

Super Neighborhood 51 Leadership Team

Houston's Near Northside

July 27, 2017

TxDOT Houston District Office
Director of Project Development
P.O. 1386
Houston, TX 77251-1386

HOU-PIOWebmail@txdot.gov

Re: North Houston Highway Improvement Project
Public Comments by Super Neighborhood #51 Leadership Team

Dear TxDOT Representatives:

The Super Neighborhood #51 Leadership Team has significant concerns about the effect that the proposed I-45 construction (Segments 2 & 3) will have on the quality of life and future development of the Near Northside. In the first instance, we urge that the North Houston Highway Improvement Project ("NHHIP") not be built. In ten years, the additional lanes will only mean more traffic and greater congestion. We agree that I-45 through downtown Houston needs to be revamped and improved, but as far as increasing traffic flow between downtown and north Houston, we believe a better use of resources would be to build a commuter rail down the middle of I-45. However, we are not so naive as to believe that the NHHIP will not be built. Therefore we address our concerns in this letter. To further understand them, it is necessary to appreciate (a) the history and demographics of the two neighborhoods bordering I-45, south of I-610 (the Near Northside and the Greater Heights), as well as (b) the injustice to the Near Northside that the NHHIP will cause.

PART 1

DEMOGRAPHICS, HISTORY AND INJUSTICE

Demographics:

Super Neighborhood #51 represents Houston's Near Northside, which is immediately north of downtown and south of Crosstimbers St., east of I-45 up to and including Elysian St. The Near Northside includes lower income residents of diverse ethnicity, the overwhelming majority (80%+) of which are Hispanic. Median household income (as of 2012) was $30,258 with 40% of residents earning less than $25,000 per year. Also, at that time, 45% of Near Northside Residents did not have a high school diploma. Housing was 54% renter occupied with 7% of the residents being unemployed and 40% not in the labor force. Spanish is the predominate language.

The demographics of the Near Northside contrast greatly with those of the Greater Heights Super Neighborhood 15, directly across I-45 from the Near Northside. In 2012, the median income in the Greater Heights was $70,102; 50% of the residents had a bachelor's degree or higher; and 72% were employed.

Central Houston, Inc. [redacted]

Central Houston

July 26, 2017

TxDOT Houston District Office
Director of Project Development
P.O. Box 1386
Houston, TX 77251-1386

Dear Director,

On behalf of Central Houston, Inc. (CHI), we offer this letter of support to the Texas Department of Transportation (TxDOT) for the North Houston Highway Improvement Project (NHHIP). We believe that the NHHIP provides a significant improvement over the current freeway system with better future vehicular and transit access to the central city. Nevertheless, the project should also improve, wherever possible, the quality of life for nearby residents, businesses large and small, and visitors. Please receive the following comments as part of the public record specific to the Draft Environment Impact Statement (DEIS).

CHI requests TxDOT consider and incorporate the following comments to the greatest extent feasible during the preparation of the Final Environmental Impact Statement (FEIS), the Record of Decision (ROD) and project design.

1. The NHHIP should provide and/ or reinforce connections between neighborhoods previously separated by the freeways and mitigate adverse impacts related to noise, air quality, storm water runoff, and historical, environmental, recreational or natural sites.

2. The NHHIP should maximize multi-modal transportation and people and freight movement options by incorporating the highest safety and aesthetic standards possible for pedestrian, bicycle, transit and vehicular interface within an urban context.

3. The NHHIP should maximize neighborhood revitalization and redevelopment opportunities in order to enhance the quality of life for all Houstonians and strengthen the city's tax base. This includes the disposition of TxDOT's surplus rights-of-way in order to prompt the appropriate, site specific development projects that access new conditions on all edges of downtown and throughout the NHHIP project limits.

4. TxDOT should provide appropriate mitigation and fair remuneration for displaced residents and businesses, especially those directly impacted by right-of-way acquisitions to the east and north of Downtown, and further northward in Segments 1 and 2 of the NHHIP.

5. SH 288 managed lanes are proposed to enter surface streets in Midtown at Chenevert & Stuart Streets, with vehicles traveling through a relatively dense residential neighborhood. SH 288 is a growing commute corridor that needs more direct Downtown ingress/egress for daily and event traffic volumes. CHI requests TxDOT design and implement an alternative where SH 288 managed lanes directly utilize Chartres & Hamilton Streets, adjacent to the vertical-wall trenched portion of the future IH-69 and SH-288.

TRANSCRIPT OF PROCEEDINGS
AT THE PUBLIC HEARING
TO PRESENT THE PROPOSED
NORTH HOUSTON HIGHWAY IMPROVEMENT PROJECT
PROJECT NO. 0912-00-146
HELD AT 6:30 P.M.
ON MAY 9, 2017, AT
ST. PIUS X HIGH SCHOOL
811 WEST DONOVAN STREET
HOUSTON, TEXAS 77091

P R O C E E D I N G S

MR. PAT HENRY: Good evening. My name is Pat Henry, and I am the Director of Project Development for the Houston District of the Texas Department of Transportation.

Before we begin tonight --

AUDIENCE MEMBER: Can't hear.

MR. PAT HENRY: Is it on?

AUDIENCE MEMBERS: No.

AUDIENCE MEMBER: It's on, but it's really low.

MR. PAT HENRY: Can you turn it up back there?

Okay. Is that better?

(Inaudible conversations.)

MR. PAT HENRY: Today is Tuesday, May the 9th, 2017; and the time is 6:32. On behalf of the Texas Department of Transportation, I would like to thank you for your interest and participation in this public hearing.

Can you hear okay back there?

AUDIENCE MEMBERS: No.

(Brief pause in the proceedings.)

MR. PAT HENRY: Is that any better?

AUDIENCE MEMBERS: No.

MR. PAT HENRY: Is this any better?
How about this?
AUDIENCE MEMBER: Getting there.
MR. PAT HENRY: Can you hear me now?
AUDIENCE MEMBERS: Yes.
MR. PAT HENRY: Okay.
We would also thank the St. Pius X High School for the use of this facility.
As you entered tonight, you were asked to register at one of our sign-in tables. If you have not already done so, please register before you leave tonight so that we have a record of your attendance.
We have plenty of seats up here if you folks standing in the back want to sit over there (indicating) or particularly on this side over here (indicating).
Please feel free to view the exhibits, and they will be available until we adjourn tonight.
In addition to tonight's presentation, we will present the same information at the hearing on Thursday, May the 11th, at the Houston Community College campus in the San Jacinto Building, and at the public meeting Monday, May the 15th, at Saint Arnold Brewery.
This public hearing is for the proposed North Houston Highway Improvement Project. This public

hearing is being transcribed by a certified court reporter.

Simultaneous audio translation in Spanish is available. If you would like to hear this presentation in Spanish, please raise your hand; and we will loan you a set of headphones.

Somebody's over here on my right.

Anybody else?

Okay.

There's somebody else I didn't see.

INTERPRETER NANCY CANTU: (Speaking to the audience in Spanish.)

MR. PAT HENRY: Prior to December the 16th, 2014, the Federal Highway Administration, or FHWA, reviewed and approved documents prepared under the National Environmental Policy Act, known as NEPA. On December the 16th, 2014, TxDOT assumed responsibility from FHWA for reviewing and approving certain assigned NEPA environmental documents.

We would like to recognize -- welcome and recognize the elected officials who are in attendance tonight.

We have James Doggette, representing Sheila Jackson Lee's office. Mr. Doggette was telling me that the Congresswoman is on a plane, trying to get

down here, but she probably won't make it till after we adjourn but we appreciate her effort trying to participate.

We also have Kent Clingerman, representing Commissioner Jack Cagle's office, and Diana Caicedo, representing City Council Member Jerry Davis' office.

If there are any other elected officials present tonight, please raise your hand to be recognized. Each of you will be given the opportunity to speak prior to the public comment period.

Can you identify yourself, please?

MS. SANDRA PUENTE: I'm Sandra Puente, representing Commissioner Rodney Ellis.

MR. PAT HENRY: We appreciate you being here.

Is there anybody else?

Thank you.

The notice of this public hearing was advertised in the locations noted in this slide.

Notifications were also mailed to more than 5,000 property owners, organizations, agencies, and others on the project mailing list, and were e-mailed to more than 5,000 e-mail addresses.

The purpose of this public hearing is to present the proposed improvements that are included in

the North Houston Highway Improvement Project; to discuss the Draft Environmental Impact Statement, also known as the Draft EIS; and to receive your comments on the proposed project and the Draft EIS.

This hearing is being held to meet the requirements of Chapter 26 of the Texas Parks and Wildlife Code, which regulates the transportation use of public parks, recreation areas, scientific areas, wildlife refuges, and historic sites. The proposed right-of-way would require acquisition of land from two public parks.

This hearing is also an opportunity for the public to review and comment on proposed de minimis impact determinations related to Section 4(f) of the U.S. Department of Transportation Act, which will be discussed later in this presentation.

The comment period will begin following a video presentation. We will not answer questions during the presentation or public comment session, but we will be available to answer your questions following the comment session. The official public hearing will adjourn after all verbal comments have been heard.

VIDEO NARRATOR: Interstate Highway 45, or I-45, is a major transportation route in the Houston area.

The project limits for the proposed North Houston Highway Improvement Project are from U.S. 59, now known as I-69, at Spur 527, to I-45 at Beltway 8 North. The total project length is approximately 24 miles.

To facilitate the development and evaluation of alternatives, the study area was divided into three study segments.

Segment 1 is the north segment, from Beltway 8 North to approximately I-610, the North Loop.

Segment 2 is the middle segment, from approximately I-610 to approximately I-10.

And Segment 3 is the Downtown Loop system, which includes portions of I-45, I-10, and I-69 in the downtown area, and State Highway 288 and Spur 527 south of downtown.

The proposed North Houston Highway Improvement Project is needed for several reasons.

There is inadequate highway capacity for existing and future traffic demands on the highways in the North Houston corridor.

Between the years 2015 and 2040, average daily traffic volumes in the project corridor are projected to increase by as much as 30 percent.

Traffic congestion, which is measured by

traffic volume and roadway capacity, will increase if no improvements are made.

The current high-occupancy vehicle, or HOV, lane on I-45 serves traffic in only one direction during the peak traffic periods and is unused for large portions of the day. During peak hours, the HOV lane is congested.

I-45 is a designated evacuation route for the region. At its present capacity, evacuation effectiveness would be limited in the event of a hurricane or other regional emergency.

Portions of I-45 do not meet current roadway design standards, creating a traffic safety concern.

Roadway design deficiencies also include inadequate storm water drainage in some locations. Intense rainfall causes high water levels at the I-45/I-10 underpass and on the outside lanes. I-45 would not operate effectively as an evacuation route with high water closures, especially during hurricane evacuations when high rainfall events are likely.

Forecasts for commuter service indicate that even with parallel high-capacity transit in the corridor, two-way managed lanes would be needed to support commuter traffic and express bus service.

Also, in the most recent ranking of the top 100 most congested roadways in Texas, 8 of the top 35 are in the project area.

The purpose of the proposed project is to provide a highway facility with additional capacity in the I-45/Hardy Toll Road corridor to manage congestion, improve mobility, enhance safety, and provide travelers with options to reach their destinations.

Based on the evaluation of alternatives, one proposed recommended alternative was identified for each study segment.

The Proposed Recommended Alternative for Segment 1 would provide new capacity by adding four managed express lanes, also known as MaX lanes; one additional frontage road lane in each direction; and safety features, including full-width shoulders and accommodations for bicycles and pedestrians along the frontage roads.

The MaX lanes would include both HOV and toll operations.

New right-of-way would be acquired primarily from the west side of I-45.

This graphic is a rendering that shows I-45 in Segment 1 between Beltway 8 North and I-610.

The proposed project includes four

general-purpose lanes in each direction, two MaX lanes in each direction, and three frontage road lanes in each direction.

Proposed improvements in Segment 2 include adding two MaX lanes in each direction. Added safety features would include full-width shoulders and accommodations for bicycles and pedestrians along the frontage roads.

In Segment 2, the project right-of-way is constrained by Hollywood Cemetery, Germantown Historic District, and Woodland Park.

This rendering shows the Segment 2 area near North Main Street, looking north at the depressed section of I-45. The general-purpose lanes and MaX lanes would be below grade, and the frontage roads would be at grade.

This image shows a concept where the area between the frontage roads could be used as open space. The open space option is conceptual and would require additional development and funding partners to bring the concept to fruition.

In Segment 3, in the downtown Houston area, the Proposed Recommended Alternative would reroute I-45 to be parallel with I-10 on the north side of downtown and parallel to I-69 on the east side of

downtown. Portions of I-10 and I-69 would be realigned to improve the existing horizontal curves, which would enhance safety and mobility.

I-69 would be depressed from the east side of downtown to Spur 527.

The existing elevated section of I-45 on the west and south sides of downtown Houston, known as the Pierce Elevated, would be replaced by downtown connectors that would allow access to and from various downtown streets. Two express lanes in each direction would be constructed on I-10 from west of I-45 to east of I-69 to allow through traffic on I-10 to bypass downtown Houston.

The I-45 MaX lanes from north of I-10 would terminate on the north side of downtown Houston at the same streets as the existing HOV lane.

This image shows the proposed project on the west side of downtown Houston, looking south.

Removal of the Pierce Elevated provides the opportunity to enhance the visual sight line on the west and south sides of downtown.

This image shows the proposed project on the north side of downtown, looking north, where I-45 would be parallel to I-10 and a portion of I-10 would be moved north and adjacent to the railroad.

This image shows the proposed project on the east side of downtown, looking north.

I-69 would be depressed from Commerce Street to Spur 527. I-45 would be depressed from Commerce Street to Lamar Street.

Similar to the depressed section of I-45 in Segment 2, the depressed section of I-45 and I-69 on the east side of downtown would provide the opportunity for a structural cap over the depressed lanes that could be used as open space. The open space option is conceptual and would require additional development and funding partners to bring the concept to fruition.

Proposed design changes that are not documented in the Draft Environmental Impact Statement, or Draft EIS, are being considered for the proposed recommended alternative.

A preliminary drainage study for the project recommends the addition of storm water detention sites. Most of the detention areas would be within the project right-of-way.

Proposed roadway design changes include modifications to some entrance and exit ramps, highway interchanges, and frontage roads.

In some areas, right-of-way needs would be reduced. Overall, the storm water detention and roadway

design changes would require approximately 58 acres of new right-of-way, in addition to what was evaluated in the Draft EIS.

The proposed changes are shown on the exhibits in the open house area at tonight's hearing and are also on the project website.

These and any other design changes that could result based on input during the comment period will be documented in the next phase of the study process, which will be the preparation of the Final EIS.

Anticipated benefits of the proposed project include an expected increase in travel speeds of 20-plus miles per hour in the downtown area; a 50 percent reduction in traffic delay during the peak hour; and a region-wide reduction in delay, with increases in traffic speeds.

The estimated construction cost for the proposed project is approximately 7 billion in today's dollars.

Funding for initial phases of construction has been identified.

Construction is anticipated to begin in 2020.

The first project is expected to be the section of I-69 from Spur 527 to State Highway 288.

Construction would be phased as additional funding is identified and would likely progress from south to north.

A Draft Environmental Impact Statement has been prepared for the proposed project and is available tonight for your review. The Draft EIS evaluates the Build Alternatives and the No Build Alternative.

The Draft EIS presents existing conditions in the project area and the evaluation of potential impacts of the proposed project. It also summarizes coordination with stakeholders, including the public and agencies.

As part of the Draft EIS process, natural, cultural, social, and economic resources were evaluated for impacts potentially resulting from implementation of the proposed project.

As documented in the Draft EIS, the evaluation indicates that there would be potential impacts as a result of the proposed project. We'll discuss some of these topics in this presentation. Details of the impact analyses are in the Draft EIS and associated technical reports, which can be viewed at the Environmental Table in the open house area.

Existing land uses in the area of the proposed project include a mix of residential,

commercial, industrial, institutional, parks, and vacant land. The Proposed Recommended Alternative evaluated in the Draft EIS would require approximately 391 acres of new right-of-way.

Displacement of residences, commercial businesses, commercial billboards, places of worship, and schools are anticipated. Our right-of-way staff is here this evening to assist you with questions regarding the acquisition of property.

The anticipated displacements of housing and loss of community resources resulting from the proposed project would have an adverse impact on low-income, minority, and other sensitive populations.

TxDOT is coordinating with agencies and organizations to identify mitigation measures to reduce impacts to community resources and will include the results in the Final EIS.

The acquisition of new right-of-way for the proposed project would result in a loss of property and sales tax revenues, which could have a negative impact on the local economy. However, the revenue losses may be reduced if businesses relocate in the same taxing jurisdiction. The proposed project would have direct and indirect effects on local and regional employment and income.

When the proposed project is added to the Regional Transportation Plan and the Transportation Improvement Program, it will be consistent with the regional air quality conformity determination.

A traffic air quality analysis indicates that carbon monoxide concentrations would not be expected to exceed the national standard. A quantitative mobile source air toxics analysis will be conducted for the Final EIS.

A traffic noise analysis indicates that the proposed project would result in traffic noise impacts. However, some locations would experience a reduction in predicted noise levels. A more detailed analysis of noise impacts and noise mitigation will be conducted for the Final EIS.

The project would be designed not to increase flood risk. Pump stations would be provided to manage drainage in proposed depressed areas.

Impacts to water bodies and wetlands would be avoided or minimized. Required permits would be obtained prior to construction.

An archeological survey was conducted on some properties within the project right-of-way. No archeological resources were identified. Additional studies will be conducted for the Final EIS.

The proposed project would directly affect six historic resources. Studies are ongoing; and TxDOT is coordinating with consulting parties, including the Texas Historical Commission. The Final EIS will document the final effects determination.

There are sites within the project area that are considered at risk for containing hazardous materials. TxDOT will perform additional investigations and identify any required sampling, analysis, remediation, and soil or groundwater management.

The proposed project is generally compatible with the existing visual environment and is not anticipated to degrade the visual quality of the project area. Visual sight lines would be enhanced where the existing Pierce Elevated and I-69 elevated structures would be removed.

Section 4(f) of the U.S. Department of Transportation Act applies to this project because the proposed new right-of-way would impact publicly owned parks and significant historic sites, as defined by Section 4(f).

On the state level, Chapter 26 of the Texas Parks and Wildlife Code is a state regulatory requirement that also applies to this project because of impacts to public parks.

Two historic buildings, known as the Carlisle Plastics and Readers Wholesale Distributors warehouses, would be adversely impacted by the proposed project. Effects to the historic Cheek-Neal Coffee Company building are under review.

Historic studies and related consultation are ongoing, and the Final EIS will document the final effects determination for historic resources.

Freed Art and Nature Park occupies approximately 6.2 acres of land northwest of the I-45 and I-10 interchange, at the corner of Houston Avenue and White Oak Drive. The park is heavily wooded in some areas, is designated for passive use, and is partly bordered by paved trails that connect to some nearby parks and trails.

As a result of the proposed project, approximately 0.21 acre of the park would become roadway right-of-way that would be owned by the State of Texas. TxDOT has designed the proposed project to minimize the impacts of right-of-way acquisition in this area as much as possible. Alternatives that would not impact the park would not meet highway design criteria, which is a traffic safety concern.

The proposed right-of-way is needed to accommodate an elevated direct connector from I-45 to

I-10. Except where columns to support the roadway structure would be placed in the right-of-way, the area may be able to retain vegetation similar to the existing vegetation. A small portion of a trail at the southern edge of the existing park would be reestablished as soon as possible following construction.

Linear Park currently occupies approximately 6.8 acres of land on the south banks of Buffalo Bayou, on the west side of downtown Houston. The park has paved trails that connect to other trails along Buffalo Bayou. Portions of the park and trails are below the existing I-45 elevated structures.

As a result of the proposed project, approximately 0.15 acre of Linear Park would become roadway right-of-way that would be owned by the State of Texas. The area impacted does not have built recreation facilities, except for the trail. TxDOT has designed the proposed project to minimize right-of-way acquisition in this area as much as possible. Alternatives that would not impact the park would not meet highway design criteria.

The trail within the project right-of-way would be reestablished as soon as possible following project construction, to reconnect existing trails.

TxDOT has preliminarily determined that

the impacts from the project to Freed Art and Nature Park and Linear Park would be de minimis, which means that the impacts would be minimal in nature and would not substantially change the park lands' uses as City of Houston parks.

TxDOT will continue coordinating with the City of Houston, which is the Official with Jurisdiction, to ensure that the proposed project will not adversely affect the activities, features, or attributes that make the parks eligible for Section 4(f) protection.

Before approving the use of land protected by Chapter 26, TxDOT must determine that there is no feasible and prudent alternative to the use or taking of the park land; and the project includes all reasonable planning to minimize harm to the land as a park resulting from the use or taking.

This hearing is an opportunity for public review and comment on the impacts of the proposed project, including the preliminary de minimis impact determinations.

Throughout the environmental and project development process for the project, TxDOT has coordinated with many resource agencies and other agencies, including all of the entities listed on this

slide, as well as with elected officials, the public, special-interest groups, and other stakeholders. In addition to this hearing and four rounds of public and agency meetings conducted between 2011 and 2015, TxDOT has attended more than 100 meetings with stakeholders.

In the next steps of the environmental process, all comments received tonight, as well as written comments received during the comment period, will be included in the official public hearing record and will be addressed in the next phase of the environmental process, which is the preparation of the Final EIS.

The Draft EIS and all related technical reports are available for public review after this public hearing, at the TxDOT Houston District office, on TxDOT's website, on the project website, and in several local libraries. In addition, should you wish to obtain a copy for your personal use, paper copies may be purchased for the cost of reproduction.

We will now show 3-dimensional visualizations of the proposed project beginning with Segment 3 in the downtown area and concluding with Segment 1 at Beltway 8 North. All visualizations will be moving in a northerly direction.

After the series of visualizations, we

will begin the public comment session.

The visualization for Segment 3 will now begin. The visualization will start at Spur 527 south of downtown and will conclude at the proposed downtown connectors on the west side of downtown.

(The following comments were made as the visualizations were played for the audience.)

MR. PAT HENRY: That's Spur 527 going -- in the orange going off.

That's Spur 527 that's going off. Here --

AUDIENCE MEMBERS: We can't hear.

MR. PAT HENRY: Are none of them working?

(There was a pause in the commentary as Mr. Henry attempted to find a working microphone.)

MR. PAT HENRY: These are double-arched bridges approaching downtown. The depressed area there is too wide for a single arch. So we went with double arches.

The yellow you see in the -- coming on the right side is the Gulf Freeway. Instead of going straight through on the Pierce Elevated, it veers off and runs parallel to Interstate 69 and goes underneath the proposed cap along the George R. Brown.

For these caps, we will be installing box beams, which has the shape of a square or a rectangle. They're right up against one another; and then with local funding, we'll be able to put landscaping on the top of the beams.

The building you see to the right there is the Cheek-Neal Building that was mentioned in the presentation. It's a historic building. It was the original Maxwell House Coffee building.

The yellow is still the Gulf Freeway. It will turn to the left. Interstate 69 will continue to the right or straight up to the north -- or east.

Interstate 10 will be the green lanes and the blue lanes. If you're going through town, you will be on the green lanes. The whole concept that we're following here is you will make your decision before you get to town whether you want to go to downtown or through town.

If you want to go through town, you'd get on the blue lanes here; and there won't be as many entrances and exits. And on the green lanes is where you'd get on or get off.

It's a similar concept. We're using that on 290, where you decide at 34th Street if you want to go to 610 or 10.

Peeling off is the orange, which will be the spur into downtown, currently what the I-45 footprint follows. It will go to the same -- most of the same ramps that currently I-45 accesses for downtown connections.

The Linear Park that we're clipping the corner of is underneath Walker Street right there in the middle.

That's Sam Houston Park.

And then the spur will terminate up here where (inaudible) Street is.

VIDEO NARRATOR: (Inaudible) Segment 2 will now begin. The visualization will start at Quitman Street and will terminate at the I-610 interchange.

(The commentary continued as the visualizations were played for the audience.)

MR. PAT HENRY: We're going northbound on 45 here, with the MaX lanes, or managed lanes, in the middle and the three lanes or regular lanes outside of them.

That's Main Street kind of going at a diagonal across the top of the screen, with another cap park that, again, will have box beams. It will be completely covered with box beams, with additional

funding for the green space (inaudible).

The freeway's depressed, as it is today, through this section; and it will come out of the depressed area the same as it does today.

Coming into view on the top of the screen is the Interstate 610 interchange. It will be completely rebuilt, where we get rid of the left-hand merges and entrances and go to a more conventional freeway interchange.

You probably think there's not enough traffic. They tell me all these cars and trucks have to be manually inserted into this. So it's too much for them to put as much traffic as there probably would be.

Segment 2 ends just on the north side of 610.

VIDEO NARRATOR: (Inaudible.)

(The commentary continued as the visualizations were played for the audience.)

MR. PAT HENRY: It's talking about we have Segment 1 coming up.

We cut this down because it's very similar all the way through. So we got it down to about 30 seconds.

But, again, it's the MaX lanes in the

middle, same number of free lanes that you have today, and three-lane frontage roads.

It's Tidwell Street we're crossing there.

Coming up at Shepherd, we'll have the direct connectors, the same as we have today; and there will be a Metro ramp, a T ramp.

This is the Shepherd connection right here.

And that's the Metro T ramp right there.

VIDEO NARRATOR: (Inaudible.)

(The commentary continued as the visualizations were played for the audience.)

MR. PAT HENRY: This is another Metro ramp, a wishbone-type ramp, similar to what's out there today.

Coming up on Beltway 8, we will not be rebuilding the Beltway 8 interchange. Our project will end just south of the Beltway 8 interchange.

(The visualizations concluded.)

MR. PAT HENRY: Can you hear me on this one?

AUDIENCE MEMBERS: Yes.

MR. PAT HENRY: Thank you for your patience.

At this time, we will move to the public hearing [sic] portion of the hearing.

There are several ways to comment on the proposed North Houston Highway Improvement Project. You may present your comments here tonight so the court reporter can hear you. If you would like to speak for the public record and have not filled out a speaker reservation card, please raise your hand now; and we'll have somebody hand you a card. You need to sign up to speak so we have a record of who you are.

Speakers will be called in the order in which they are signed up.

You may also submit your comments in writing. We have provided comment boxes if you choose to leave your completed comment form tonight. Your comment form may also be mailed or sent electronically to the e-mail address shown here, and this is in your handout.

All comments must be submitted or postmarked by Tuesday, June the 27th, 2017.

Both written and verbal comments will be considered equal. If you submit your comments in writing, it is not necessary to repeat your comments verbally.

I would like to begin the comment session

by introducing our elected officials who wish to comment.

I didn't have anybody sign up to comment.

Is there anybody, an elected official, who would like to comment?

(No response.)

MR. PAT HENRY: Okay. Thank you.

Now I would like to provide an opportunity for those who have registered to speak on the proposed project.

You will have three minutes to make your comments. When I announce your name, please come to the microphone and clearly state your name and who you may represent.

A timer located on the screen will indicate the beginning of your three minutes. After three minutes, you will be asked to be seated so the next speaker can make his or her comments. If you have additional comments, please complete the written comment form provided to you.

And now I will call the first speaker.

Brian Rau.

Next up will be Mark Jordan.

Mr. Rau, can you come forward to the microphone?

MR. BRIAN RAU: All right. On -- can you hear me?

Okay.

So on the segment between downtown and the Beltway 8, why are we putting toll lanes in the middle of the freeway when we already have a tolled alternative that's always clear that we can use for buses? Why not have those lanes opened up to -- as regular lanes?

Because, you know, for me as a small business owner, I can't afford a 300-dollar-per-month toll bill just to travel downtown quicker.

And another question: How come we're -- the regular lanes are not being expanded past four lanes?

Because if you look at the Katy Freeway, all the choke points where it's traffic all the time in the regular lanes are where it goes down to four lanes; but when it's above four lanes, to five lanes, the traffic seems to flow a lot better.

MR. PAT HENRY: Thank you for your comment.

Are you finished? Did you finish?

MR. BRIAN RAU: Yes, I'm finished.

MR. PAT HENRY: Okay. Thank you.

Mark Jordan is next. He'll be followed by

Oscar Slotboom.

MR. MARK JORDAN: Hello. I'm Mark Jordan.

I'm happy we're going to have some new roads. That's great.

I cannot understand why we're going to dump the brand-new Pierce Elevated. It hasn't even molded yet. There's no rust underneath it. I don't know what happened there. It could have been half the road.

I don't know if anybody has considered what's going to happen if, during this construction, we do have a hurricane. The last time it didn't work out so well with the highways we have.

I hope you-all are including a tremendous lot of pumping systems to keep the water pumped out of the lowered sections of the freeway. What we have now doesn't work very well.

59 doesn't work very well going through downtown. It floods nicely.

And I -- the presentation of this -- of this business here bothers me that there's no political -- no local political input.

Well -- and there's no consideration been given to the people here about, "Gee, wouldn't you like a bottle of water?" so you could be happy here while all

this is going on.

MR. PAT HENRY: Sorry about that.

MR. MARK JORDAN: And, also, I mean, an example of the way things are going right now is, if you live, like I do, out the Gulf Freeway to the south, there is no access to downtown; and you have to -- you know, if you want to try to come into downtown, you have to try to come in on surface streets, you know. It's just kind of, "Well, here it is. We're going to do this to you."

You know, it's not -- it's not been done very well politically. I hope it works out fine in the end.

But I wish you would reconsider destroying that brand-new Pierce Elevated freeway. It's a beautiful piece of freeway, and it could take care of a great deal of your traffic going around downtown. It could be one way and, you know, it could be a divided highway around downtown and there's no reason to destroy that beautiful freeway. It's there. It's already there, and it's at least -- at least four lanes wide for, you know, going around downtown.

And I notice somebody -- one of the presentations said it was -- it was a -- it would make a -- give a better view of downtown because that

wouldn't be there but, realistically, we do need these roads that we already have and I don't know how -- you know, I know -- I think they said it's going to cost $7 billion. I don't know how much the Pierce Elevated cost, but it's brand-new.

I wish you-all would reconsider destroying that. You know, we've already -- we had a brand-new way we could get into downtown and cut off off the elevated -- off the Gulf Freeway that went nicely into downtown and onto -- onto St. Joseph Parkway. That was great, and it was just a few years old. It's beautiful.

MR. PAT HENRY: Can you wrap up your comments?

MR. MARK JORDAN: Well, my comments are -- is there should be a little bit more political influence on some of this stuff. Some of us actually have an input in this city, and right now our city is kind of destroyed.

MR. PAT HENRY: All right. Appreciate your comments.

MR. MARK JORDAN: Yes.

MR. PAT HENRY: Mr. Slotboom, to be followed by Barry Klein.

MR. OSCAR SLOTBOOM: Thanks for the opportunity to speak.

So when this plan was first announced a couple years ago, it had a lot of issues with it in terms of the highway features, so much so that it really couldn't justify the cost of construction; but to their credit, TxDOT and their consultant team has vastly improved the design.

They've improved it to the point where it's now worthy of support, and I think it will deliver on what they're saying it's going to deliver. So I'd like to speak in support of the current schematic design, which is on display, not the design which is in the EIS, which is an older, obsolete design.

So I certainly would encourage TxDOT and their consultants to continue refining the design. There are opportunities for improvement, which I'll submit separately.

As one gentleman mentioned, it would be nice to see this as a toll-free facility, including the express lanes. I just wanted to mention that.

Now, when you're spending $7 billion, you want everything to be as good as it possibly can; and there are a couple features of this overall process which were illogical and compromised the standards.

One spot is on North Main at Interstate 45, across from the Hollywood Cemetery, where

the right-of-way was constricted and the design's been compromised in terms of the shoulders and could also use the extra auxilliary lanes. To widen it there, you would displace an Exxon gasoline station, a McDonald's, and an R&R Jewelry.

So it's unfortunate that anybody would be displaced, but the question in my mind is: Why are we compromising this part of a 7 billion-dollar project to save a gasoline station and a McDonald's?

So I certainly would hope that could still be reviewed.

Also, I had a little issue with the Cheek-Neal Building. That building's a hundred years old. It was never viewed as being historic, until 2015, when it became clear that a deck park was going to be proposed, which, of course, would make that piece of property much more valuable because it would be next to a park.

So in 2015, the savvy or opportunistic developer purchased it and also had it designated as a historical site. So now the project has to swerve around that building, also compromising the design standards.

But, overall, I'd like to say they've done a great job improving the design. This project is

worthy of support and to move forward.

Thank you.

MR. PAT HENRY: Thank you for your comment.

If there's anybody who would like to speak in Spanish, we have interpreters who can accommodate you. So raise your hand and fill out a speaker registration card if you'd like to.

The next speaker is Barry Klein, and he'll be followed by Tom Braud.

Mr. Klein.

(No response.)

MR. PAT HENRY: Mr. Klein here?

UNIDENTIFIED WOMAN: I think he's in the hallway.

MR. PAT HENRY: Well, maybe we can catch him at the end, the back end.

Tom Braud. Mr. Braud.

MR. TOM BRAUD: My name's Tom Braud; and I'm representing the residents in the area around I-45 and I-10, the interchange that's a part of Segment 3.

I would like to make sure that, as TxDOT's design -- or the engineers are designing this interchange, that they're using the latest in abatement -- noise abatement technology.

I know parts of I-10 are being construct -- or were constructed using a noise-reduction groove in the pavement. Hopefully, rumble strips are not going to be used. That seems to echo throughout our neighborhood. So hopefully that is no longer a design consideration.

I also want to bring up the point that I live on Wrightwood; and our residents on Wrightwood, we feel like we're a little too close to the exit on I-45. The traffic is coming off the freeway very fast. It doesn't look like any improvements are being made at the intersection right now, and I'd like to propose that that be considered along with the noise abatement.

One other comment: The gentleman spoke of the Pierce Elevated. I can see the value of the visibility of taking down the freeway, but it does serve as an exit. I don't mind us rerouting I-45, but it should maybe be considered that we keep part of that.

The other part of 45, the section that is now being designed as the entrance into the west side of town, is still elevated. If we're not doing anything to that to avoid the visibility of that, why are we doing something to the Pierce Elevated?

Okay?

MR. PAT HENRY: Okay. Thank you for your

comment.

Peter McStravick, and he'll be followed by Eric Reynolds.

MR. PETER McSTRAVICK: Good evening.

I'm Peter McStravick, with Houston First Corporation. We represent the City of Houston's performance and convention venues in the city of Houston.

First of all, I'd like to say that we support the project. We believe that it expands and improves the mobility for the downtown area and really for the entire region.

The project removes barriers that currently encircle downtown that we believe really restricts and prohibits development in and around the downtown area.

And I would say, fourthly, the project provides us with the opportunity to have a great green space right behind the George R. Brown and Minute Maid as well; and we feel that that is just a wonderful amenity for the region.

Given the project's impact on the George R. Brown Convention Center and also Bayou Place and also Hobby Center, we would like to request that a biweekly meeting be set up with stakeholders between

Houston First, the mayor's office, TxDOT, as it relates to the design, as it relates to the sequencing, as well as it relates to the construction during the period of time.

Thank you very much.

MR. PAT HENRY: Thank you.

Eric Reynolds, to be followed by Francisco Blasco.

MR. ERIC REYNOLDS: Good evening.

My name is Eric Reynolds, and I'm a representative for Faith Tabernacle Church.

My question is: What is the forecasted date to start Phase 3, Crosstimbers to Gulf Bank?

Also, what is the compensation plan for the relocation of businesses that are leasing?

How long would -- how long would relocation assistance be provided as well?

Thank you.

MR. PAT HENRY: Thank you.

Francisco Blasco, to be followed by Penny Leas.

MR. FRANCISCO BLASCO: Good evening.

Thank you.

My name is Francisco Blasco, and I want to speak about the area between -- right around I-45 and

610. Right now, there's a bottleneck there; and there's about six things I'd like to bring to light.

One, that I know that they're considering moving some of the exits, which will speed up traffic. Speed-up traffic would create -- raise the noise level, and so that's a concern right now.

Of course, flooding is -- every time that we have a new addition, it seems to be increasing the footprint; and flooding has become a problem in lots of parts of our city.

I saw where there's bikeways and there's -- but I didn't see any forethought to maybe trains, maybe. I know that's a consideration in some parts of town. So, that, I don't see being addressed.

And those of us who live there, is there going to be a toll for those -- for riding these new drive areas?

Because if it is, some of us don't have much of a way to get out since we live right there.

So, again, the noise level, the flooding, the increase in speed which increases noise; and I didn't see any forethought for trains and then the idea of tolls.

MR. PAT HENRY: Okay. Thank you.

MR. FRANCISCO BLASCO: Thank you, sir.

MR. PAT HENRY: Penny Leas, to be followed by Susan Young.

MS. PENNY LEAS: I just had a couple of comments.

Other people have mentioned and I wanted to mention also: The -- all the talk about the depressed lanes and everything, Houston's 50 feet above sea level; and I can't imagine that they can have enough pumps to keep up with flooding. I mean, we can't keep up with flooding just on, you know, little underpasses and stuff; and if those -- those what look to me like now tunnels get filled with water or -- I don't know. It just seems unsafe.

And also from a safety perspective, I don't know if this is part of the consideration but I had heard, when I first heard about this, removing the Pierce Elevated, that part of that was a safety concern, you know, if somebody really wanted to harm downtown Houston, but it also seems like they could harm downtown Houston from a tunnel as well.

Evidently this is not the type of thing that gets brought up for a vote with the citizens, but it seems like it would be something that would be appropriate to be handled that way.

And then just, again, back to the

flooding, I mean, the area around Main and Quitman on 45 already floods; and you're talking about putting that underground and putting a pump in.

So, I mean, I really like the green space idea, actually -- I think it's beautiful -- but not at the expense of, you know, cars getting flooded out or a whole section of freeway not being able to be used.

MR. PAT HENRY: Okay. Thank you.

Susan Young, to be followed by Barry Klein.

MS. SUSAN YOUNG: Hello. My name is Susan Young, and first I'd like to say how awesome the visualizations were.

I serve on the board of the South Main Alliance. Our organization serves the area that includes the Texas Medical Center, NRG Park, Hermann Park, the Museum District, Rice University, and a number of neighborhoods, including Montrose and Museum Park.

We are very excited about what we consider to be a visionary project that will make extraordinary improvements in the overall freeway system but also affords amazing opportunities for urban development and that -- some of which are already being well explored and I understand will require partnerships to fully accomplish.

What we ask is something that's very similar to what Peter McStravick asked for; and that is high-level conversations among Metro, the City of Houston, TxDOT, management districts, for us to fully explore the long-range and comprehensive development opportunities that exist, particularly for the segment of I-69 that goes between Spur 527 and SH 288.

That depressed section will be between Midtown and Museum Park, and it has a lot of very important multimodal transportation issues that need to be addressed: for instance, ped and bikeway on the bridges that will be crossing; the possibility of grates separating the redline, where it causes a lot of traffic problems crossing Fannin, San Jac, Main Street; and that there be a cap or at least provision for the footings to provide for a cap that can help redevelopment and provide a great amenity for the area.

Thank you for this remarkable project.

MR. PAT HENRY: Thank you.

Mr. Klein, are you here?

UNIDENTIFIED WOMAN: I spoke to Mr. Klein out in the hall, and he would like to decline the opportunity to comment.

MR. PAT HENRY: Okay.

I would like to thank everybody for their

comments. Your comments will be included in the documentation of this public hearing.

We will now close the hearing. The time is 7:28, and the hearing is adjourned.

Please drive safely. Thank you for coming.

(Off the record at 7:28 p.m.)

STATE OF TEXAS :

COUNTY OF HARRIS :

I, Meredith A. Shoemaker, a Certified Shorthand Reporter in and for the State of Texas, do hereby certify that, at the time and place stated in the caption hereto, a public hearing was held and taken down by me in machine shorthand, portions of which were recorded material, and later reduced to typewritten form to the best of my ability.

Certified to by me this 23rd day of May, 2017.

Meredith A. Shoemaker, CSR
Texas CSR No. 7202
Expires: 12/31/2017
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TRANSCRIPT OF PROCEEDINGS
AT THE PUBLIC HEARING
TO PRESENT THE PROPOSED
NORTH HOUSTON HIGHWAY IMPROVEMENT PROJECT
PROJECT NO. 0912-00-146
HELD AT 6:30 P.M.
ON MAY 11, 2017, AT
HOUSTON COMMUNITY COLLEGE
CENTRAL CAMPUS SAN JACINTO BUILDING
1300 HOLMAN STREET
HOUSTON, TEXAS 77004

P R O C E E D I N G S

MR. PAT HENRY: Good evening. My name is Pat Henry, and I'm the director of project development for the Texas Department of Transportation, or TxDOT, Houston District.

Before we begin tonight -- before we begin tonight's presentation, please silence all cellphones and electronic devices.

Today is Thursday, May the 11th, 2017, and the time is 6:33. On behalf of the Texas Department of Transportation, I would like to thank you for your interest and participation in this public hearing.

We would also like to thank the Houston Community College for the use of this facility.

As you entered tonight, you were asked to register at one of our sign-in tables. If you have not already done so, please register before you leave tonight so that we have a record -- a record of your participation at this public hearing.

Please feel free to view the exhibits. They will be available until we adjourn tonight.

We will present the same information

at a meeting on Monday, May the 15th, at the Saint Arnold Brewing Company. Information about that meeting is on the project website.

This public hearing is for the proposed North Houston Highway Improvement Project. This public hearing is being transcribed by a certified court reporter over there. Simultaneous audio trans -- excuse me. Right here.

Simultaneous audio translation in Spanish is available. If you would like to hear this presentation in Spanish, please raise your hand now and we will loan you a set of headphones.

(Interpreter speaking to the audience in Spanish.)

MR. PAT HENRY: Prior to December the 16th, 2014, the Federal Highway Administration, or FHWA, reviewed and approved documents prepared under the National Environmental Policy Act, known as NEPA. On December the 16th, 2014, TxDOT assumed responsibility from FHWA for reviewing and approving certain assigned NEPA environmental documents.

We would like to welcome and recognize the elected officials who are in attendance

tonight. Diana Caicedo, representing counsel member Jerry Davis, thank you for being here. Robert Gallegos, City Council District I.

MR. ROBERT GALLEGOS: I.

MR. PAT HENRY: Sandra Puente representing Senator Rodney Ellis --

MS. SANDRA PUENTE: Commissioner. Harris County Commissioner Rodney Ellis.

MR. PAT HENRY: Commissioner Rodney Ellis.

If there are any other elected officials present tonight, please raise your hand to be recognized. Each of you will be given an opportunity to speak prior to the public comment period.

Do we have any other elected officials here tonight?

(No response.)

MR. PAT HENRY: Thank you.

The Notices of this public hearing were advertised in the locations noted on -- noted on this slide.

Notifications were also mailed to more than 5,000 property owners, organizations, agencies, and others on the project mailing list,

and were emailed to more than 5,000 email addresses.

The purpose of this public hearing is to present the proposed improvements that are included in the North Houston Highway Improvement Project, to discuss the Draft Environmental Impact Statement, also known as the Draft EIS, and to receive your comments on the proposed project and the Draft EIS.

This hearing is being held to meet the requirements of Chapter 26 of the Texas Parks & Wildlife Code, which regulates the transportation use of public parks, recreation areas, scientific areas, wildlife refuges, and historic sites. The proposed project right-of-way would require acquisition of land from two public parks.

This hearing is also an opportunity for the public review and comment on proposed de minimus impact determinations related to Section 4(f) of the U.S. Department of Transportation Act, which will be discussed later in this presentation.

The comment session will begin following a video presentation. We will not answer questions during the presentations or

public comment session, but we will be available to answer your questions following the comment session. This official public hearing will adjourn after all verbal comments have been heard.

VIDEO NARRATOR: Interstate Highway 45, or I-45, is a major transportation route in the Houston area.

The project limits for the proposed North Houston Highway Improvement Project are from US 59, now known as I-69, at Spur 527, to I-45 at Beltway 8. The total project length is approximately 24 miles.

To facilitate the development and evaluation of alternatives, the study area was divided into three study segments.

Segment 1 is the north segment, from Beltway 8 North to approximately I-610, the North Loop.

Segment 2 is the middle segment, from approximately I-610 to approximately I-10.

And Segment 3 is the Downtown Loop system, which includes portions of I-45, I-10, and I-69 in the Downtown area, and State Highway 288 and Spur 527 south of Downtown.

The proposed North Houston Highway

Improvement Project is needed for several reasons.

There is a inadequate highway capacity for existing and future traffic demands on the highways in the North Houston corridor.

Between the years 2015 and 2040, average daily traffic volumes in the project corridor are projected to increase by as much as 30 percent.

Traffic congestion, which is measured by traffic volume and roadway capacity, will increase if no improvements are made.

The current high occupancy vehicle, or HOV lane on I-45 serves traffic in only one direction during the peak traffic periods and is unused for large portions of the day. During peak hours, the HOV lane is congested.

I-45 is a designated evacuation route for the region. At its present capacity, evacuation effectiveness would be limited in the event of a hurricane or other regional emergency.

Portions of I-45 do not meet current roadway design standards, creating a traffic safety concern.

Roadway design deficiencies also include inadequate storm water drainage in some

locations. Intense rainfall causes high water levels at the I-45/I-10 underpass and on the outside lanes. I-45 would not operate effectively as an evacuation route with high water closures, especially during hurricane evacuations when high rainfall events are likely.

Forecasts for commuter service indicate that even with parallel high-capacity transit in the corridor, two-way managed lanes would be needed to support commuter traffic and express bus service.

Also, in the most recent ranking of the Top 100 most congested roadways in Texas, eight of the Top 35 are in the project area.

The purpose of the proposed project is to provide a highway facility with additional capacity in the I-45/Hardy Toll Road corridor to manage congestion, improve mobility, enhance safety, and provide travelers with options to reach their destinations.

Based on the evaluation of alternatives, one proposed recommended alternative was identified for each study segment.

The Proposed Recommended Alternative for Segment 1 would provide new capacity by adding

four managed express lanes, also known as MaX lanes, one additional frontage road lane in each direction, and safety features, including full-width shoulders and accommodations for bicycles and pedestrians along the frontage road.

The MaX lanes would include both HOV and toll operations.

New right-of-way would be acquired primarily from the west side of I-45.

This graphic is a rendering that shows I-45 in Segment 1 between Beltway 8 and I-610.

The proposed project includes four general-purpose lanes in each direction, two MaX lanes in each direction, and three frontage road lanes in each direction.

Proposed improvements in Segment 2 include adding two MaX lanes in each direction. Added safety features would include full-width shoulders and accommodations for bicycles and pedestrians along the frontage roads.

In Segment 2, the project right-of-way is constrained by Hollywood Cemetery, Germantown Historic District, and Woodland Park.

This rendering shows the Segment 2 area near North Main Street, looking north at the

depressed section of I-45. The general-purpose lanes and MaX lanes would be below grade, and the frontage roads would be at grade.

This image shows a concept where the area between the frontage roads could be used as open space. The open space option is conceptual and would require additional development and funding partners to bring the concept to fruition.

In Segment 3, in the Downtown Houston area, the Proposed Recommended Alternative would reroute I-45 to be parallel with I-10 on the north side of Downtown, and parallel to I-69 on the east side of Downtown. Portions of I-10 and I-69 would be realigned to improve the existing horizontal curves, which would enhance safety and mobility.

I-69 would be depressed from the east side of Downtown to Spur 527.

The existing elevated section of I-45 on the west and south sides of Downtown Houston, known as the Pierce Elevated, would be replaced by Downtown Connectors that would allow access to and from various Downtown streets. Two express lanes in each direction would be constructed on I-10 from west of I-45 to east of I-69, to allow through traffic on I-10 to bypass Downtown

Houston.

The I-45 MaX lanes from north of I-10 would terminate on the north side of Downtown Houston at the same streets as the existing HOV lane.

This image shows the proposed project on the west side of Downtown Houston, looking south.

Removal of the Pierce Elevated provides the opportunity to enhance the visual sight line on the west and south sides of Downtown.

This image shows the proposed project on the north side of Downtown, looking north, where I-45 would be parallel to I-10, and a portion of I-10 would be moved north and adjacent to the railroad.

This image shows the proposed project on the east side of Downtown, looking north.

I-69 would be depressed from Commerce Street to Spur 527. I-45 would be depressed from Commerce Street to Lamar Street.

Similar to the depressed section of I-45 in Segment 2, the depressed section of I-45 and I-69 on the east side of Downtown would

provide the opportunity for a structural cap over the depressed lanes that could be used as open space. The open space option is conceptual and would require additional development and funding partners to bring the concept to fruition.

Proposed design changes that are not documented in the Draft Environmental Impact Statement, or Draft EIS, are being considered for the proposed recommended alternative.

A preliminary drainage study for the project recommends the addition of storm water detention sites. Most of the detention areas would be within the project right-of-way.

Proposed roadway design changes include modifications to some entrance and exit ramps, highway interchanges, and frontage roads.

In some areas, right-of-way needs would be reduced. Overall, the storm water detention and roadway design changes would require approximately 58 acres of new right-of-way, in addition to what was evaluated in the Draft EIS.

The proposed changes are shown on the exhibits in the open house area at tonight's hearing, and they're also on the project website.

These and any other design changes

that could result based on input during the comment period will be documented in the next phase of the study process, which will be the preparation of the Final EIS.

Anticipated benefits of the proposed project include an expected increase in travel speeds of 20 plus miles per hour in the Downtown area, a 50 percent reduction in traffic delay during the peak hour, and a region-wide reduction in delay, with increase in traffic speeds.

The estimated construction cost for the proposed project is approximately 7 billion in today's dollars.

Funding for initial phases of construction has been identified.

Construction is anticipated to begin in 2020.

The first project is expected to be the section of I-69 from Spur 527 to State Highway 288.

Construction would be phased as additional funding is identified, and would likely progress from south to north.

A Draft Environmental Impact Statement has been prepared for the proposed project and is

available tonight for your review. The Draft EIS evaluates the Build Alternatives and the No Build Alternative.

The Draft EIS presents existing conditions in the project area and the evaluation of potential impacts of the proposed project. It also summarizes coordination with stakeholders, including the public and agencies.

As part of the Draft EIS process, natural, cultural, social, and economic resources were evaluated for impacts potentially resulting from implementation of the proposed project.

As documented in the Draft EIS, the evaluation indicates that there would be potential impacts as a result of the proposed project. We'll discuss some of these topics in this presentation. Details of the impact analyses are in the Draft EIS and associated technical reports, which can be viewed at the Environmental Table in the open house area.

Existing land uses in the area of the proposed project include a mix of residential, commercial, industrial, institutional, parks, and vacant land. The Proposed Recommended Alternative evaluated in the Draft EIS would require

approximately 391 acres of new right-of-way.

Displacement of residences, commercial businesses, commercial billboards, places of worship, and schools are anticipated. Our right-of-way staff is here this evening to assist you with questions regarding the acquisition of property.

The anticipated displacements of housing and loss of community resources resulting from the proposed project would have an adverse impact on low-income, minority, and other sensitive populations.

TxDOT is coordinating with agencies and organizations to identify mitigation measures to reduce impacts to community resources, and will include the results in the Final EIS.

The acquisition of new right-of-way for the proposed project would result in a loss of property and sales tax revenues, which could have a negative impact on the local economy. However, the revenue losses may be reduced if businesses relocate in the same taxing jurisdiction. The proposed project would have direct and indirect effects on local and regional employment and income.

When the proposed project is added to the Regional Transportation Plan and the Transportation Improvement Program, it will be consistent with the regional air quality conformity determination.

A traffic air quality analysis indicates that carbon monoxide concentrations would not be expected to exceed the national standard. A quantitative mobile source air toxics analysis will be conducted for the Final EIS.

A traffic noise analysis indicates that the proposed project would result in traffic noise impacts. However, some locations would experience a reduction in predicted noise levels. A more detailed analysis of noise impacts and noise mitigation will be conducted for the Final EIS.

The project would be designed to not increase flood risk. Pump stations would be provided to manage drainage in proposed depressed areas.

Impacts to water bodies and wetlands would be avoided or minimized. Required permits would be obtained prior to construction.

An archaeological survey was conducted

on some properties within the project right-of-way. No archaeological resources were identified. Additional studies will be conducted for the Final EIS.

The proposed project would directly affect six historic resources. Studies are ongoing, and TxDOT is coordinating with consulting parties, including the Texas Historical Commission. The Final EIS will document the final effects determination.

There are sites within the project area that are considered at risk for containing hazardous materials. TxDOT will perform additional investigations and identify any required sampling, analysis, remediation and soil or groundwater management.

The proposed project is generally compatible with the existing visual environment and is not anticipated to degrade the visual quality of the project area. Visual sight lines would be enhanced where the existing Pierce Elevated and I-69 elevated structures would be removed.

Section 4(f) of the U.S. Department of Transportation Act applies to this project because

the proposed new right-of-way would impact publicly-owned parks and significant historic sites, as defined by Section 4(f).

On the state level, Chapter 26 of the Texas Parks and Wildlife Code is a state regulatory requirement that also applies to this project because of impacts to public parks.

Two historic buildings, known as the Carlisle Plastics and Readers Wholesale Distributors warehouses, would be adversely impacted by the proposed project. Effects to the historic Cheek-Neal Coffee Company building are under review.

Historic studies and related consultation are ongoing, and the Final EIS will document the final effects determination for historic resources.

Freed Art and Nature Park occupies approximately 6.2 acres of land northwest of the I-45 and I-10 interchange, at the corner of Houston Avenue and White Oak Drive. The park is heavily wooded in some areas, is designated for passive use, and is partly bordered by paved trails that connect to some nearby parks and trails.

As a result of the proposed project, approximately 0.21 acres of the park would become roadway right-of-way that would be owned by the State of Texas. TxDOT has designed the proposed project to minimize the impacts of right-of-way acquisition in this area as much as possible. Alternatives that would not impact the park would not meet highway design criteria, which is a traffic safety concern.

The proposed right-of-way is needed to accommodate an elevated direct connector from I-45 to I-10. Except where columns to support the roadway structure would be placed in the right-of-way, the area may be able to retain vegetation similar to the existing vegetation. A small portion of a trail at the southern edge of the existing park would be reestablished as soon as possible following construction.

Linear Park currently occupies approximately 6.8 acres of land on the south banks of Buffalo Bayou, on the west side of Downtown Houston. The park has paved trails that connect to other trails along Buffalo Bayou. Portions of the park and trails are below the existing I-45 elevated structures.

As a result of the proposed project, approximately 0.15 acre of Linear Park would become roadway right-of-way that would be owned by the State of Texas. The area impacted does not have built recreation facilities, except for the trail. TxDOT has designed the proposed project to minimize right-of-way acquisition in this area as much as possible. Alternatives that would not impact the park would not meet highway design criteria.

The trail within the project right-of-way would be reestablished as soon as possible following project construction, to reconnect existing trails.

TxDOT has preliminarily determined that the impacts from the project to Freed Art and Nature Park and Linear Park would be "de minimis," which means that the impacts would be minimal in nature and would not substantially change the park lands' uses as City of Houston parks.

TxDOT will continue coordinating with the City of Houston, which is the Official with Jurisdiction, to ensure that the proposed project will not adversely affect the activities, features, or attributes that make the parks

eligible for Section 4(f) protection.

Before approving the use of land protected by Chapter 26, TxDOT must determine that there is no feasible and prudent alternative to the use or taking of the park land, and the project includes all reasonable planning to minimize harm to the land as a park, resulting from the use or taking.

This hearing is an opportunity for public review and comment on the impacts of the proposed project, including the prelim de minimis impact determinations.

Throughout the environmental and project development process for the project, TxDOT has coordinated with many resource agencies and other agencies, including all of the entities listed on this slide, as well as with elected officials, the public, special-interest groups, and other stakeholders.

In addition to this hearing and four rounds of public and agency meetings conducted between 2011 and 2015, TxDOT has attended more than 100 meetings with stakeholders.

In the next steps of the environmental process, all comments received tonight, as well as

written comments received during the comment period, will be included in the official public hearing record and will be addressed in the next phase of the environmental process, which is the preparation of the Final EIS.

The Draft EIS and all related technical reports are available for public review after this public hearing, at the TxDOT Houston District office, on TxDOT's website, on the project website, and in several local libraries. In addition, should you wish to obtain a copy for your personal use, paper copies may be purchased for the cost of reproduction.

We will now show three dimensional visualizations of the proposed project beginning with Segment 3 in the Downtown area and concluding with Segment 1 at Beltway 8. All visualizations will be moving in a northerly direction.

After the series of visualizations, we will begin the public comment section.

MR. PAT HENRY: The visualization for Segment 3 will now begin. The visualization will start at Spur 5 -- Spur 527 south of Downtown and will conclude at the proposed Downtown Connectors.

(The following comments were made as

the visualizations were played for the audience.)

MR. PAT HENRY: The orange peeling off to the left is the Spur 527, that part that's coming up there, San Jacinto Street and Main. We will be putting in approximately -- those are beams that are in the shape of a square. They will be butted up against one another. And then with local participation, we hope to be able to do the landscaping like shown in the visualization.

Coming up is State Highway 288 merging in. Everything along this section would be depressed. And because of the width of the depressed area, we will have double-arched bridges.

The orange and the yellow on the other side is the Gulf Freeway peeling off. Currently it goes straight right through there over by St. Joseph's Hospital. And we're coming up on the George R. Brown Convention Center with the loss of the proposed (inaudible) park. Also constructed box beams and the potential for a green space.

Curving around is the Cheek-Neal building on the right side of the screen. It was formerly a Maxwell House Coffee headquarters.

The yellow lanes in the middle are Interstate 45 lanes. The pinkish color lanes are Interstate 69. Here 45 veers off to the left. The green and the blue is Interstate 10. The green lanes are the Interstate 10 express lanes and the blue will be lanes for local access.

What we'll be doing here is similar to what we're doing on Highway U.S. 290 where you make the decision out there at 34th Street whether you want to go to Interstate 10 or Interstate 610. Here you'll make your decision before you get to downtown whether you want to go to downtown or you want to go through downtown.

If you want to go to downtown, you get on certain lanes. And through downtown, you'll get on other lanes. This is -- it will reduce the weaving and increase traffic flow without adding a lot of extra lanes.

The bridge going across the middle there is the Elysian Viaduct. The orange lanes peeling off up there are the downtown connectors. The I-45 I'll call them MaX lanes are similar to what's out on the Katy Freeway, managed lanes for HOV, Metro buses and then potentially toll road excess capacity.

This is the spur to downtown, trying to maintain the same access points as currently exist today. It ends at that grade on the right where Pierce Elevated currently exists.

The next visualization is for Segment 2. This visualization will start at Quitman Street and proceed north terminating at the I-610 interchange.

(The following comments continued as the visualizations were played for the audience.)

MR. PAT HENRY: Note that the MaX lanes in the middle would have two direction -- two lanes each direction.

We have a cap park coming up, same thing on the beams, and hopefully we'll be able to cover it with a green space. Around about on the left we currently have a two-lane short piece right before the (inaudible) that's confusing. That's Main Street crossing in the middle there.

That (inaudible) parking area on the right side of the screen is a potential detention pond. That street is going underneath as the freeway comes out in a depressed section. And you can see Interstate 610 interchange at the top of

the screen. It will be more of a convention -- conventional interchange that we build.

Currently all the left-hand entrances and exits will be eliminated. And also the frontage roads will be extended through the interchange so that people on one side will not have to get on the freeway or cut through neighborhoods and back streets to get to the other side of the interchange. That's Interstate 610 running from right to left.

We'll have two separate visualizations for Segment 1. The first one will be starting now. This visualization starts at Crosstimbers and will terminate at West Gulf Bank.

(The following comments continued as the visualizations were played for the audience.)

MR. PAT HENRY: MaX lanes continue, two lanes each direction, bi-directional. This is pretty much what we call a pancake design. Everything's at the same level except for the major intersections where the main lanes would go over the intersecting street.

This is coming up on Tidwell Street. Most of the widening in this area will be to the

west. That's Shepherd coming up on the left side -- no, that's not Shepherd that's coming up.

AUDIENCE MEMBER: Yale.

MR. PAT HENRY: Yale Street. Thank you.

The reason there's not a whole lot of traffic on there is because they have to manually put on all these cars and trucks and it takes a long time to do that so we tried to represent traffic.

Now, this is Shepherd coming in where you will have the connectors that you do today going to Shepherd. And the ramp going off to the left is a Metro/HOV ramp.

The second visualization will now begin. This will -- this visualization will start at West Gulf Bank Road and terminate near Beltway 8.

(The following comments continued as the visualizations were played for the audience.)

MR. PAT HENRY: We'll be -- we'll be showing you a condensed version because of the similarity in the highway to maybe save time. This is another Metro ramp for buses and HOV

traffic coming on and off the freeway MaX lanes.

MaX lanes continue through here all the way to Beltway 8. And you can see Beltway 8 at the top of the screen. The project will be ending just south of Beltway 8. We will not be doing any construction to Beltway 8 on this project.

(The visualization concluded.)

MR. PAT HENRY: At this time we would like to move to the public comment portion of the hearing.

There are several ways to comment on the proposed North Houston Highway Improvement Project. You may present your comments here tonight for the court reporter. If you would like to speak for the public record, and have not filled out a speaker card, please raise your hand now and we will pass out speaker cards.

I can't tell if you're raising your hand to block the sun or you want a card.

Speakers will be called in the order in which they signed up.

You may also submit your comments in writing. We have provided comment boxes if you choose -- if you choose to leave your completed

comment form tonight. Your comment forms may also be mailed or sent electronically to the email address shown here and listed in your handout.

All comments must be submitted or postmarked by Tuesday, June the 27th, 2017.

Both written and verbal comments will be considered equally. If you should -- if you submit your comment cards in writing, it's not necessary to repeat your comments verbally.

I would like to begin the public comment section by introducing our elected official who wishes to speak.

Council member Robert Gallegos, would you like to speak? There's a microphone right there. There's a microphone. Or if you want to come up, that's fine.

MR. ROBERT GALLEGOS: Good evening. Just basically I'm Council member Robert Gallegos and I do represent District I, which it's going to have a big impact in regards to downtown EaDo on the East 10.

Those are part of the areas that I represent in -- within District I. So it's very important that I hear comments from the residents or of the individuals that are actually working in

these areas as well, so that way I and the City Council and the mayor, we can try to address these issues with TxDOT. So that's why I'm here this evening.

And I want to thank y'all for being here this evening. I know after a busy day you would like to be somewhere else, but thank you for staying engaged. And I'm looking forward to hearing the comments, so thank you.

MR. PAT HENRY: Thank you, Council member.

Now I would like to provide an opportunity for those who have registered to speak on the proposed project.

You will have three minutes to make your comments. When I announce your name, please come to the microphone and clearly state your name and whom you may represent.

A timer, located on the screen, will indicate the beginning of your three minutes. After three minutes, you will be asked to be seated so the next speaker can make his or her comments. If you have additional comments, please complete the written comment form provided to you.

And now I will call the first speaker

listed on the speaker registration cards in the order in which they signed up.

First we will hear from Dominic Mazoch followed by Jim Honey. I'm not sure I got your name right.

MR. DOMINIC MAZOCH: The name is Mazoch.

MR. PAT HENRY: Mazoch.

MR. DOMINIC MAZOCH: And I represent myself.

MR. PAT HENRY: Okay. Great.

MR. DOMINIC MAZOCH: Okay. I have two -- was watching this stuff on my cellphone and in the demonstration area. I have a couple of concerns.

Number one, I-45 is going to make three 90 degree bends to -- in this new arrangement. Even if it's up to standards, knowing Houston, those three areas I think are going to be perpetually areas where trucks are going to jackknife, especially if the road gets wet.

On the MaX lanes from Quitman to the Beltway, you have a concrete K-wall or jersey barrier. I think you need to in the design

process look at some of the ideas that's used on the Golden Gate Bridge in San Francisco and I think in Dallas on I-30 east where they use the zipper barrier, in other words, the barrier can move.

In other words, in the morning you have more lanes going in, but you still have protection from oncoming traffic. And in the evening, you would have more space going out. And in case of an evacuation, you would have more lanes going out. I think that's something that needs to be looked at.

One point about the MaX lanes I do like is the new ramp proposal for the -- for North Shepherd Park & Ride. At the present, to get on to the lane is a 40-year-old remnant of the contraflow lane that we had in the late '70s, and then that was converted into a barrier/HOV lane.

Lastly, in your presentation, there's one slide that's a mistake. On your slide, you have a bus in the HOV lane that's black and white. That bus is actually on the 290 HOV lane, not on the I-45 HOV lane, so maybe that could be upgraded.

Some of this -- I still think the idea

of keeping some sort of freeway along the Pierce Street Elevated might be a good idea because it takes -- if one part of Downtown Loop gets slammed, you have an escape valve. If you do it, what you have now, you have no escape valve at all to detour traffic.

And, lastly, where the connector comes into downtown, that's where I-45 used to end on the north end 50 years ago. Maybe -- that connector and then the two north-south streets that used to be parallel to the Pierce Street Elevated, maybe that should be designated Business 45 with green signs.

Thank you.

MR. PAT HENRY: Okay. Thank you.

Jim Honey to be followed by Mark Jordan.

MR. JIM HONEY: Hello. My name is Jim Honey. I've lived two blocks from here for the last 36 years.

My comments range in three main areas, hurricanes and flooding, the design is too much, too many freeways at one time and one place, and, three, diminishment of traffic.

In Houston -- you know, you guys do

all this stuff up in Austin, I guess, but about every 10 years we have a hurricane that blows through here. I've had the eyes of three hurricanes come over my house right here and we've got this huge retention pond already just blocks from here. It's called 288, we -- and 59. We total build basements in town. We don't put anything underground because we -- it just fills with water.

Flooding is only going to get worse in this town. There's no solution or relief for flooding anywhere in sight. We have a Flood Czar that finally got an office about a month or so ago.

I just think what you're building is huge retention ponds. When you did I-10, as I recall, you put it five feet above grade. That was beautiful. That makes perfect sense. Putting all these freeways below grade, people don't evacuate when they're supposed to when hurricanes are coming here.

All you're going to do is make death traps for them. All of a sudden they're going to try to get out of Galveston and there's not going to be anywhere to go.

The other thing is this -- the current configuration freeways is a ring around downtown. And as the previous gentleman just stated, there's built-in redundancy to that. If I'm coming up 45 and I hear Pierce Elevated is blocked, hey, I know I can cut over on 59 North, hit 10 and go -- get around town. There's no redundancy in what you're doing now.

You're going to have cognitive overload for drivers. Everybody in this room will become accustomed to that interchange, but travelers who are cutting across Texas on I-10, you're going through one single point of failure.

You're going to have -- you're going to have to negotiate two major interstate interchanges all in one spot. Now there's a redundancy in time.

If I'm coming on 10 first, if I figure out where -- what lane I've got to be in when I've got to go past 45, and if I'm going to stay on 10, I've got like maybe three minutes before I've got to negotiate 59. Now I've got to do everything all at one time.

I think we need to be figuring how to live with less freeway, less vehicles. Smart

cars, smart trucks should help us with this greatly.

There's no reason for these big trucks to be cruising through our downtown during the day. They should be doing most of their inter -- their city travel at night, not during peak traffic. And that was an interesting point about jackknifed trucks.

I think you're just going to frustrate travelers that aren't accustomed to our freeways. And, again, I keep talking -- well, we're going to eliminate barriers between neighborhoods. Keeping freeways elevated are never barriers.

And we don't need that Pierce Elevated Park. This is a real big spending of money that we just really need to be saving.

Thank you.

MR. PAT HENRY: Thank you.

Mark Jordan will be followed by Scott Harbers.

Mr. Jordan?

MR. MARK JORDAN: I'm Mark Jordan.

MR. PAT HENRY: Can you stand a little closer to the microphone?

MR. MARK JORDAN: Okay. And maybe

I'll turn around so people can see more than the back of my head. I had to pay my own parking to come over here. I didn't know if they might have some parking lots, but I thought I had to come.

This thing is a $7 billion project. I appreciate tonight. I think we may actually have a real --

MALE SPEAKER: Talk into the microphone. They can't hear you.

MR. MARK JORDAN: Oh.

MALE SPEAKER: Speak straight into it.

MR. MARK JORDAN: Okay.

MALE SPEAKER: This way.

MR. MARK JORDAN: All right. We may actually have a real elected official here tonight. It was -- Mr. Gallegos, are you -- is that you over here?

Oh, you're here. Hello, Mr. Gallegos. It's nice to have somebody here tonight.

I wonder about exits off these freeways. The ones they're building now, are these going to be just fast through lanes to bypass downtown Houston? What effect is that going to have on jobs in downtown Houston? And how long is downtown Houston going to be shut down

where the jobs are not going to be available?

We have a lot of companies that have been running out of downtown, like Exxon and all that type, running up to The Woodlands and maybe other companies go to Sugar Land and stuff, but how many jobs are going to be affected by this?

And I wonder, who's going to own the toll roads? Who's getting the money? And I -- you know, I'm happy -- I'm happy to have new roads, but I agree with the guy that talks about these things.

When you dig roads out that are underground here in this town, they flood. They do it every time. You don't have enough pumps. You might as well -- it's like trying to pump out New Orleans when the hurricanes come. It floods.

We see that on Interstate 10 on a regular basis. And they've got these walls where there is no escape. They put up concrete barrier walls so you cannot drive your car up the side of the freeway and get out. I assume you'll do the same kind of thing here.

Anyway, thank y'all for listening. And right now I don't see how the southeast -- the Gulf Freeway side of town is going to be served

where we can get into downtown easily. And, of course, there's a bit about tearing up the -- tearing up the Pierce Elevated, which is a relatively new freeway.

It should have been good for another 20 years. They just rebuilt the thing within the last 10 years and it's not even moldy, it's not rusty. There's nothing wrong with it. It's four lanes of traffic, which could be -- you know, it could be a one-way street, the whole thing, to take care of half of the construction for Interstate 45 on this side of town.

That's all above my pay grade, but I just -- I wish they would re -- I wish they would reconsider the destruction of the Pierce Elevated, which is a very important part of this town, and be sure that they have enough entrances and exits off of this freeway to allow Houstonians to get to the same places as we've always belonged to because I don't -- I don't see it in the real nice presentation.

Thank you.

MR. PAT HENRY: Thank you.

Next Scott Harbers, being followed by Oscar Slotboom.

MR. SCOTT HARBERS: Okay. I'm Scott Harbers. I'm a resident here at Midtown. Rather than oppose anything, I would like to endorse removing the Pierce Elevated and returning that property, what is being called excess right-of-way, to use for regular commercial real estate purposes.

Thank you.

MR. PAT HENRY: Thank you.

Oscar Slotboom followed by Thomas Wang.

MR. OSCAR SLOTBOOM: Thanks for the opportunity to speak. I mainly want to speak about the access points in Midtown. But in terms of the overall project, I just want to mention that when this design was first released two years ago there were a large number of technical issues.

I would like to thank TxDOT and their consultant team for continuously refining the design. What we have now is much better than the original design. In fact, it's deserving support.

I would like to speak in support of the recent design, and it's actually good to move forward as is, but there are some opportunities for improvement.

One of those is the Midtown access points. The off ramp to Fannin and the on ramp for San Jacinto are very important access points for a large area. That includes everything in the Museum District, the Medical Center, Midtown and even points quite far west, Montrose over to Mandell.

I live on Roseland Street near Montrose and Richmond, and that was where I got on the freeway, at Fannin, and then I got off at San Jacinto or the other way around.

So when they refined the design, they had restored -- well, as you know, today they have the off ramp to Fannin and the on ramp to San Jacinto, which were removed in the original design. And I would like to thank TxDOT for restoring the on ramp from San Jacinto, but we still don't have the off ramp to Fannin.

Now, if you want to get to Fannin, you'll have to exit Almeda, go through about three traffic lights, then the road dead-ends at Caroline Street, then you have to go left, then you have to go right on Wheeler, which tends to be congested, and then you're going to have to make a left on Fannin where there's no dedicated left

turn lane. This has the potential to disrupt traffic in the area and it will be very inconvenient for motorists.

So I would just like to urge TxDOT and their consultants to do everything they possibly can to restore that exit ramp for Fannin going southbound since this will be a great help to traffic to flow in the area.

Thank you.

MR. PAT HENRY: Thank you.

Thomas Wang followed by Charlene Laxton.

MR. THOMAS WANG: Hello. My name is Thomas Wang. I'm a Midtown resident here. I just want to speak to the issues.

The problem is that to turn past Chenevert and Elgin to turn into the HOV lane for 288 is a big mistake because instead of having the unintentional consequences of diverting traffic from the highway, now you're attracting all the downtown people going to work during the rush hours, going through the neighborhood of Midtown and trying to get on to 288 HOV lane that's located on Chenevert and Elgin, and that is actually -- if you guys don't know, the east side

of Midtown is 98 percent residents so the Chenevert main road -- you're talking about Chenevert main road is literally all residence area, and people walk their dogs.

And then they're also talking about -- and then right in front of this entrance is the Baldwin Park and then right next to this entrance is a -- is a national school. I believe it's one -- first grade to 12th.

And so this is a heavily used facility, park by the residents, and you just get a lot of pedestrial -- pedestrian use, traffic in that corner, and now you're building -- you're making us the on and off HOV ramp to the 288.

So what's going to happen is especially -- just imagine this, especially during the -- during the fall where you have daylight savings, which is -- you know, it gets dark by 5:00 or 6:00 o'clock and now all of a sudden you get this rush traffic hour going through these residential streets literally trying to flow through that one little entrance, and I think that is a bad, bad, bad idea.

Those on and off ramps should be on the feeder of 288 and I-45 and not be put in the

middle of a residential area. So that's just all my points so...

And also I want to thank the City Council member that came and Commissioner Ellis's office. And I do -- I was hoping to see Boykin -- Councilman Boykins because what I'm talking about is actually in his district, so it would be very beneficial for him to hear this as well.

So thank you.

MR. PAT HENRY: Thank you.

Next up is Charlene Laxton to be followed by Carol Caul.

MS. CHARLENE LAXTON: Yes. My name is Charlene Laxton and I live in EaDo. And I'm concerned about the impact on quality of life in EaDo in the east end from this project.

I think that it will in some ways isolate the east end and EaDo because every freeway now will isolate us from downtown and the rest of Houston. We have a lot of revitalization going on there now.

In 2011, when this project began, there were not nearly as many people living there as live there now. And many of our businesses will be lost, our (inaudible). Other things will

be lost.

As it is, we have the stadium, we have a lot of overflow parking from Reliant and from Dynamo. And so when there are games, we have a lack of parking. I think this will only exacerbate this problem when we have -- lose the parking that is being lost for this.

I also feel like it will contribute not only construction noise and congestion from that, but I think we would also have problems with the final project, even though it will be recessed, which could have some -- you know, I'm assuming they're going to deal with the drainage, but still even the elevated portions going into that.

It's -- you know, yes, 69 is -- or 59 is elevated right now, but that is much fewer lanes. You're talking about 20 lanes of traffic feeding in, as well as six lanes, three on each side. That's a tremendous amount of traffic.

I did read something about emissions that said that the emissions would be addressed and would be lessened because cars on wheels are going to have to meet improved emissions standards, but I do think that we're going to have

traffic from throughout the U.S. coming through here.

And as it is now, we know that many people -- everybody's not going to go out and buy a new car so there's still going to be many trucks, many cars going through there, and you're going to have a high, high concentration of pollution and carbon monoxide and everything in that one area.

And I think that, you know, the green space will be nice, but it's not funded by this project. They have beautiful artist renderings. They have a picture of what's done in Dallas, but I really prefer to see things in place before we spend $7 billion and really analyze the effect on especially the east end of Houston, what it's going to do to property values, to quality of life, not just the construction, the noise, how we're going to access downtown, how we're going to exit and get on the freeways while this construction is being -- going on.

There's still a lot of questions that I think need to be answered.

Thank you very much.

MR. PAT HENRY: Thank you.

Next we have Carol Caul to be followed by Dan Lasell.

MS. CAROL CAUL: Good evening. My name is Carol Caul and I'm here tonight speaking for the Citizens' Transportation Coalition of Houston. I'm the advocacy chair of that group.

We are a 501(c)3 all volunteer, non-profit, multimode transportation organization founded in 2004.

MR. PAT HENRY: We'll just stop the clock.

MS. CAROL CAUL: We first worked on Segment 2 -- or what would be Segment 2 of this project in 2005. Since the project was resurrected since 2011, our organization has submitted extensive written comments for prior scoping meetings for this project, and we think it has been vastly improved since that time.

We generally support this very complex project, but we do have some issues that I'll list here. These aren't all of them, and we will support these in our written comments with more analysis.

A key position we consistently take is to rebuild the interchanges first. We vote to

start with all the interchanges, not just those in Segment 3, and traffic models should be done as if the interchanges had been fixed. This may change the configuration of the lanes.

A clear description of source and destination traffic count, such as Bluetooth studies, would help prove up TxDOT's forecasted numbers. The direct connectors into the downtown should be incorporated into the city's complete streets and inner loop traffic studies.

Metering at most access points can improve congestion and safety. We suggest that all access and exit points and how they work be reviewed by the designers of the project.

Our chief concern is that drainage pumps and detention ponds should be financially committed and earmarked at the outset and not subject to diversion as necessary to support the extensive evacuation floodplain and congestion features of this project.

A key feature of the plan is to foster new economic development. We do not support the destruction of existing economic development. There are significant environmental justice concerns regarding stakeholders in Segment 1, i.e.

the north segment.

Next (inaudible) pavement surfaces should be used in areas adjacent to existing neighbor -- residential neighborhoods. Funds should be earmarked at the outset and not subject to diversion for the DEIS bike and pedestrian features.

Air quality should be marked in accordance with the preferred alternative rather than waiting for the EFEIS. Permits, such as the Army Corps of Engineer permits, should be obtained now rather than waiting for construction.

Thank you very much.

MR. PAT HENRY: Thank you.

Next is Dan Lasell followed by Jacqueline Hurgoiu.

MR. DAN LASELL: I'm Dan Lasell and I live at the corner of Eagle and Austin Street. And my concern is for those of us that are impacted, what will the TxDOT -- Texas Department of Transportation do to accommodate us in terms of an adequate replacement value if we have to leave because it's untenable from noise or other circumstances caused by the construction?

I'm close enough as it is. And the

house next door to me looks as if it's going to be impacted as well as the property across the street, and I don't think I'm the only one. But I really would like to know that TxDOT will help those of us that have to relocate.

And I've heard no one mention that, but it is an issue because I have a property that is going to be a hell of a lot harder to replace than what -- the tax value that it's listed at today with the various exemptions so...

Also, Caroline street is just one block away from me. I do hope that they will maintain the esplanade, but, again, also the noise factor. Will we have the walls that will prevent the sounds from being so decibelly increased? It's high enough as it is.

Really those are my issues. I realize there's some that are more important, but thanks for listening.

MR. PAT HENRY: Thank you.

Jacqueline Hurgoiu followed by Candy Hernandez.

MS. JACQUELINE HURGOIU: Hi. I'm Jacqueline Hurgoiu. This is actually Speaker 11 so you can cross her off. We're together.

MR. PAT HENRY: Okay.

MS. JACQUELINE HURGOIU: We represent the complex at 1301 Chenevert Condominium. And we're just here to say we're a little disappointed of what we've heard today from the way that they're, being TxDOT, is handling the situation.

As a family complex, you guys are going to be taking part of our parking. All of our parking is residential parking and it's assigned parking. So on top of that, you're putting us right next to an on and exit ramp.

And this on and exit ramp is going to have people coming off of it at, what, 50, 60 miles per hour. Let's be realistic. And instead of doing an entire buyout of our complex, you guys are taking parking from our complex and the complex next to us. And it seems like you guys are trying to take the cheap way out, which is becoming hazardous to our complex.

You're also taking our dumpster, which is the only trash service that we have. And you're affecting the entrance -- the only entrance that we have to our complex and our parking. Our 27-unit condos is very concerned with the parking, the garbage access, the safety as well as, the

gentleman before me, the significant value and how it's going to be reduced.

We're concerned about the compensation that we're going to be getting. We're concerned about the safety. And so far -- we look forward to you guys handling the situation better because so far this is not equitable, this is not fair and it's not safe.

Thank you.

MR. PAT HENRY: Did you want to add anything, Ms. Hernandez?

MS. CANDY HERNANDEZ: Actually -- I'm Candy Hernandez. And the biggest concern of course is the safety of our residents, 27 units. It is actually -- the ramp is actually coming off of 288 and Berry so it really -- it's a very tight ingress to our property. And we're looking at approximately 18 parking lots, including our only dumpster, that is actually entering the only way we've got going into our little complex.

It is important not just for our residents but for the safety of our residents to know that we're going to lose that property if this proposal goes through.

So I appreciate your time. And I hope

that all this proposal will not go through because we're not looking to relocate anytime soon. And that's -- as a realtor, I don't think the property value that was presented from one of your TxDOT is anywhere close to the property value of the community itself.

Again, it is the safety of our community and also the property value will depreciate, including the construction, the safety of our children that live in the complex. And also, of course, we're looking at not so much of the construction, the impact of 18-wheelers or any kind of vehicles coming into our street. We are going to suffer if this proposal goes through.

MR. PAT HENRY: Okay.

MS. CANDY HERNANDEZ: Thank you. Appreciate it.

MR. PAT HENRY: Thank you.

Next is -- next is Ronnie Self who will be followed by Don Aron.

Is Mr. Self here?

(No response.)

MR. PAT HENRY: Okay. Is Don Aron here? Yes, sir. He will be -- he will be followed by Abby Harrison Melott.

MR. DON ARON: Thank you very much. My name is Don Aron. I'm a native Houstonian. There probably aren't that many of us in the room. And I'm here representing myself. Also, additionally I serve on the Houston Parks Board.

I want to thank the TxDOT for your cooperation for many years in regards to parks in Houston and what you're planning in this process as well towards green space.

I came today because I'm a property owner that will be affected in what you're going to do on the 610 Loop near Interstate 45. I think this is an interesting process to give citizens, property owners and people that may have an interest or that are affected by what you're going to do.

I really came up, though, to ask a question, and that is, the part that you're going to take will in effect cut the piece of property that I have in half. I'm a developer. And my question relates to it's so far away in timing, the idea of developing, and then you're coming in five or six, potentially seven years from now to take the property.

Is there any process to advance that

or are we just to hold off in developing or to wait? So that was really what my question is.

Thank you very much.

MR. PAT HENRY: Thank you. We'll be here after the meeting. Our right-of-way people will be here after the meeting to discuss that issue with you.

MR. DON ARON: Thank you.

MR. PAT HENRY: Abby Harrison Melott will be followed by Jacob Nolan.

MS. ABBY HARRISON MELOTT: I represent myself. I live in the North Lindale neighborhood, which is between 45 North, Hardy and 610. We're on the north side.

And I'd like to tell you that your nice little connectors to avoid the -- where people are going to go from the feeder underneath and they're going to connect up underneath 45 are going to be a huge waste of money, and here's why. It's called the Red Line.

Number one, I'm very familiar with how the Red Line works on the feeder. The first problem is the trains in terms of their frequency. They often do one and then another one will come and then the other side will come.

Okay. So it's going to be one, one, and then you'll catch the other side. Okay. Rush hour, it's about every six minutes. Otherwise, it's about 15, but it's Metro. Its schedule is not -- it's close.

Number two, the cars in the right lane cannot turn right to -- on -- right on red. They have to wait for the gate. So the gate is often broken, so that screws up the whole system.

Number three, the human factor. The train engineer can manually control the traffic lights. So if he doesn't want to stop, that means he can blow through. What that means in terms of the light sequences, it's running north-south, north-south, and it goes through the whole sequence before it lets you go east-west, but remember your Problem No. 1 where you can have trains following and then coming on the other side. It means that you will wait like 10 minutes or more.

You're going to have people that are going to do it once, twice if they have a flat learning curve. And so people aren't going to want to do this. So then they're going to start looking for other ways around and they're going to

use -- you're going to see all the people migrating over to the Cochran entrance or they're going to switch over and they're going to take it from the other side and they're going to use that.

Please put back the Irvington entrance and exits because they really do get used and there is a reason for this.

Thank you.

MR. PAT HENRY: Okay. And thank you.

Jacob Nolan and he'll be followed by -- I can't read the writing. It looks like Burl -- Burrell Garza.

MR. JACOB NOLAN: Thank you.

MR. PAT HENRY: Yes, sir.

MR. JACOB NOLAN: I represent -- my name is Jacob Nolan. I represent a property owner in both the east end and the Fifth Ward. So I wanted to thank Councilman Gallegos for attending this evening.

And I'd say that we are supportive of the overall project scope. I just wanted to reenforce we're not losing sight of what's happening with the connections to the existing highways in the northeast quadrant of the project to make sure that the connectivity is not

diminished. And if it can be improved, that would be desirable.

One idea that I hope will be considered is the addition of a connector from Canal Street to Ruiz in downtown. Currently the last connector over 59 is at Commerce Street. Commerce runs about one mile south and is about four lanes but quickly diminishes down to two.

Canal Street is a five-mile-long major connector through the link of Houston down to Houston -- to the turning basin in the Port of Houston and is a major connector for the entire east end.

Being able to take that across to downtown, connect to Ruiz Street would afford the east end and Fifth Ward improved access and virtually every on and off ramp as part of this project.

That's all. Thank you.

MR. PAT HENRY: Thank you.

Burrell Garza?

Okay. Bernie Romero. Mr. Romero?

You're going to need to raise that a lot.

MR. BERNIE ROMERO: A lot. Thank you.

My name is Bernie Romero. I'm a resident of Houston, 17 years. Yay. Mostly it's like a combination question and understanding of the overall infrastructure building for major cities.

I grew up in Brooklyn, a major city, densely populated, a lot of infrastructure for highway, truss ways and also mass transit. I've traveled around the world, Portland, Paris, London, Tokyo.

And I'm curious -- I'd like to understand why are we building infrastructure like highways and expanding them for -- to manage high-density volumes of traffic and people, let's say population growth, over the next 10, 20, 30, 50 years?

Why is it not integrated with mass transit? That's probably my question. And I'm sure you guys have thought about -- thought about it, talked about it, but I know in Portland like if I'm going to put a highway down I'm going to put a mass transit Metro line right next to it. They're embedded together.

You can go to Germany. You can go in most western worlds and you'll see that they go

side by side. And that's -- I mean, the cost maybe is substantively more, but I think the return on investment is greater. That was my comment.

Thank you.

MR. PAT HENRY: Thank you.

We have no more commenters that have signed up to speak so I'd like to thank you for your comments. Your comments will be included in the documentation of this hearing.

We will now close the hearing. It's exactly 7:46 p.m. and the hearing is adjourned. Please drive safely.

(Off the record at 7:46 p.m.)

STATE OF TEXAS :
COUNTY OF HARRIS :

I, Diana Ramos, a Certified Shorthand Reporter in and for the State of Texas, do hereby certify that, at the time and place stated in the caption hereto, a public hearing was held and taken down by me in machine shorthand, portions of which were recorded material, and later reduced to typewritten form to the best of my ability.

Certified to by me this the 24th day of May, 2017.

_____
Diana Ramos, CSR
CSR No. 3133, Expires 12-31-2018
DepoTexas, Inc.
Firm Registration No. 95
13101 Northwest Freeway, Suite 210
Houston, Texas 77040
888.893.3767

TRANSCRIPT OF VERBAL COMMENTS
MADE DURING THE OPEN HOUSE,
PRIOR TO THE PUBLIC HEARING
TO PRESENT THE PROPOSED
NORTH HOUSTON HIGHWAY IMPROVEMENT PROJECT
PROJECT NO. 0912-00-146,
HELD AT 5:30 P.M.
ON MAY 11, 2017, AT
HOUSTON COMMUNITY COLLEGE
CENTRAL CAMPUS SAN JACINTO BUILDING
1300 HOLMAN STREET
HOUSTON, TEXAS 77004

P R O C E E D I N G S

MR. DAN LASELL: Dan Lasell. Well, my comment -- or question is, will I have noise protection at my location, because it's going to be awfully noisy?

It looks as if the access leading off the freeway is going to run right in front of my house. It's bad enough now with it elevating further away, but it's going to be much closer.

And is there any reparation?

THE REPORTER: I'm an independent contractor just taking down comments.

MR. DAN LASELL: This is -- anyway, what else should I say?

What is the market val -- how do they decide what they'll pay you if it's not livable anymore? That was to be retirement income. I live upstairs, rent the downstairs. But if it's that noisy, I don't know that I'll be able to rent it or want to even live there.

So that is my main issue. What impact will it have on me, how close it will be and noisy, access, that sort of thing?

MS. BARBARA McGUFFEY: Barbara McGuffey. I live in Museum Park neighborhood and

I would like to request that the traffic study be reviewed again for Caroline.

We would like not to have the esplanade narrowed for a left turn lane if the traffic -- if we can possibly avoid it. We think that for both pedestrian and our Livable Center Study, we would like to have the esplanade to stay the same width as it crosses over 59.

Thanks.

MR. THOMAS WANG: Okay. So Thomas Wang. I live on 3008 Chenevert Boulevard -- I mean, I'm sorry, Chenevert Street, and also I'll talk about the Chenevert on -- the 288 on ramp, the Toll HOV on ramp that's located -- will be proposed to be located on the Chenevert right inside the middle of the neighborhood.

I think it's a very bad idea, and it's because the on and off ramp is right next to a school as well. I mean, it just will attract all the downtown people during the rush hours and, yeah, morning and afternoon just to make their way from downtown through Midtown, which is a heavily residential area.

I think it's just a bad, bad, bad idea because the residents use -- and it's right next

to a park so there's a lot of kids playing in the park. There's -- people walk their dogs. So it's just creating all this traffic, just in create -- just potential accidents to occur and create bottlenecks, and also in the daytime -- daylight saving hours in the winter, fall seasons where it gets dark by 5:00, 6:00 p.m., so it's a really bad idea. So I just wanted to get that on the record.

Thank you.

MR. CHRIS ERIKSEN: Chris Eriksen. So I live at the corner of Austin and Wheeler. And I would like to see the third lane done away with on Caroline and Wheeler. They -- I guess they want to make it a left turn lane to allow traffic to flow on to Wheeler.

I think only two lanes, as it is now, is appropriate. That way you could allow for more green space. Otherwise, I'm happy with everything else.

(Off the record at 6:10 p.m.)

STATE OF TEXAS :

COUNTY OF HARRIS :

I, Diana Ramos, a Certified Shorthand Reporter in and for the State of Texas, do hereby certify that, at the time and place stated in the caption hereto, verbal comments were made at an open house prior to a public hearing; that the verbal comments were taken down in machine shorthand by me and later reduced to typewriting under my direction; and the foregoing constitutes a true and correct transcript of said verbal comments.

Given under my hand and seal of office this the 24th day of May, 2017.

Diana Ramos

_____

Diana Ramos, CSR
CSR No. 3133, Expires 12-31-2018
DepoTexas, Inc.
Firm Registration No. 95
13101 Northwest Freeway, Suite 210
Houston, Texas 77040
888.893.3767

TRANSCRIPT OF PROCEEDINGS
AT THE ADDITIONAL OPPORTUNITY
FOR REVIEW AND COMMENT
TO PRESENT THE PROPOSED
NORTH HOUSTON HIGHWAY IMPROVEMENT PROJECT
PROJECT NO. 0912-00-146
HELD AT 7:00 P.M.
ON MAY 15, 2017, AT
SAINT ARNOLD BREWING COMPANY
2000 LYONS AVENUE
HOUSTON, TEXAS 77020

P R O C E E D I N G S

MR. PAT HENRY: Good evening.

If everybody would like to take a seat, we're ready to start the hearing.

Normally, we have these at elementary schools. So I hope you enjoy this venue. It's certainly a different type of venue for us. We never had a saint backing us up. So I hope things go well.

Good evening. My name is Pat Henry; and I'm the Director of Project Development for the Texas Department of Transportation, Houston District.

Before we begin tonight's presentation, please silence all cell phones and electronic devices.

Today is Monday, May the 15th, 2017; and the time is 7:00 o'clock. On behalf of the Texas Department of Transportation, I would like to thank you for your interest in the North Houston Highway Improvement Project.

We would also like to thank Saint Arnold Brewing Company for the use of this facility.

As you entered tonight, you were asked to register at one of our sign-in tables. If you have not already done so, please register before you leave tonight so that we have a record of your participation.

Please feel free to view the exhibits.

They will be available until we adjourn tonight.

My presentation and the public comment session are being transcribed by a certified court reporter.

Simultaneous audio translation in Spanish is available. If you would like to hear this presentation in Spanish, please raise your hand now; and we will loan you a set of headphones.

Prior to December the 16th, 2014, the Federal Highway Administration, or FHWA, reviewed and approved documents prepared under the National Environmental Policy Act, known as NEPA. On December the 16th, 2014, TxDOT assumed responsibility from FHWA for reviewing and approving certain assigned NEPA environmental documents.

We would like to welcome and recognize the elected officials who are in attendance tonight.

Tonight we have Karla Cisneros, Houston City Council, District H. She's back right over here (indicating).

We also have Barbara Koslov, representing Harris County Judge Emmett's office. She's back over here to my left (indicating).

And also present tonight is Derek Darnell, representing the office of Senator Sylvia Garcia. I

think he's back there as well.

If there are any other elected officials present tonight, please raise your hand so that you can be recognized.

I don't see anybody unless there's somebody behind a column.

Each of you will be given the opportunity to speak prior to the public comment period.

Thank you.

Tonight we will present the improvements that are included in the proposed North Houston Highway Improvement Project; discuss the Draft Environmental Impact Statement, also known as the Draft EIS; and receive your comments on the proposed project and the Draft EIS.

Tonight is also an opportunity for public review and comment on the proposed de minimis impact determinations related to the Section 4(f) of the U.S. Department of Transportation Act, which will be discussed later in this presentation.

The comment section will begin following the video presentation. We will not answer questions during the presentation or public comment session, but we will be available to answer your questions following the comment session.

VIDEO NARRATOR: Interstate Highway 45, or I-45, is a major transportation route in the Houston area.

The project limits for the proposed North Houston Highway Improvement Project are from U.S. 59, now known as I-69, at Spur 527, to I-45 at Beltway 8 North. The total project length is approximately 24 miles.

To facilitate the development and evaluation of alternatives, the study area was divided into three study segments.

Segment 1 is the north segment, from Beltway 8 North to approximately I-610, the North Loop.

Segment 2 is the middle segment, from approximately I-610 to approximately I-10.

And Segment 3 is the Downtown Loop system, which includes portions of I-45, I-10, and I-69 in the downtown area, and State Highway 288 and Spur 527 south of downtown.

The proposed North Houston Highway Improvement Project is needed for several reasons.

There is inadequate highway capacity for existing and future traffic demands on the highways in the North Houston corridor.

Between the years 2015 and 2040, average

daily traffic volumes in the project corridor are projected to increase by as much as 30 percent.

Traffic congestion, which is measured by traffic volume and roadway capacity, will increase if no improvements are made.

The current high-occupancy vehicle, or HOV, lane on I-45 serves traffic in only one direction during the peak traffic periods and is unused for large portions of the day. During peak hours, the HOV lane is congested.

I-45 is a designated evacuation route for the region. At its present capacity, evacuation effectiveness would be limited in the event of a hurricane or other regional emergency.

Portions of I-45 do not meet current roadway design standards, creating a traffic safety concern.

Roadway design deficiencies also include inadequate storm water drainage in some locations. Intense rainfall causes high water levels at the I-45/I-10 underpass and on the outside lanes. I-45 would not operate effectively as an evacuation route with high water closures, especially during hurricane evacuations when high rainfall events are likely.

Forecasts for commuter service indicate

that even with parallel high-capacity transit in the corridor, two-way managed lanes would be needed to support commuter traffic and express bus service.

Also, in the most recent ranking of the top 100 most congested roadways in Texas, 8 of the top 35 are in the project area.

The purpose of the proposed project is to provide a highway facility with additional capacity in the I-45/Hardy Toll Road corridor to manage congestion, improve mobility, enhance safety, and provide travelers with options to reach their destinations.

Based on the evaluation of alternatives, one proposed recommended alternative was identified for each study segment.

The Proposed Recommended Alternative for Segment 1 would provide new capacity by adding four managed express lanes, also known as MaX lanes; one additional frontage road lane in each direction; and safety features, including full-width shoulders and accommodations for bicycles and pedestrians along the frontage roads.

The MaX lanes would include both HOV and toll operations.

New right-of-way would be acquired primarily from the west side of I-45.

This graphic is a rendering that shows I-45 in Segment 1 between Beltway 8 North and I-610.

The proposed project includes four general-purpose lanes in each direction, two MaX lanes in each direction, and three frontage road lanes in each direction.

Proposed improvements in Segment 2 include adding two MaX lanes in each direction. Added safety features would include full-width shoulders and accommodations for bicycles and pedestrians along the frontage roads.

In Segment 2, the project right-of-way is constrained by Hollywood Cemetery, Germantown Historic District, and Woodland Park.

This rendering shows the Segment 2 area near North Main Street, looking north at the depressed section of I-45. The general-purpose lanes and MaX lanes would be below grade, and the frontage roads would be at grade.

This image shows a concept where the area between the frontage roads could be used as open space. The open space option is conceptual and would require additional development and funding partners to bring the concept to fruition.

In Segment 3, in the downtown Houston

area, the Proposed Recommended Alternative would reroute I-45 to be parallel with I-10 on the north side of downtown and parallel to I-69 on the east side of downtown. Portions of I-10 and I-69 would be realigned to improve the existing horizontal curves, which would enhance safety and mobility.

I-69 would be depressed from the east side of downtown to Spur 527.

The existing elevated section of I-45 on the west and south sides of downtown Houston, known as the Pierce Elevated, would be replaced by downtown connectors that would allow access to and from various downtown streets. Two express lanes in each direction would be constructed on I-10 from west of I-45 to east of I-69 to allow through traffic on I-10 to bypass downtown Houston.

The I-45 MaX lanes from north of I-10 would terminate on the north side of downtown Houston at the same streets as the existing HOV lane.

This image shows the proposed project on the west side of downtown Houston, looking south.

Removal of the Pierce Elevated provides the opportunity to enhance the visual sight line on the west and south sides of downtown.

This image shows the proposed project on

the north side of downtown, looking north, where I-45 would be parallel to I-10 and a portion of I-10 would be moved north and adjacent to the railroad.

This image shows the proposed project on the east side of downtown, looking north.

I-69 would be depressed from Commerce Street to Spur 527. I-45 would be depressed from Commerce Street to Lamar Street.

Similar to the depressed section of I-45 in Segment 2, the depressed section of I-45 and I-69 on the east side of downtown would provide the opportunity for a structural cap over the depressed lanes that could be used as open space. The open space option is conceptual and would require additional development and funding partners to bring the concept to fruition.

Proposed design changes that are not documented in the Draft Environmental Impact Statement, or Draft EIS, are being considered for the proposed recommended alternative.

A preliminary drainage study for the project recommends the addition of storm water detention sites. Most of the detention areas would be within the project right-of-way.

Proposed roadway design changes include modifications to some entrance and exit ramps, highway

interchanges, and frontage roads.

In some areas, right-of-way needs would be reduced. Overall, the storm water detention and roadway design changes would require approximately 58 acres of new right-of-way, in addition to what was evaluated in the Draft EIS.

The proposed changes are shown on the exhibits in the open house area tonight and are also on the project website.

These and any other design changes that could result based on input during the comment period will be documented in the next phase of the study process, which will be the preparation of the Final EIS.

Anticipated benefits of the proposed project include an expected increase in travel speeds of 20-plus miles per hour in the downtown area; a 50 percent reduction in traffic delay during the peak hour; and a region-wide reduction in delay, with increases in traffic speeds.

The estimated construction cost for the proposed project is approximately 7 billion in today's dollars.

Funding for initial phases of construction has been identified.

Construction is anticipated to begin in

2020.

The first project is expected to be the section of I-69 from Spur 527 to State Highway 288.

Construction would be phased as additional funding is identified and would likely progress from south to north.

A Draft Environmental Impact Statement has been prepared for the proposed project and is available tonight for your review. The Draft EIS evaluates the Build Alternatives and the No Build Alternative.

The Draft EIS presents existing conditions in the project area and the evaluation of potential impacts of the proposed project. It also summarizes coordination with stakeholders, including the public and agencies.

As part of the Draft EIS process, natural, cultural, social, and economic resources were evaluated for impacts potentially resulting from implementation of the proposed project.

As documented in the Draft EIS, the evaluation indicates that there would be potential impacts as a result of the proposed project. We'll discuss some of these topics in this presentation. Details of the impact analyses are in the Draft EIS and associated technical reports, which can be viewed at the

Environmental Table in the open house area.

Existing land uses in the area of the proposed project include a mix of residential, commercial, industrial, institutional, parks, and vacant land. The Proposed Recommended Alternative evaluated in the Draft EIS would require approximately 391 acres of new right-of-way.

Displacement of residences, commercial businesses, commercial billboards, places of worship, and schools are anticipated. Our right-of-way staff is here this evening to assist you with questions regarding the acquisition of property.

The anticipated displacements of housing and loss of community resources resulting from the proposed project would have an adverse impact on low-income, minority, and other sensitive populations.

TxDOT is coordinating with agencies and organizations to identify mitigation measures to reduce impacts to community resources and will include the results in the Final EIS.

The acquisition of new right-of-way for the proposed project would result in a loss of property and sales tax revenues, which could have a negative impact on the local economy. However, the revenue losses may be reduced if businesses relocate in the same

taxing jurisdiction. The proposed project would have direct and indirect effects on local and regional employment and income.

When the proposed project is added to the Regional Transportation Plan and the Transportation Improvement Program, it will be consistent with the regional air quality conformity determination.

A traffic air quality analysis indicates that carbon monoxide concentrations would not be expected to exceed the national standard. A quantitative mobile source air toxics analysis will be conducted for the Final EIS.

A traffic noise analysis indicates that the proposed project would result in traffic noise impacts. However, some locations would experience a reduction in predicted noise levels. A more detailed analysis of noise impacts and noise mitigation will be conducted for the Final EIS.

The project would be designed not to increase flood risk. Pump stations would be provided to manage drainage in proposed depressed areas.

Impacts to water bodies and wetlands would be avoided or minimized. Required permits would be obtained prior to construction.

An archeological survey was conducted on

some properties within the project right-of-way. No archeological resources were identified. Additional studies will be conducted for the Final EIS.

The proposed project would directly affect six historic resources. Studies are ongoing; and TxDOT is coordinating with consulting parties, including the Texas Historical Commission. The Final EIS will document the final effects determination.

There are sites within the project area that are considered at risk for containing hazardous materials. TxDOT will perform additional investigations and identify any required sampling, analysis, remediation, and soil or groundwater management.

The proposed project is generally compatible with the existing visual environment and is not anticipated to degrade the visual quality of the project area. Visual sight lines would be enhanced where the existing Pierce Elevated and I-69 elevated structures would be removed.

Section 4(f) of the U.S. Department of Transportation Act applies to this project because the proposed new right-of-way would impact publicly owned parks and significant historic sites, as defined by Section 4(f).

On the state level, Chapter 26 of the

Texas Parks and Wildlife Code is a state regulatory requirement that also applies to this project because of impacts to public parks.

Two historic buildings, known as the Carlisle Plastics and Readers Wholesale Distributors warehouses, would be adversely impacted by the proposed project. Effects to the historic Cheek-Neal Coffee Company building are under review.

Historic studies and related consultation are ongoing, and the Final EIS will document the final effects determination for historic resources.

Freed Art and Nature Park occupies approximately 6.2 acres of land northwest of the I-45 and I-10 interchange, at the corner of Houston Avenue and White Oak Drive. The park is heavily wooded in some areas, is designated for passive use, and is partly bordered by paved trails that connect to some nearby parks and trails.

As a result of the proposed project, approximately 0.21 acre of the park would become roadway right-of-way that would be owned by the State of Texas. TxDOT has designed the proposed project to minimize the impacts of right-of-way acquisition in this area as much as possible. Alternatives that would not impact the park would not meet highway design criteria, which is a

traffic safety concern.

The proposed right-of-way is needed to accommodate an elevated direct connector from I-45 to I-10. Except where columns to support the roadway structure would be placed in the right-of-way, the area may be able to retain vegetation similar to the existing vegetation. A small portion of a trail at the southern edge of the existing park would be reestablished as soon as possible following construction.

Linear Park currently occupies approximately 6.8 acres of land on the south banks of Buffalo Bayou, on the west side of downtown Houston. The park has paved trails that connect to other trails along Buffalo Bayou. Portions of the park and trails are below the existing I-45 elevated structures.

As a result of the proposed project, approximately 0.15 acre of Linear Park would become roadway right-of-way that would be owned by the State of Texas. The area impacted does not have built recreation facilities, except for the trail. TxDOT has designed the proposed project to minimize right-of-way acquisition in this area as much as possible. Alternatives that would not impact the park would not meet highway design criteria.

The trail within the project right-of-way

would be reestablished as soon as possible following project construction, to reconnect existing trails.

TxDOT has preliminarily determined that the impacts from the project to Freed Art and Nature Park and Linear Park would be de minimis, which means that the impacts would be minimal in nature and would not substantially change the park lands' uses as City of Houston parks.

TxDOT will continue coordinating with the City of Houston, which is the Official with Jurisdiction, to ensure that the proposed project will not adversely affect the activities, features, or attributes that make the parks eligible for Section 4(f) protection.

Before approving the use of land protected by Chapter 26, TxDOT must determine that there is no feasible and prudent alternative to the use or taking of the park land; and the project includes all reasonable planning to minimize harm to the land as a park resulting from the use or taking.

Tonight is an opportunity for public review and comment on the impacts of the proposed project, including the preliminary de minimis impact determinations.

Throughout the environmental and project

development process for the project, TxDOT has coordinated with many resource agencies and other agencies, including all of the entities listed on this slide, as well as with elected officials, the public, special-interest groups, and other stakeholders. In addition to recent public hearing, tonight's additional opportunity for review and comment, and four rounds of public and agency meetings conducted between 2011 and 2015, TxDOT has attended more than 100 meetings with stakeholders.

In the next steps of the environmental process, all comments received tonight, as well as written comments received during the comment period, will be included in the official public record and will be addressed in the next phase of the environmental process, which is the preparation of the Final EIS.

The Draft EIS and all related technical reports are available for public review at the TxDOT Houston District office, on TxDOT's website, on the project website, and in several local libraries. In addition, should you wish to obtain a copy for your personal use, paper copies may be purchased for the cost of reproduction.

We will now show 3-dimensional visualizations of the proposed project beginning with

Segment 3 in the downtown area and concluding with Segment 1 at Beltway 8 North. All visualizations will be moving in a northerly direction.

After the series of visualizations, we will begin the public comment session.

(The following comments were made as the visualizations were played for the audience.)

MR. PAT HENRY: This visualization, we're starting from the south and moving north. The orange peeling off to the left there is Spur 527.

The section will be depressed, going underneath the intersecting streets. This will be an opportunity for an open space area. TxDOT will be placing the beams. They'll be box beams. They're square or rectangular shaped, butted up against one another; and then with local support and community input, we could, with financial help, put grass and landscaping on there.

This is 288 merging in up here. We're turning to go north, and 288 and I-69 will both be depressed.

Those are double-arch bridges. We had to go with double arch because of the width of the depressed section.

The orange coming up on the right of the screen is the Gulf Freeway coming in. Today, it would go straight across the left across the street but it's going to -- in yellow, it turns right to go parallel to I-69 behind the George R. Brown Convention Center in a depressed cross-section, once again, an opportunity for green space and the beams will be placed as a part of this project, with local funding for the landscaping.

The building on the right as the freeway curves around that's just barely on the screen is the Cheek-Neal Coffee building. It was the original home of Maxwell House Coffee, which was the first manufactured preground coffee. Prior to that, you had to buy the beans and grind it yourself.

The freeway, as it straightens out here -- that's the yellow -- is Interstate 45. The pinkish color is Interstate 69; and right here at this interchange is a very complicated interchange, with three interstate highways on the same spot. I don't know anyplace else in the country where you'll find this.

The green coming in from the right is Interstate 10. You'll -- the concept on this, whichever freeway you approach downtown on, you will make your decision before you get to downtown whether you want to

downtown, where you'll be on local access lanes, or you want to go through downtown, where you'll be on express lanes.

The blue is Interstate 10 express lanes, and the green would be the local access lanes.

The middle of the screen, the bridge cutting across all the way across is the Elysian Viaduct; and we're sitting just to the north of that -- south of that. Excuse me.

The green going off to the left is where the current freeway is. We're straightening that out. We'll no longer be splitting U of H Downtown.

The orange that's peeling off is the local access, or what we call a spur. The downtown points on this is currently serviced by Interstate 45 on the western side of downtown.

As the lanes peel off for the McKinney and the other exit ramps, the freeway gets smaller until it just ends down there at the Pease exit; and you'll catch a real quick glimpse of where the Pierce Elevated was.

We're kind of saying the Pierce Elevated goes away, but there is to be a local decision on whether it remains or goes away. As far as TxDOT would be concerned, it would be excess right-of-way.

Okay. That ends what we're calling

Segment 3.

The next video will be Segment 2, starting at I-10 and going north as well.

Once again, we'll have an opportunity for a deck park, with the box beams being placed as a part of this project; and, once again, there will be the opportunity for landscaping.

The street crossing diagonally is Main Street, with and without landscaping.

The area to the right where all the 18-wheelers are parked is the proposed detention pond.

Approaching on the top of the screen is Interstate 610. It will be reconstructed as a more contemporary or modern intersection, with interchange with -- we'll eliminate all the left-hand entrance and merge ramps. It will all be right-hand.

And, also, we will have continuous frontage roads in both directions so you will not have to get on the freeway or cut through a neighborhood to get to an intersection to go from one side of the interchange to the other side of the interchange.

The reason there's no traffic, if you notice that, because each one of those cars and trucks had to be put on there manually; and they can only put so many. We're not trying to say traffic's going to go

away. It's just that we can't show it all visually on here.

We have two short videos on Segment 1. The first one starts at Crosstimbers; and, once again, we'll be going north. It's more of what we call a flat design where everything's at grade. We'll be widening the freeway section. Most of the widening once you get past 610 is to the west.

We'll have four managed lanes all the way from 10 -- we call those MaX lanes -- 10 to Beltway 8. Those are the lanes in the middle. They will be separated very similar to the way the managed lanes are on Katy Freeway, and they will operate very similar to the managed lanes on Katy Freeway.

All the existing cross streets' access will be maintained, as well as bridges over those cross streets.

Approaching on the top of the screen is Shepherd Drive, which will have that direct connector that's out there today; and just north of that is the connector to the Metro Park and Ride lot. It's a T ramp.

Okay. That's the end of this video, and then we have a short video that just represents the final segment.

That's a Metro wishbone-type ramp for access to the Park and Ride lot coming off there.

Managed lanes, MaX lanes, continue all the way up to Beltway 8, where they'll merge into the existing; and some lanes will split off to Beltway 8.

Beltway 8, approaching on the northern end, we will not be getting into that interchange. There will be a future project to look at that, see what needs to be done.

(The visualizations concluded.)

MR. PAT HENRY: Okay. At this time, we will begin the public comment session.

There are several ways to comment on the proposed North Houston Highway Improvement Project. You may present your comments here tonight for the court reporter. If you would like to speak for the public record and have not filled out a speaker card, please raise your hand now.

Speakers will be called in the order in which they signed up.

You may also submit your comments in writing. We have provided comment boxes if you choose to leave your completed comment form tonight. Your comment forms may also be mailed or sent electronically to the e-mail address shown here and listed in your

handout.

All comments must be submitted or postmarked by Tuesday, June the 27th, 2017.

Both written and verbal comments will be considered equally. If you submit your comments in writing, it is not necessary to repeat your comments verbally.

I would like to begin the public comment session by introducing our elected officials who wish to comment.

First will be Council Member Karla Cisneros.

MS. KARLA CISNEROS: Good evening, everyone. Thank you for being here.

I'm really pleased to see such a good turnout. I think the other sessions have been just as well attended. That's really great.

I wanted to just say: I represent District H, which will be significantly impacted by all three of the segments. You know, 59, 10, and I-45 will all be affected in my council district.

One of the things that I think is important and I didn't hear really talked about is the importance of building capacity on the four MaX lanes for a new use in the future.

We may, at some point in the future, want to have Metro going down that; and if we don't think about that at this time, if we don't have the infrastructure, if it's not wide enough or strong enough to hold up a train, it's not ever going to be able to happen.

So I'm hopeful that that's part of the consideration, you know, in designing that piece of it, because our needs change; and what we have now isn't going to be good for later. And there's just no way that we can keep adding more lanes of traffic to solve our problems, and so I hope that that's something that's being considered.

Another concern that I have is about bike lanes and how this is going to work into this whole overall solution. I know right now that the frontage roads have been increased to three lanes and the outside lane is, like, another few feet wider, 3 feet wider, to accommodate a bicycle.

That is not an ideal place to ride a bike. You know, a lot of the neighborhoods I represent are people that use bikes to get to work; and I just don't think that's our best option, you know, to put a bicycle in the same lane as a car that's going 50 miles an hour.

So I would encourage TxDOT to explore

other opportunities. There are some. Along Little White Oak Bayou, there could be a wonderful bike trail that went along there that would be off road and not that far off the highway; but, I mean, just to -- you know, as you're going through and looking at that, I think that's an important thing to consider.

You know, I like hearing about the sensitivity to parks and the connections to the bayous; and I hope that we can maintain the connections to the bayous underneath 45, along White Oak near Main Street, you know, connecting the east and west sides of the bayou level and just, you know -- and being sensitive to the archeological sites.

I've been impressed with the work that TxDOT has done. The archeologist has done work at the old Frost Town site and Bute Park. So I just plug you for that and just to continue that way.

And I like the covers. I hope -- I hope that they're affordable, you know, to plant.

I wasn't clear on are -- they will be covered -- just "yes" or "no" -- not planted?

MR. PAT HENRY: Yes, they will be covered.

MS. KARLA CISNEROS: Okay. Is there any estimate from you on what the cost of the buildout would be for them?

MR. PAT HENRY: It depends on how extensive you want to get with that.

MS. KARLA CISNEROS: Okay. All right.

Thank you very much. Thank you all for being here.

MR. PAT HENRY: Also wishing to speak is Diana Caicedo, representing Houston Council Member Jerry Davis.

MS. DIANA CAICEDO: Hi. Good evening. My name is Diana Caicedo. I work with Council Member Jerry Davis.

I've been at the two prior forums, had an opportunity to engage with some of our citizens; but this one is, in particular, important to us because one of the communities in District B that hasn't been engaged in this process of submitting comments has been the 5th Ward community.

And I just wanted to make it, you know, known that while it -- you might not see it day-to-day or -- we have had several conversations with several of the constituents in the 5th Ward, incorporated those comments.

We even went to Austin about three weeks ago and spoke to some of the TxDOT officials. Council Member Davis and myself were there, along with some of

the constituents in the District, and conveyed some of the concerns that you-all have.

So we are doing work on it. We are listening to you-all. If you have any additional comments, of course, the comment period is until June 27th. Please feel free to reach out to our office. I'm the point of contact for the project, in our office.

So, again, I'll be sitting over here. Feel free to just reach out to us.

Thank you very much.

MR. PAT HENRY: Thank you.

Now I would like to provide an opportunity for those who have registered to speak on the proposed project.

You will have three minutes to make your comments. When I announce your name, please come to the microphone and clearly state your name and who you may represent.

A timer located on the screen will indicate the beginning of your three minutes. After three minutes, you will be asked to be seated so that the next speaker can make his or her comments. If you have additional comments, please complete the written comment form provided to you.

And now I will call the first speakers

listed on the speaker registration cards in the order they signed up.

First, we will hear from Robert Meaney; and he'll be followed by Alex Diaz.

MR. ROBERT MEANEY: Thank you very much.

Before I get into my comments, I just want to thank Pat Henry and Darrin Willer for their effort.

We met with them last August, and it was our first opportunity to talk about these comments in Lower 5th Ward. And when we met with them last August, from the start of this project to where we were, they had, I think, 141 meetings -- or 141 public meetings; and I'm sure that pace has not slowed at all.

So I do appreciate that from you guys and the effort that you put in, even though we may not agree with everything that's going on on the project.

Our community in Lower 5th Ward is highly affected by this. We have six entrances and exits in and out of the community, and three of those are being taken away from us. So we're losing 50 percent of our commuting in and out of the neighborhood.

And although we've submitted our comments -- and I think we have a couple of follow-up comments that we're going to be getting with HNTB and TxDOT after this meeting -- really my questions revolve

around: One, how are we -- how is TxDOT going to be securing the remainder of the funding for this project -- i.e., committee or vote at the senate level -- and, then, two, on the sample park projects that we see, how much infrastructure is being put in place as far as engineering consideration?

Are piles being driven prior to these parks being put on top of the land for bearing the weight of these structures? If not, how are we going to be counteracting the heaving process of these piles being driven at a later date; and how will that affect the roads?

And I'm a mechanical engineer, not a civil engineer. So please dumb it down for me a little bit.

Thanks.

MR. PAT HENRY: Once again, we'll be available after the meeting tonight to answer any questions.

Also, if you have not seen it, we have a right-of-way group over here in a room down that hallway (indicating) past the rest rooms. They have some computers set up if you want to see where your home is in relation to the project and talk to right-of-way people if you're being affected -- if your property is being affected.

Next up is Alex Diaz. He'll be followed by Tami Merrick.

MR. ALEX DIAZ: Howdy. I'm Alex Diaz.

I mostly drive 45 and my main concern is, right now, I have four and five lanes -- open lanes for the average person going each way and by the time they get through with this project, all this money, all this time, all the headache for the drivers, I'm still going to have four lanes each way.

The only thing we're going to have is four -- I think four toll lanes. If anything, at least give one toll lane up to the average driver.

And, also, to be honest, I mean, from past experience by looking at the old Gulf Freeway -- I've been driving for 55 years. I just hit 70 -- they've been working on that thing forever; and they're going to be working on it forever.

I feel on this thing here, you know, they need to just bite the bullet, because when they get through with this project, they're going to be back to the drawing board and trying to figure out how to widen it.

They just need to just go ahead and put six to eight lanes open each way and just let it go at that. I mean, we don't need another 45 Gulf Freeway

over here on 45 North.

MR. PAT HENRY: Thank you.

Also, if you want to make a comment in Spanish, we have the capability to interpret that. So just sign up a card with one of the people in the back back there, and we'll be glad to accommodate you.

Next up is Tami Merrick, and she'll be followed by Hasu Patel.

MS. TAMI MERRICK: I want to tack on just a little bit to Karla's comments.

One of the things is the Downtown Management District is working on a 20-year vision plan, and they're looking at connectivity to the east on Buffalo Bayou Park. The other one, of course, is Pierce Sky Park.

So we're hoping that TxDOT will continue to work with the Downtown Management District and Midtown Management District as we look at the master plan for Houston. That is one comment.

The second one is that the existing HOV lane that dumps down into Franklin right now, the Rail Watch Group is proposing a potential connector of bus rapid transit that could later become Metro rail and we are hoping the foundations are designed to accommodate future Metro rail on that route, because it's the only

way we can move massive amounts of traffic, and, again, I think Karla referenced that in her comments.

And we found out that Metro is also looking at this particular route. So we are hoping that TxDOT will work with them on that particular issue.

And then the second one I want to comment on is just the fly ramp connectors. We were looking at some connections to Buffalo Bayou Park from the neighborhoods and the existing bike lanes; and we would like the opportunity to connect what I would call piggyback fly lanes, instead of adjacent to cars that might be below cars in areas where there's potential to that to make the connections for the bike lanes.

Thank you.

MR. PAT HENRY: Thank you.

Next is Hasu Patel, who will be followed by Shawn Conte.

MR. HASU PATEL: Thank you.

My name is Hasu Patel; and I represent the Sleep Inn & Suites and the Americas Best Value Inn. That's the two hotels right there on 45 in Section No. 2.

There's -- one of the exits for when somebody's coming from the north side, the North Main exit is going to be closed; and they have taken the exit

towards Cavalcade.

It's a long span and when the hotel guests come at my motels, it's going to take so much time and I'm going to lose the business. Not me [sic]. Along with me, the businesses around that area, the North Main area, the businesses are going to lose.

So my request to you guys, to keep that North Main exit where it is right now, the existing one. That is my request right there, as well as the business lost income.

When construction is going on, my occupancy is going to be at 20 to 25 percent. At this moment right now, 75 to 80 percent I'm doing. That business lost income, do I get from the State?

Currently there's 290. I have one of the hotels, and I'm experiencing this kind of economic hardness [sic].

So my request, if anything can be done where business can sustain there continuously, the remaining (unintelligible), so they can pay the property taxes, they can pay the management district fees and all those things. This is my -- one of the requests on that particular plan.

Second thing, I have one of the hotels right here. It (unintelligible) on the detention pond,

which I'm going to lose the location; and there will be no way I can replace that kind of location particular this area [sic].

So if the detention pond can be relocated somewhere else, there is -- that's the way the two hotels can be saved; and we are serving our guests around this area as well as the downtown.

So thank you very much, and I appreciate it.

MR. PAT HENRY: Thank you.

Shawn Conte, to be followed by Craig Anthony Thomas.

MR. SHAWN CONTE: Thank you.

My name is Shawn Conte, and I'm here on behalf of myself.

I come before you today not as someone who drives a car but as someone who walks and bikes and, if possible, takes public transportation and in some regard, that makes me a bit unconventional in this city, but please hear me out, because there are a lot more of us out here every single day.

Now, I'm not a native Houstonian. I'm a transplant. Though I only moved here a few years ago, there's no denying that I'm excited about the future of Houston; but I cannot bring myself to say that I am

excited for this project.

Firstly, I would like to go on record as saying that if this project does move forward, two things must be addressed: One, eliminating Polk Street as a connection to downtown is a mistake. It is a vital pedestrian connection to Discovery Green, the convention center, and the Lamar bike lane.

Two, if the TxDOT is to implement Segment 3 downtown, it must also fund and complete the capped green spaces before moving on to any other segment of this project.

You will be responsible for creating this mess. Therefore, you should be responsible for cleaning it up. This needs to be done with the guidance of both public and private entities, as well as local communities.

Failure to complete the first will effectively squash any kind of revitalization efforts in EaDo for years to come. Failure is not an option.

You see, I live in East Downtown and I work downtown and it's fascinating to watch the way downtown is changing. It's growing. It's densifying. It's becoming a place to live, work, and play, as they say. It's becoming more walkable.

And you know what? So is East Downtown.

So much has happened to this neighborhood since this highway project was first proposed. It's a young and exciting place to be.

Before I go on, I have to ask: In what city and in what decade does a 26-lane freeway belong inside an urban core?

Because there are consequences for such proposals, and it pains me to think of what we stand to lose.

St. Emanuel Street, arguably the heart of East Downtown, will be castrated. Businesses will be displaced. This is a fact. Little Woodrow's, Kim Son, the ever-popular Tout Suite to the north, to name a few, gone. Some of the very things that draw people to this area will be gone. You will fundamentally change the dynamic of this neighborhood for decades to come.

What you are promising is two city blocks of roadway will take their place. I ask you: Have you ever walked across a 26-lane freeway?

We're so focused on how people drive around the city that we've forgotten about the people already living here. It begs the question: If the Texas Department of Transportation had invested in public transportation in the first place, would we even be here discussing this right now?

Thank you.

MR. PAT HENRY: Thank you.

Mr. Thomas has decided not to speak.

Next we will have Gordon Quan, who will be followed by John DeLeon.

MR. GORDON QUAN: Good evening.

I'm Gordon Quan. I'm chairman of the East Houston Redevelopment Authority, TIRZ 15. We're directly impacted tremendously by this project.

We have the area behind the George R. Brown, the old Chinatown area. As Shawn alluded to, that whole area has been undergoing a lot of redevelopment at this time.

I know that we've been in touch with TxDOT regarding some of these modifications, especially in Segment 3 as it alludes to Polk Street.

I'm also here to talk about Bell Street, because right now, if you recall, if you cross Leeland heading toward downtown, you get a spur that goes on Bell to get you to downtown.

That's going to be gone now, and we're concerned that that area continues to be active. I know that they have some other lanes coming across, but an amendment could be made to allow that to continue.

I also know that on Polk, we had to kind

of settle for a U-turn lane that goes across later on because of all the traffic coming off the freeway going to Discovery Green and other places. We would hope for better, but that's all we were able to get out of it.

Two other things I'd like to mention real briefly. I think Ms. Karla Cisneros spoke and Tami also spoke about light rail.

I was on City Council when we did the Katy Freeway expansion. Many people came to us and said, "Well, aren't you to provide for a rail system to Katy?"

And we said, "Sorry. That's TxDOT, and they did not provide strength enough for rails to be put on that highway when they expanded that."

So I hope we can learn from that lesson.

And then an allusion was made to some of these roads being a toll road, and I don't know. Has that been decided? Do we have those managed lanes being put as a toll road at this time? Do you know?

Well, we can find out later; but I'm just wondering about coordination with other authorities. What is Metro doing on this? What is the Harris County Toll Road Authority doing on it?

It just seems like people are working in silos, and they should be working together.

Thank you.

MR. PAT HENRY: Thank you.

John DeLeon next, who will be followed by Matt Strohmeyer.

MR. JOHN DeLEON: Yeah. I am -- I'm just going to wing this. I don't have anything written down.

But I live on St. Emanuel and -- right there by Polk Street; but I was just more concerned about the design of what's going on right now, mainly because I saw in the rendering where 45 was elevated above Chartres. It wasn't going underneath -- I'm talking about right behind the George R. Brown Convention Center -- that there's a tunnel that's going to be green space above.

Well, I just saw another rendering -- I can't remember where I saw it at -- where instead of going under, they went parallel to 59.

In other words, 45 is now elevated above Chartres Street and -- which would eliminate Polk Street from being destroyed. So I just wasn't sure.

And the cost of it would obviously be super cheap.

I mean, I just wasn't understanding why you elected to go that route. That was my question.

Thank you.

MR. PAT HENRY: Once again, we will have

people available after the hearing to answer any specific questions.

Matt Strohmeyer, followed by Arash Razzaghi.

MR. MATT STROHMEYER: Good afternoon. My name is Matt Strohmeyer. I'm a homeowner over in 2nd Ward.

I love living over in the area, but what we're not thinking about is all -- what we are seeing is what it's going to look like in 2040. Most every one of us in this room is going to be retired, if not dead, by that point in time.

We're not talking to the children. We are not talking to the millennials that are going to be using this. They're a different generation. They want light rails. They want public transportation. They're not into the buses and the such.

We need to be looking for what our children want, not what we're going to be wanting. We're not going to be the ones driving these roads, for the most part.

You look at other major cities: New York, Chicago. Their populations don't vary a whole lot because they have zoning and they've already been built up.

Here in Houston, we don't have zoning. That means that we have a lot of townhomes going up where there was one house. So now we have two or three houses in that amount of space.

Because of that, the population is going to continue to boom; and it's one of those things where you have to think about all the side roads that are going to be affected by this. If you don't have the main arteries being taken care of now, it will be a mess later on.

It's one of those things where we need to be thinking more about our children and not about us.

Thank you.

MR. PAT HENRY: Thank you.

Arash Razzaghi, followed by Mark Talma.

Mr. Razzaghi?

I don't see him.

Mr. Talma, to be followed -- he'll be followed by Pedro Cantu.

MR. MARK TALMA: Thank you.

Good evening. My name is Mark Talma.

I'm an architect. I worked downtown. I do not live in many of the areas that are affected by it. I live over in the Midtown-Montrose area.

However, looking at this plan, I'm curious

as to whether we have been -- this plan was worked together with urban designers or people who are community planners, because just looking, for example, at the area opposite the convention center, where the highway is being submerged, there seems to be a lot of missed opportunities as far as commercial development, as well as the way it impacts EaDo/the 2nd Ward/East End area.

I believe that there are a lot more opportunities that, if you're going to spend $7 billion to reroute a highway or submerge a highway or rework the way our traffic system works around the city, that you would want to ensure that it really benefits as many people as possible, that it's not just going to solve the issue of traffic but, more importantly, people's lives, how the city grows, you know, how does this city want to develop over the time -- over time, how does Discovery Green and the convention center want to start to interact with the communities around it, how does future development happen for the city, and perhaps spending a bit more time with those stakeholders, the communities themselves, investing, perhaps, a little bit more money into the overall planning of how these communities will interact with these roadways and how, if you're -- again, if you're going to spend this money,

this amount of money, to change these, that it is better not just for the people in the car but for the people living in the communities, for the future of Houston, for the future of downtown; and, essentially, in the end, everyone will win that way.

Thank you.

MR. PAT HENRY: Thank you.

Pedro Cantu, to be followed by Alejandro Perez.

MR. PEDRO CANTU: My name is Pedro. I represent myself and my property.

To date, I have never received any kind of mail regarding the project, whether it's from legal representation or any kind of authority who's trying to achieve it.

Last week was my first time. I heard from a neighbor.

The website is good. It's informative. This is the second, third time this project has been revised, I came to understand.

But I am opposed to something that is a depressed highway below grade. That's my opposition or I wish for different.

And that is all.

MR. PAT HENRY: Okay. Thank you.

Alejandro Perez, to be followed by Seth Hopkins.

MR. ALEJANDRO PEREZ: Good evening, everybody. My name's Alejandro Perez. I am here as a resident, a millennial, a person living to 2040.

As some of the previous commentators spoke up about, I wanted to also emphasize that I am one of the people that would like to enjoy driving through the streets and not having a freeway as a barrier to get in between communities.

I appreciate the fact this is considered and, you know, that it recognizes a problem with Houston traffic. So I -- you know, I'm excited for this; but I'd also -- like the previous architect mentioned, you know, what is the plans to work with the communities to help integrate this construction project into the city of Houston?

It's growing; and it's -- the way it's going right now, I really am having a positive outlook about it.

And, you know, I just want to emphasize once again that the bike lanes and the thoughts of Metro working with TxDOT as an opportunity -- a missed opportunity if not considered right now, that, you know, needs to be looked at.

And, you know, with what, I'll just share whatever, you know.

Thanks.

MR. PAT HENRY: Okay. Thank you.

Seth Hopkins, to be followed by Martha Meyers.

MR. SETH HOPKINS: Good evening. I'm Seth Hopkins. I'm representing Polk and Dowling Townhomes this evening.

And, first of all, thank you to TxDOT for your presentation and a lot of hard work that went into what you've done tonight.

I'm joining the chorus of people who are trying to save Polk Street.

I've lived in East Downtown for about a decade now and for most of that decade, I've either walked to work downtown or I've driven to work downtown, but the one thing that I've had in common is that I've always gone down Polk Street.

I took -- I started thinking about it and doing a little bit of research; and what I've discovered is, throughout history, the easiest way to destroy a neighborhood is to divide it.

And we in East Downtown draw a lot of our strength from downtown and we've had a lot of setbacks

through the years, but we've always survived.

I took the opportunity to introduce an exhibit into the record this evening. This is a copy of the project map. I focused in on the East Downtown area; and I added, superimposed, some data.

And what the data shows us is every black street that you see that's blacked off is a dead end.

When the Brown Convention Center was built in 1987, we lost four streets connecting East Downtown and downtown; when Minute Maid was built in '99, we lost two more streets; the Toyota Center in 2003, we lost two more streets; and the soccer stadium, we lost two more streets.

What we're left with is two connections in a ten-block area. The green one on top is Texas Street, which is one way and has a light rail impeding access. The next connection is Polk Street. It will also go by the wayside if this project as it's currently proposed is passed.

I like the idea of more capacity on our interstates. I think it's great. I think these guys have done a terrific job.

But my one request is: Save this one vital street. Let us tunnel under it, let us bridge over it, but please keep this important access between

our two neighborhoods.

Thank you.

MR. PAT HENRY: Thank you.

Next up is Martha Meyers, who will be followed by Gloria Moreno.

MS. MARTHA MEYERS: My name is Martha Meyers and I live in Lindale Park and I currently serve as the president of the Lindale Park Civic Club.

I want to thank you, Mr. Henry, because you did come to a meeting in our neighborhood. We have many of the same concerns.

Lindale Park is at the corner of 610 and 45 on the east side. You will be closing our on-ramp onto 610 from our neighborhood and requiring that we go -- if we're headed westbound, we have to cross the rail line at Fulton, already a nightmare.

I come through that intersection at least five times a week, and it backs up all the time. We need to over -- to go over the intersection at Fulton.

I also can't quite -- it looks like you've moved the southbound exit from I-45 to north of Cavalcade, to use Cavalcade rather than Link; is that correct?

That's the southbound exit, but the northbound on-ramp looks like it's south of Cavalcade.

So you've kind of cut our neighborhood, which used to be intensely accessible, and really limiting our access.

I get it.

One, thank you, because you've come to many meetings; and I really appreciate your listening.

But you're providing options to travelers at the cost of residents. The cost needs to be borne more equally.

Thank you.

MR. PAT HENRY: Thank you.

Gloria Moreno, and she will be followed by Monte Large.

MS. GLORIA MORENO: Hi. Gloria Moreno. I'm the precinct chair in Precinct 009, which is right here in this area.

And I kind of wanted to comment initially to say that I was disappointed on the staff that you have being able to answer questions. Two separate people that I spoke to could not answer questions. So that's why I'm coming to talk to you-all. Hopefully, you-all can.

The first thing I wanted to know is: Which exits will you have available to get into 2nd Ward and the East End?

Currently, we can get in off of I-10 at McKee-Hardy or at Jensen. Nobody can tell me if those exits are going to still be open.

Secondly, from 59, will they exit at Jackson? Is that going to still be available?

Because those are the only three exits.

Now, those people in EaDo, I'm sure you-all are very nice people. However, 2nd Ward is the foundation growth of where Houston started.

So we should -- when we talk about de minimis effects, what about the de minimis effect of those people living in Clayton Homes?

Right now, there's 296 apartments in Clayton Homes. Thirty-six are one-bedroom, 100 are two-bedroom, 80 are three-bedroom, and 80 are four-bedroom.

That's a lot of people that -- I know you-all are talking to the Houston Housing Authority to get these people moved out, but where are they going to go?

These are my voters. Why are the electeds not concerned about this? Why is it okay that the de minimis effect is just environmental when the de minimis effect should be on our people and our residents who live in 2nd Ward?

My family's been here for over a hundred years. We came in here -- I don't even know how long, but we put the cornerstone bricks there at Guadalupe Church at the brick church. I've been here a billion years.

I love change. It's great that I have tons of condos that are coming to my area. Gentrification is not my thing; but these people are spending 350 or 400,000. How are they going to get to the neighborhood; and, more importantly, how will we get out of the neighborhood?

Right now, I work downtown. I get in through Commerce or I go through Preston, just so I can get and finagle my way around Minute Maid and through the county system.

What access -- you-all are worried about Polk Street. What about everybody else in 2nd Ward and the East End?

The last thing is, with regards to your presentation, I can tell that your priority is on those neighborhoods that are coming from 59 North, where you have streets identified and outlined; but if you notice on this, there are no streets identified on the East End. Why?

It's not their priority, people. We have

to make our communities their priority. We should have been prominently displayed so that we can identify: How are you going to -- how do we exit, whether it be north or south, to get to the East End?

Please provide an explanation.

MR. PAT HENRY: Okay. Thank you.

Darrin? Is Darrin Willer here?

Darrin, can you get with Ms. Moreno after the hearing and answer her question, please?

MR. DARRIN WILLER: Yes.

MR. PAT HENRY: Ms. Moreno, see him right over there (indicating).

MS. GLORIA MORENO: Thank you.

Next up, Monte Large, to be followed by Tanya Debose.

Is Monte here?

(No response.)

MR. PAT HENRY: Okay. Tanya Debose.

Is Tanya here?

MS. TANYA DEBOSE: Yes.

MR. PAT HENRY: Okay.

She'll be followed by Ian Todd.

Are you Tanya?

MS. TANYA DEBOSE: I'm Tanya.

MR. PAT HENRY: Do you want to come over

here so everybody can see you?

MS. TANYA DEBOSE: Thank you.

Good afternoon. My name is Tanya Debose, and I'm the director of the Independent Heights Redevelopment Council. We are located just north of 610, right in the curve by -- 45 is our boundary, east boundary.

And some of the concern that we have in the community is not so much the amount of land that's being taken on the side, but is there some conversations happening with Flood Control?

Because part of our neighborhood has been deemed in the 100-year floodplain. We also have the 500-year.

And some of the concern is if there's a buyout of 163 homes in our neighborhood; and when I look at the map and I see the impact north of -- between Tidwell and Crosstimbers, how are you working with Flood Control to maybe even mitigate some of the things that might happen with the flooding that may even save these homes?

And so I'd really like to ask you-all to consider coming to the community, sharing with Flood Control how you might be able to mitigate the loss of homes in the neighborhood.

Thank you.

MR. PAT HENRY: Thank you.

Ian Todd, who will be followed by Laura Manion.

MR. IAN TODD: Hello. My name is Ian Todd, and I live in -- I guess it's the East End.

And I love -- I love moving into the downtown area, and I love the fact that it's growing and that we get to participate in a new lifeblood that's being brought downtown. You don't have to travel outside to have fun anymore. We have the fun right where we're at.

And I actually love this plan, too, for the fact that there are some of us that are going really fast on the expressway and there are some of us that want to stop and see the scenes on the sides and I love that idea.

However, as we've noted in so many of the speakers -- and I feel like I'm now just adding to your pile -- there are some places that are going to be cut off.

This is a blood system. Right? This is just like we would look at a human body. And you've got your arteries; and you've got your capillaries and -- you know, all the way down to the blood in your

fingerprints.

And we don't want to leave anyone out, because if you do that, you end up having to amputate it, right? You've got to cut it off.

And right now, as noted by Ms. Moreno and several other speakers, most of the East End, we only have a few access points and those who want to live downtown and -- you know, contribute to that, but some of them work -- like my neighborhoods, they work out in random parts all over the Houston area. They want to help build up our community there, but they can't do that and keep their jobs and keep that travel if they don't have access.

So I think this is a great plan; but I do think that those local connections, those little capillaries and smaller arteries coming off of it need to be connected to those civic groups, to those people to where everyone feels like they've been heard and everyone has an access to the system, because, otherwise, it is only serving the suburbs. It is only serving those who traveling in from out of town. Right? And those of us who live downtown, those of us who probably came tonight are going to be the ones that suffer.

Thank you.

MR. PAT HENRY: Thank you.

Laura Manion, and she'll be followed by Mariano Dominguez.

MS. LAURA MANION: Hi, everybody. I'm Laura Manion. I live in Idylwood, which is a small neighborhood east of downtown. I moved there about four years ago.

One of the things I really like about living on the east side is that there are lots of secret ways to get around; and I was really fascinated by the old plans that showed how east of downtown is getting blocked off, you know, first by the George R. Brown and then Minute Maid stadium.

So I think it's crucial that we keep as many of those access points into downtown open as possible.

But there's another thing that I haven't heard anybody mention yet, which is east-to-west traffic.

East of downtown is booming. There are lots of new businesses, which is great; but a lot of us still do most of our shopping, go to the doctor's office, take our kids to school west of downtown.

And, to me, it seems absurd that everybody east of downtown has to go north of downtown just to get

west to points like Allen Parkway or Memorial. While it would be great to have the Pierce Elevated as a green space, I think it really needs to be preserved to serve the east-west traffic without having to go all the way north of downtown.

Right now, the east side does not have anything comparable to Allen Parkway; and we really need something like it.

Thank you.

MR. PAT HENRY: Thank you.

Next is Mariano Dominguez, and he'll be followed by Robin Holtzer.

MR. MARIANO DOMINGUEZ: Thank you.

Mariano Dominguez, and I'm a resident here just north of Saint Arnold's.

And maybe about a year and a half ago, I think, there was a meeting down at Jeff Davis High School, which is now Northside High School; and how that happened, I'm not too sure.

But, anyways, there were some things that I was looking at that was going to affect my right-of-way [sic] to work and to-from and areas that I commute; and there was a lot of areas that were cut off. Like, the Quitman, it's now -- I can see there's now an entrance going to the freeway in the Quitman area.

There's also some other areas that I was proposing, I requested; and those things have changed also.

So it kind of concerns me now that I see there are some more people here. They are seeing that there's more areas that are cut off for them as well.

So I'm wondering how the engineering is being looked at and how it affects the people.

And I have my children, also, that's going to be -- they're going to U of H; and they're staying in this area here as well. They love this area; they don't want to move; but the concern is for them, as well, as far as how they're going to be traveling in the future.

One of the people that was requesting also saying about they're not going to be wanting to look at what the plans are today, how they're going to affect them in the future.

So my concern is -- also is the flooding, you know. The last time, I was told there was going to be pumps and backup pumps and backup pumps to those; but where is the water going to?

I mean, it's not going maybe to the Buffalo Bayou; but we already know what Buffalo Bayou turns into in the flood sections, right?

So my concern on that is: Is there more

designing engineers putting thought into that?

Because a lot of these changes are being done by the people that live in this area.

So I'm not, you know, for this -- the highway the way it is now. I remember when the 59 changed, and it didn't fix the traffic area. So I guess the spaghetti mess we're going to be having there is not going to make any difference either.

So thank you very much.

MR. PAT HENRY: Okay. Thank you.

The last speaker is Robin Holtzer.

MS. ROBIN HOLTZER: So my name is Robin Holtzer. I'm here as a person who bikes around our city and rides transmit. I drive, too.

I want to start by saying thank you to Pat Henry and the TxDOT team and to Darrin and the HNTB team, because over the years, they have been super responsive answering questions.

And the first thing I want to say to everyone here: If you have a question about this project or some piece of it that you're not sure if it works right and you want it to be better and maybe you didn't sign up to talk tonight, you still have a month to get an answer to your question and work it into the comments and try to get it addressed.

So I encourage all of you to pursue whatever that thing is that you want to make better for this project.

I want to echo two of the things I heard tonight and then add two more.

The first is there are several places where there are cross streets of this section -- of the various sections that will be bridges or maybe they'll be underpasses or maybe they'll be overpasses, but they're going to be reconstructed as part of this project.

This is the time to make sure those crossings are wide enough to be complete streets, to not just be two lanes each way for vehicles but to go ahead and include the 8 feet or 9 feet that would allow for a full-width protected bicycle crossing on those bridges. Get that right now.

The flip side of that is there are many places where there are access roads or parallel frontage roads that will be alongside the new highways; and now would be a great time to downsize those and make them calmer, neighborhood friendly streets that people are comfortable getting in and out of the adjacent businesses, and not super-fast highways, right next to the highways.

A corollary to that is I urge you guys to work with the City to model the whole traffic network. It seems like there's been modeling of how the freeway network is going to work, and I can't tell that there's been any modeling of where those interfaces are going to go for the City's local street network. It would great if we could look at that holistically to make sure we're building a system that will work.

The third thing I want to repeat -- I heard somebody say it earlier, but we urge you to coordinate with Metro.

Partly, there's an opportunity for future high-capacity transit -- for example, the inter-Katy line that Metro voters approved in 2003 -- that could connect from the east-west existing rail lines to the Northwest Transit Center, where it looks like we're going to have high-capacity high-speed rail in the future; but that's got to cross through this project.

And so making sure that we do this project in a way that that future rail link works would be great.

Also, coordinate with Metro's local bus network. Streets like Polk are really important.

And then the last thing I would say is there are wonderful lid parks proposed. In the

schematics back there, it shows them being cut up and divided up with U-turns at every block, it seems like, that don't leave very much in the way of usable green space.

And so I would urge you -- where -- Mark got away but our wonderful guy from Gensler, who talked about including urban designers to make sure that the lid parks are minimizing the crossings of them and being designed to be an intact, usable amenity for the neighborhoods that they're going to serve on either side, so that they're accessible on foot, accessible on bike, and really something special to come out of the project.

Thanks for being here.

MR. PAT HENRY: Okay. Thank you.

I just had a few more comments. We didn't mention it in the presentation. There have been a number of comments about it.

But Metro has been a coordinating agency of this project. This project began as a joint major investment study with Metro, with Metro as the lead agency.

What came out of that was the light rail line that goes up Fulton, and then they have implemented that. So we're now implementing the highway part of

that study.

Also, there is a further additional ongoing study that started about six or eight months ago on what would have to be done to the managed lanes to convert them to light rail and that's ongoing and we're working with Metro on that as well.

I would like thank you for your comments. Your comments will be included in the official public record.

It is exactly 8:23, and this additional opportunity for review and comment is adjourned.

Please drive safely.

(Off the record at 8:23 p.m.)

STATE OF TEXAS :

COUNTY OF HARRIS :

I, Meredith A. Shoemaker, a Certified Shorthand Reporter in and for the State of Texas, do hereby certify that, at the time and place stated in the caption hereto, an additional opportunity for review and comment was held and taken down by me in machine shorthand, portions of which were recorded material, and later reduced to typewritten form to the best of my ability.

Certified to by me this 23rd day of May, 2017.

_____

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