

**Appendix B – Responses to Issues Commonly Raised in Comments Received on the
Final EIS**

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COMMENTS ON THE FINAL EIS

The Final EIS was signed on August 18, 2020, made available for agency and public review on September 25, 2020 and sent to the U.S. EPA for filing the Notice of Availability, which appeared in the Federal Register on Friday, October 9, 2020. An additional notice was published in the Federal Register on October 30, 2020 extending the due date for comments from November 9, 2020 to December 9, 2020.

Over 400 written comments were received from agencies, elected officials, organizations, businesses, groups and individuals. The federal, state, county, and city agencies and elected officials that submitted comments are listed below:

- City of Houston Mayor Sylvester Turner
- City of Houston Council Member Karla Cisneros
- City of Houston Council Member Robert Gallegos
- City of Houston - Planning & Development
- East End District
- Harris County Judge Lina Hidalgo
- Harris County Commissioner Adrian Garcia
- Harris County Department of Education Trustee Amy Hinojosa
- Harris County Department of Education Trustee Richard Cantu
- Harris County Engineers Office
- Harris County Flood Control District (HCFCD)
- Harris County Toll Road Authority (HCTRA)
- Houston Independent School District Board Trustee Judith Cruz
- Metropolitan Transit Authority of Harris County (METRO)
- North Houston District
- State Representative Armando Walle
- State Representative Christina Morales
- State Representative Dennis Paul
- State Representative Garnet Coleman
- State Representative Valoree Swanson
- State Representative Will Metcalf
- State Representative Cecil Bell
- State Representative Briscoe Cain
- State Senator Carol Alvarado
- State Senator Larry Taylor
- State Senator Paul Bettencourt
- U.S. Environmental Protection Agency (EPA)
- U.S. Representative Al Green
- U.S. Representative Eddie Bernice Johnson
- U.S. Representative Henry Cuellar
- U.S. Representative Lloyd Doggett

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- U.S. Representative Sheila Jackson Lee
- U.S. Representative Sylvia Garcia

All comment submittals received were reviewed and considered in the development of the Record of Decision (ROD). Responses to the issues and concerns raised most frequently by commenters are included below. The comments are summarized by topic.

Displacements and Housing

Comments: Several comments raised concerns about the number of residential and business displacements, particularly in low-income/high minority areas, and whether those who would be affected understand their rights and the resources available to protect those rights.

Response: The NHHIP is a large and complex, 26.4-mile long undertaking in a city that is predominantly minority and along the length of the Selected Alternative, the majority of the adjacent residential areas include minority and/or low-income populations. The Selected Alternative will require new right-of-way, which will displace single- and multi-family homes, schools (2), places of worship (5), businesses, billboards, and other structures.

TxDOT is going beyond its normal acquisition and relocation procedures to provide counselors who will work with the affected on a one-on-one individualized basis to understand each resident's needs and provide enhanced relocation services. TxDOT is already working to acquire some properties. TxDOT will implement a relocation-specific program on the project to help property owners as well as tenants with funding and counseling. Section 5.1.2 of the Community Impacts Assessment Technical Report (Appendix F to the Final EIS) includes information about standard and supplemental assistance that TxDOT will provide to owners and residents who will be displaced.

It is important to note that residents will not be displaced from homes until adequate replacement housing has been identified. Residents in subsidized or non-subsidized housing will receive assistance in finding comparable housing. Comparable housing is decent, safe, sanitary, functionally equivalent to their present homes and accessible to employment, public and commercial facilities.

The package of relocation assistance for those displaced by this project has been developed based on meetings with community and organization leaders whose input helped TxDOT understand the needs and concerns of the communities in the NHHIP area. As a result, the services TxDOT is offering those displaced by this project go above and beyond what are mandated by law and are sensitive to the unique characteristics of displaced areas, residents and business owners. Each displaced resident and business owner will be handled on an individualized basis that takes into consideration that person's circumstances.

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Comments: Several comments suggested that TxDOT should not displace Clayton Homes or units at Kelly Village and/or indicated that the Final EIS does not recognize the social impact of the loss of this housing.

Response: TxDOT recognizes the impacts of the NHHIP to the Clayton Homes and Kelly Village properties and the residents of these communities. In 2014, TxDOT began coordinating with representatives of the Houston Housing Authority (HHA) as part of ongoing outreach during the early phases of project development and continues to work closely with HHA to develop new housing to help address displacements at Clayton Homes and a portion of Kelly Village. The Final EIS documents the analysis of the effects of the NHHIP, proposed mitigation measures for adverse impacts, and coordination with HHA (Final EIS and Appendix G).

Actions taken to mitigate impacts to Clayton Homes and Kelly Village are focused on ensuring that displaced residents of both communities are provided with multiple relocation options resulting in minimal disruptions to their lives. This includes eliminating the need to move multiple times, minimizing interruption to current employment and allowing children to remain in the same school district.

TxDOT will make efforts to ease the burden of relocating residents living in properties owned by the HHA that will be directly impacted by this project. At Clayton Homes, 100% of the units will be relocated including 112 units that have been uninhabitable since Hurricane Harvey flooded them. TxDOT and HHA have entered into an agreement where HHA, funded by TxDOT, will construct replacement housing for displaced residents. Kelly Village residents will also have similar options.

Through an occupancy agreement with TxDOT, current residents will not be required to relocate until such time that the land currently occupied by Clayton Homes is needed for construction of the NHHIP. This occupancy agreement is intended to provide certainty that Clayton Homes residents will only need to move once—from Clayton Homes to the relocation option of their choosing. Residents of Clayton Homes will be offered multiple relocation options: Housing Choice Voucher Program (formerly Section 8), to move to areas of higher economic opportunity; or new replacement housing, with current residents given first right to reside in the new replacement housing units once constructed. The replacement housing units will be provided through a combination of replacement housing, public/private partnerships and rental programs for an optimal fit for participants in the HHA assistance programs. All replacement housing will be constructed within the city limits of Houston, Texas. The current HHA plan will be to reestablish 70 percent of the units within a one-mile radius of the current Clayton Homes location. HHA is committed to 100 percent of the units being constructed within five years from the closing date of the purchase agreement between TxDOT and HHA. All relocation services will be coordinated by HHA in accordance with the Uniform Relocation Act and reimbursed by TXDOT.

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In a similar agreement, currently being negotiated with HHA and pending approval from HUD, TxDOT will purchase a minimum of 50 Housing Units and all or a portion of the adjacent community park at Kelly Village. Displaced residents of Kelly Village will be assigned relocation specialists located onsite to assess resident's needs and provide a smooth transition into other housing options. Displaced residents of Kelly Village will be offered a Housing Choice Voucher or be given priority to reside in other HHA units.

Additionally, during the property negotiations HHA requested that TxDOT remove four additional buildings to allow more green space at Kelly Village, as mitigation for impacts to the private park for Kelly Village residents.

This agreement with the HHA prioritizes efforts that minimize disruptions to residents during the transition. Having begun this transition process as early as possible will allow time for new affordable housing construction and reduce the need for residents to move more than once, avoid interruption of current employment, and maintain children within the same schools and school districts.

TxDOT's goal is to help households and individuals maintain their current social support networks. TxDOT recognizes that disruptions associated with moving can affect a resident's access to a strong social structure built over time. This can include community activities (church and school) and other regular routines such as grocery shopping, childcare, and medical services. Individual circumstances will vary, but minority, low-income and limited English proficiency populations may be especially vulnerable to such impacts. TxDOT will continue to work diligently to try to prevent such effects from occurring, and will implement a number of mitigation measures related to this issue including enhanced relocation services.

Comments: Several comments raised concerns about impacts of the proposed project to affordable housing and asked about financial and other assistance for residents who would be displaced.

Response: As TxDOT recognized in the Community Impacts Assessment Technical Report (Appendix F to the Final EIS), Houston is facing population growth; many people are moving to the area and more are expected in the future. The region is also facing an affordable housing shortage; many affordable and public housing developments have been affected by Hurricane Harvey, and the remaining affordable housing stock is currently too sparse to meet the growing demand. As TxDOT also recognized in the Final EIS and Community Impacts Assessment Technical Report, the NHHIP will have an impact on the supply of affordable housing in the project area. To mitigate these housing market impacts, TxDOT will provide supplemental financial assistance to qualifying owners in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act. This supplement can be applied to the incidental costs of the purchase of a new residence such as loan-related fees. Also, enhanced individualized advisory services will be provided to ease the transition and relocation process. Professionals will work with each resident on a case-by-case basis to find affordable replacement housing as close as possible to the home a

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resident is leaving. This support will be available until the resident is settled in their new home.

TxDOT is committing \$27 million to support affordable housing initiatives in the neighborhoods most affected by the project in addition to the individual acquisition and relocation compensation provided to homeowners, renters and businesses that would be displaced. This commitment will provide financial assistance to support specific affordable housing initiatives. The eligible initiatives include construction of affordable single-family or multi-family housing, and support of programs that provide assistance and outreach related to affordable housing. Priority neighborhoods that would receive this assistance include Independence Heights, Near Northside, Greater Fifth Ward, and the Greater Third Ward. TxDOT is in discussions with a non-profit affordable housing organization—the Texas State Affordable Housing Corporation (TSAHC)—to serve as the administrator for disbursement of the funds. TxDOT has begun discussions with the TSAHC regarding its potential role in implementing this initiative. It is important to note that this \$27 million affordable housing commitment is separate and apart from, and is above and beyond the funding for the acquisition, relocation and enhanced relocation services for the directly impacted residential properties.

Residential displacements, environmental justice considerations, and affordable housing are discussed for each super neighborhood in the Final EIS (Appendix F). Affordable housing trends are also discussed in the Final EIS (Appendix Q).

Air Quality

Comments: Several comments raised concerns about the air quality effects of the proposed project, including during and after construction of the project.

Response: TxDOT has addressed the direct, indirect and cumulative air quality effects of the proposed project in accordance with applicable regulations (23 CFR §771, 40 CFR §93, and 40 CFR § 1502) and in accordance with current Federal Highway Administration (FHWA) and TxDOT guidance on compliance with the Clean Air Act (CAA) and National Environmental Policy Act (NEPA) in regards to potential project effects on air quality. TxDOT evaluated air quality impacts of the NHHIP by completing the conformity process for ozone as well as conducting two air quality studies – a carbon monoxide (CO) traffic air quality analysis and a mobile source air toxics (MSAT) quantitative analysis. Since the area is nonattainment for ozone, the conformity process is the federally required mechanism to ensure the project complies with applicable Clean Air Act requirements. FHWA approved the project level conformity determination for NHHIP on June 25, 2020. Both of the other studies address applicable NEPA requirements and are in Appendix C to the Final EIS. A summary of the air quality analysis is included in the Final EIS Section 3.5.

In the first study, CO concentrations through the year 2040 were projected to remain below existing national standards, along any segment of the proposed project. The CO modeling

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indicated that in 2035 (the modelled year of completion of the project), even the worst-case CO concentrations are projected to be well below the applicable National Ambient Air Quality Standards (NAAQS) for CO. The NAAQS are set by the Environmental Protection Agency (EPA) at levels which protect public health, including the health of vulnerable populations.

The second study was a MSAT quantitative analysis that evaluated nine compounds identified by the EPA as cancer-risk drivers or contributors and non-cancer hazard contributors. Study results indicated that MSAT are projected to decrease by 72 percent from 2018 through 2040 due to EPA's vehicle and fuel regulations coupled with fleet turnover.

With regard to the specific comment that TxDOT should have modeled MSAT concentrations and exposure near roadways, TxDOT provided an explanation regarding why such an exercise would not be useful, see pages 6 through 9 of the Mobile Source Air Toxics (MSAT) Quantitative Technical Report (FEIS Appendix C). As TxDOT explained, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure are limited. In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There is also no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds. There is also a lack of national consensus on an acceptable level of risk. In short, information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

For all of the above reasons, and additional ones provided in Appendix C to the FEIS, TxDOT does not conduct MSAT dispersion modeling for any highway projects. Note that since MSAT are evaluated at the project level under NEPA, FHWA is the appropriate federal agency to provide guidance for how to address MSAT under NEPA and they have done so in their interim MSAT guidance. TxDOT conducts quantitative MSAT emissions analyses for projects that meet certain criteria, such as the NHHIP, as specified by FHWA interim MSAT guidance. For the NHHIP, the quantitative MSAT analysis concluded that both the Build and No Build Alternative in the interim and design years are expected to be associated with lower levels of MSAT emissions compared to the base year. There is a minor increase in MSAT emissions expected between the No Build and Build Alternatives for both the interim and design years, due to slightly higher vehicle miles traveled (VMT). Under all alternatives,

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MSAT levels are likely to decrease over time due to nationally mandated cleaner vehicles and fuels.

TxDOT is also developing a program to provide weatherization and energy efficiency measures for qualifying low-income single-family residences. Weatherization refers to improvements to a residence to make it more resistant to certain outdoor elements.

Comments: Several comments recommended that TxDOT test air quality before, during, and after construction of the project.

Response: TxDOT will fund ambient air monitoring for a minimum of 5 years near the right-of-way at one location each in Segment 3 and Segment 2 during construction. Monitoring results will be compared to health-based NAAQS limits and applicable air toxins health risk thresholds. TxDOT is consulting with TCEQ and EPA on the development of this program, including risk controls, if needed.

Monitoring results will be provided on a publicly accessible website with an option for members of the public to receive monitor data notifications. Monitoring results will be compared to health-based NAAQS limits and EPA air toxics health risk thresholds. TxDOT is consulting with TCEQ and EPA on the development of this program, including risk controls, if needed.

Bicycle and Pedestrian Facilities

Comments: Several comments addressed topics related to bicycle and pedestrian accommodations. Issues included requests for improving bicycle and pedestrian connections that are currently disrupted by the freeway, adding bike lanes instead of shared vehicle/bike lanes, not decreasing the size of the existing areas that are used for bicycles and pedestrians, and reducing speeds along the frontage roads. Some comments expressed support for the proposed improvements to bicycle and pedestrian accommodations in the NHHIP project area.

Response: In accordance with the Policy Statement on Bicycle and Pedestrian Accommodations Regulations and Recommendations by the U.S. Department of Transportation (2010), TxDOT is including bicycle and pedestrian accommodations in the proposed project, taking into consideration existing and anticipated bicycle and pedestrian facility systems and needs, and linkages to transit stops and corridors, including future changes to METRO transit systems. The proposed enhancements to connectivity in the project plans are consistent with many local government and neighborhood plans that are increasingly emphasizing walkability as a part of overall neighborhood livability. The NHHIP will incorporate the City of Houston Bike Plan on city streets within the project area.

TxDOT is proposing bicycle and pedestrian enhancements at all crossings and connections to current pedestrian elements with the NHHIP. These enhancements were developed in

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partnership with the City of Houston Department of Public Works and Department of Planning. This partnership produced the design concept of pedestrian-bike realm, which is comprised of all or a varying combination of three elements, a buffer space, bike lane and sidewalk, all separate from the vehicle travel lane and behind a protective curb on both sides of the cross-street. TxDOT and the City have identified the application of the pedestrian-bike realm on the 44 Downtown streets that cross the freeways in Segment 3. TxDOT is coordinating with the City to continue this partnership for the application of the pedestrian-bike realm on the streets that cross the freeways in Segments 1 and 2. This increased width will create a buffer between the bicycle and pedestrian travelers and vehicle traffic, which is an important safety design feature. Accessible sidewalks will also be constructed and connected along frontage roads. Although the December 2019 schematic design shows shared use lanes along some frontage roads, during detailed design TxDOT will evaluate the placement of a bike lane behind a protective curb and not in the lane shared with a motor vehicle. TxDOT is currently consulting with the Texas A&M Transportation Institute (TTI) about the best bicycle facility to replace the proposed 15-foot wide shared use vehicle/bike lanes on frontage roads.

TxDOT will coordinate with schools in the project area regarding safe routes for school children traveling on foot, including the potential for additional pedestrian enhancements.

TxDOT consulted with TTI and developed a design toolbox of bicycle and pedestrian improvement options for the NHHIP. These options are safe, accessible and comfortable accommodations for bicyclists and pedestrians. The design for particular locations will be developed and refined at the detailed design phase to address site-specific conditions. Illustrations of options are shown in the Pedestrian & Bicyclist Accommodations white paper that can be accessed on the NHHIP website at http://www.ih45northandmore.com/NHHIP_Project_Facts_And_Highlights.aspx

All intersections will be designed in compliance with the Americans with Disabilities Act of 1990 (ADA) per federal requirements. TxDOT will coordinate with the City of Houston, Independent School Districts, and METRO during project design to minimize temporary and permanent impacts to bicycle and pedestrian facilities. Additionally, TxDOT will accommodate or replace existing trails that are impacted by the proposed project, as well as allow for planned future trails as shown on the City of Houston Bike Plan.

In the instance of any modifications to existing or proposed hike and bike facilities, TxDOT will coordinate with the City of Houston, Houston Parks Board, and other agencies or organizations to have the same level connectivity as the existing and planned future facilities provide.

Although pedestrian and bicycle access may be temporarily impacted during construction, the numerous improvements being made will allow greater access once completed.

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Additionally, TxDOT will work with METRO to keep potential service disruptions to a minimum during construction and incorporate transit improvements with the NHHIP.

Comments: Several comments raised concerns about the impact of the Polk Street closure between East End and Downtown and requested TxDOT create a continuous high comfort bikeway to the Columbia Tap Trail.

Response: Untangling the freeway systems around Downtown to achieve the crash reduction and mobility improvements required the design team to place US 59/I-69 and I-45 below ground between Commerce Street and Spur 527. One of the outcomes of this was not being able to maintain Polk Street as a continuous street between EaDo/East Downtown and Central Business District (CBD) of Downtown. To restore and improve connectivity in this area, a continuous southbound city street (Hamilton Street) that was previously cut off when the George R. Brown Convention Center was built, will be restored with the NHHIP. Polk Street will connect to this restored Hamilton Street and will allow for continuous flow back to Polk Street by using the Lamar Street overpass. The additional distance required to travel from east of the freeway to west of the freeway is approximately 1,200 feet (1/4 mile), while the west to east movement is an additional 1,800 feet (1/3 mile).

Despite this minor increase in distance, the travel time and overall signal delays will be reduced at the Polk Street/St. Emanuel Street intersection when compared to the existing configuration. These improvements are a result of removing a traffic signal phase in the Polk Street/St. Emanuel Street and Polk Street/Hamilton Street intersections, which allows more green time to be provided to the through movements along St. Emanuel Street and Hamilton Street.

TxDOT has proposed mitigation measures with the NHHIP to address bicycle and pedestrian travel along Polk Street. The proposed mitigation measures include pedestrian-bike realms along (i) St. Emmanuel Street, (ii) Walker Street across the proposed cut-and-cover cap and (iii) new Hamilton Street. These are described below.

Proposed Pedestrian and Bike Route along St. Emmanuel Street

The NHHIP proposes a pedestrian and bike realm along St Emmanuel Street, which will connect to existing bikeway on Polk Street on the “East Downtown side” and continue to the proposed pedestrian-bike realm on Walker Street across the cut-and-cover cap. This pedestrian-bike realm will have a width of 17-feet, which includes a buffer between the traffic lanes and pedestrian-bike realm.

Proposed Pedestrian-Bike Route along Walker Street across the cap

In recognition of the value of the Columbia Tap Trail, TxDOT is proposing a dedicated pedestrian-bike realm (no vehicles across the cap) on Walker Street as it crosses the cap. Walker Street, as it approaches the CBD from EaDo/East Downtown, will T-intersect with

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St. Emanuel Street for automobile traffic and then provide a dedicated pedestrian-bike realm across the cap. The pedestrian-bike realm across the cap on Walker Street will connect with the proposed pedestrian-bike realm on New Hamilton Street which is on “CBD side”. This pedestrian-bike realm across the cap will have a width of 34-feet.

The NHHIP pedestrian-bike realm across the cap on Walker Street will connect to existing sidewalks and the existing on-street bike lane on Walker Street heading east away from the CBD towards the Columbia Tap Rail-Trail just east of Emancipation Avenue.

Proposed Pedestrian-Bike Route along New Hamilton Street

The NHHIP proposes a pedestrian-bike realm along New Hamilton Street and will connect to existing bikeway on Polk Street at the south end of the George R. Brown Convention Center on the “CBD side”.

The pedestrian-bike realm along New Hamilton Street will be a minimum width of 22 feet and a maximum width of 30 feet behind a protective curb. The pedestrian-bike realm includes a buffer space between the traffic lanes of New Hamilton Street and the pedestrian and bike pathways.

Comments: Several comments requested that the proposed project consider and accommodate the City of Houston Bike Plan.

Response: TxDOT coordinated with the City of Houston to incorporate the City of Houston Bike Plan and desired bicycle/pedestrian accommodations on city streets. The intersection designs will be further refined during detailed design, in coordination with the City of Houston. City streets that cross or connect to NHHIP will follow the City of Houston design standards and Context Sensitive guidelines. National Association of City Transportation Officials (NACTO) criteria was considered for this project, and as such, high comfort pedestrian and bicycle facilities (known as “pedestrian-bike realms” for the NHHIP) are being implemented in the design where feasible. TxDOT partnered with the City of Houston to develop the design concept of the pedestrian-bike realm for the NHHIP. TxDOT and the City have identified the specific application of the pedestrian-bike realm on the 44 Downtown streets that cross the freeways in Segment 3, that includes separate and adjacent sidewalks and bike paths. This increased width will create a buffer between the bicycle and pedestrian travelers and vehicle traffic, which is an important safety design feature. TxDOT is coordinating with the City to continue this partnership for the application of the pedestrian-bike realm on the streets that cross the freeways in Segments 1 and 2. Accessible sidewalks will also be constructed and connected along frontage roads.

As mentioned earlier, although the December 2019 schematic design shows shared use vehicle/bike lane along some frontage roads, during detailed design TxDOT will evaluate the placement of a bike lane behind a protective curb and not in the lane shared with a motor vehicle.

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Drainage and Floodplains/Flooding

Comments: Several comments indicated that the drainage analysis for the proposed project was not complete and did not account for the Atlas 14 rainfall data, that the NHHIP would cause more flooding, and advised that TxDOT should coordinate with the Harris County Flood Control District (HCFCD).

Response: As explained in Sections 3.8.3.2 and 3.8.3.3 of the Final EIS, TxDOT has completed detailed drainage studies for Segments 2 and 3. These detailed drainage studies analyzed Atlas 14 data for the 100-year storm event. As explained in Section 3.8.3.1 of the Final EIS, TxDOT has completed a preliminary drainage study for Segment 1, and will prepare a detailed drainage study for Segment 1 during detailed design using the Atlas 14 data.

The project will collect, convey and detain, where necessary, the storm water runoff not only from the highways but also from adjacent properties that are currently draining to the highways. This new infrastructure will help address many drainage issues in the vicinity of the project. TxDOT understands that the highway infrastructure is integrated into the overall drainage pattern of the city. TxDOT is working closely with the City of Houston and the HCFCD to identify opportunities to develop partnerships that will leverage the roles and responsibilities, as well as the resources of each entity to deliver drainage improvements throughout the system.

A detailed hydrologic and hydraulic study will be performed for the proposed project during the final design phase to determine the appropriate locations and sizes of detention ponds, pump stations, bridges, culverts, or other drainage structures that will be required. Federal, state, and local authorities will have the opportunity to review the hydrologic and hydraulic study to verify that appropriate measures have been proposed such that the project will not increase the flood risk to adjacent properties. Bridges, culverts, and cross-drainage structures will be designed to FHWA and TxDOT standards for design events up to the 100-year storm event. The drainage design will be required to demonstrate that the project will 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). Best management practices (BMPs), such as the construction of storm water detention facilities, will be incorporated into the final design of the proposed project to offset increased flows from areas of impervious surface. Construction of the proposed project will be in compliance with county and local floodplain guidelines and policies, including use of updated precipitation-frequency estimates during project design.

TxDOT will design, construct, and maintain storm water detention ponds so that they provide the design capacity and detention and drain properly. The final drainage and mitigation analyses performed during detailed design will be reviewed by regulatory agencies to all elements of this project will meet or exceed the most recent drainage system guidelines set out by the HCFCD.

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Indirect and Cumulative Impacts

Comments: Several comments indicated that the Final EIS did not adequately document the potential indirect and cumulative effects of the proposed project, including the effects of traffic on local streets, loss of property tax base, impacts on bayous, impacts to neighborhoods, and other issues.

Response: TxDOT has evaluated the potential indirect and cumulative effects of the proposed project in accordance with NEPA and FHWA guidance, regulations and standards and the analyses that are documented in the Final EIS were prepared in accordance with TxDOT and FHWA requirements.

Mitigation

Comments: Several comments indicated that TxDOT should continue to identify ways to minimize and mitigate project impacts, provide more details about mitigation for adverse impacts, and provide additional mitigation commitments in the ROD.

Response: During development of the proposed project, efforts were made when selecting and analyzing the project alternatives and when identifying the Selected Alternative to avoid or minimize adverse effects to the natural and human environments. When impacts are unavoidable, steps were taken to minimize and mitigate impacts. According to Council on Environmental Quality (CEQ) regulations (40 CFR 1508.20), mitigation efforts include:

- Avoiding an impact altogether;
- Minimizing the impact by limiting the degree or magnitude of the action;
- Rectifying the impact by repairing, rehabilitating, or restoring the resource;
- Reducing or eliminating the impact over time by preservation and maintenance activities; and
- Compensating for the impact by replacing or providing substitutes to the impacted resource.

Substantial efforts were made when identifying the Selected Alternative to avoid or minimize adverse effects where possible. Where impacts to resources will require coordination and permitting, processes in accordance with state and federal regulations will be followed with the appropriate jurisdictional agency. See the project technical reports in the Final EIS for detailed discussions of efforts to avoid, minimize, and mitigate impacts to environmental resources, and Section 7 Environmental Permits, Issues, and Commitments in the FEIS. Mitigation discussions and commitments for impacts to community resources are presented in Tables A-1, A-2, and A-3 in Appendix A to the Final EIS and are discussed in detail in the Community Impacts Assessment Technical Report (Appendix F to the Final EIS).

The design of the NHHIP remains open to future design changes and improvements during the post-ROD final design phase. Efforts to further refine and enhance the NHHIP and

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further minimize its impacts will be undertaken during the detailed final design phase, which is the next step in project development.

Mobility and Traffic

Comments: Several comments indicated that the traffic analysis should be included in the Final EIS or made available for review. Concerns included travel time analysis, congestion, commute times during the construction phase, and impacts on local traffic.

Response: Traffic projections used for the proposed project are based on the 2035 Regional Transportation Plan (RTP) and the 2040 RTP, developed by the Houston-Galveston Area Council (H-GAC), which is the designated Metropolitan Planning Organization for the eight-county Houston-Galveston Transportation Management Area. The traffic analyses relating to the project also include the following:

- 2004 North-Hardy Planning Studies – Alternatives Analysis Report (Transit Component)
- 2005 North-Hardy Planning Studies – Alternatives Analysis Report (Highway Component)
- 2014 I-45/Hardy Corridor Study Update, which utilized the 2015 and 2035 H-GAC travel demand models
- 2018 NHHIP Alternatives Analysis: Engineering and Traffic Criteria Report
- 2018 TxDOT list of Top 100 congested roadways in Texas developed by the Texas A&M Transportation Institute (TTI)
- 2018 American Transportation Research Institute’s Top Truck Bottleneck List

The Interstate Access Justification Report (IAJR) includes the most recent traffic analysis for Segments 2 and 3. Traffic demand for peak periods and use in operational analysis were developed by inventorying and reviewing data collection, developing base year traffic (2018) with data and demand review, reviewing H-GAC travel demand model (TDM) scenarios and historical growth, developing growth rates for appropriate segments and traffic movements, and applying to base year traffic for future 2025 and 2045 peak period traffic projections. Vehicle diversions were considered and applied between No Build and Build scenarios based on corridor improvements, vehicle routes, and H-GAC TDM forecast scenarios. The microsimulation traffic models, used for speed and travel time performance measures, maintained consistent overall vehicle inputs to produce a valid direct comparison from No Build and Build model outputs.

These analyses are available on the www.ih45northandmore.com website.

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Comments: Several comments raised concerns about mobility between downtown and the East End.

Response: TxDOT closely coordinated with the City of Houston to optimize the local street network connectivity in Segment 3, including the cross streets between Downtown and the east side of downtown. One of the key benefits of the project is the restoration of a continuous southbound street parallel to the highway between Commerce and Leeland Street. This restored and improved street (noted as Hamilton in the December 2019 schematic) will reestablish connectivity of four east/west streets that were severed when the George R. Brown Convention Center was constructed (Dallas, Lamar, McKinney, and Walker) and it will improve access between Downtown and areas to the east (East End and Third Ward).

Comments: Several comments questioned whether added lanes would relieve congestion, suggesting that adding lanes encourages Houston drivers to continue to rely on single-occupancy vehicles as the primary form of travel, and mass transit should be added in place of additional car capacity.

Response: The NHHIP provides options to reduce single occupant vehicle driving by replacing the existing reversible single-lane transit-high occupancy vehicle (HOV) lane with four managed express (MaX) lanes (two lanes in each direction) on I-45 from Beltway 8 North to Downtown, for use by transit vehicles, buses, carpools, and future autonomous vehicles, as well as improved pedestrian and bicyclist facilities. This expansion will replace the existing discontinuous reversible transit-HOV lane (open southbound in the AM peak hours and open northbound in the PM peak hours) with 2-way, continuous 24-hour, 7-days-a-week operations. The proposed MaX lanes will accommodate and complement METRO's transit service and future plans.

The Selected Alternative for the NHHIP is designed to enhance safety, create additional roadway capacity to manage congestion, incentivize transit and promote ridesharing, and improve mobility and operational efficiency in the project area. Existing and future congestion, presented with volume to capacity ratios (and level of service), are discussed in Section 1 of the Final EIS. Traffic congestion on the highways in the project area will increase if no improvements are made. TxDOT's directive is to provide transportation solutions in a way that provides citizens reliability irrespective of their mode choice. TxDOT's policy directive is not to implement solutions that force modal change or restrict choice, but rather it is to address mobility in an environment where citizens continue to have modal choices.

Comments: Several comments suggested that the traffic projections should be revised because of COVID-19 impacts to traffic.

Response: The traffic projections utilized for the traffic analysis for the NHHIP project were developed based on H-GAC's regional travel demand model. The forecast year was 2040 and the traffic data was the best available at the time of the NHHIP study. In September 2020, H-GAC released a report on some of the immediate impacts of COVID-19 on traffic volumes, patterns, and transit use in the Houston-Galveston region. <https://www.h-gac.com/getmedia/9b2281ce-b285-427a-af68-112c32b23964/Travel-Patterns-Newsletter->

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[Article-September-2020-Update.pdf](#). The time period of H-GAC’s analysis was approximately March 2020 to mid-September 2020. Regionally, pre-pandemic travel volumes declined by up to 75 percent of baseline volumes through the end of April, then generally increased and after Labor Day through the remainder of September, travel volumes had hovered around 80 percent of pre-COVID volumes. Without certainty of the duration of the pandemic and its long-term effects to traffic volumes and travel patterns, it is not prudent to revise the traffic projections for the NHHIP at this time.

Noise

Comments: Several comments addressed the proposed locations and design of noise barriers and aesthetic walls.

Response: The traffic noise analysis was conducted in accordance with TxDOT’s (FHWA-approved) Guidelines for Analysis and Abatement of Roadway Traffic Noise (TxDOT 2011) and Reasonable Cost Proposal for 2018 Noise Policy. In all, 76 noise barriers are proposed for the Selected Alternative: 7 barriers in Segment 1, 12 barriers in Segment 2, and 57 barriers in Segment 3. The location, length, and height of each noise barrier was determined based on FHWA and TxDOT noise reduction and cost-effectiveness criteria, as discussed in Section 3.6 of the Final EIS and Appendix I: Traffic Noise Technical Report. Any subsequent project design changes may require a re-evaluation of preliminary noise barrier proposals. The final decision to construct the proposed noise barriers will not be made until completion of the proposed project design, utility evaluation, and polling of adjacent property owners.

TxDOT is also proposing “aesthetic walls” in some areas. TxDOT is proposing this mitigation to further offset adverse effects in environmental justice areas. These walls are proposed where they will be effective for noise mitigation (reduce traffic noise levels by at least 3 dB(A)) in locations in the TxDOT right-of-way where they will not restrict access to the property, not impede drainage, and otherwise be constructible. These locations may change during final design of the facility. Ultimately, the decision whether to construct the walls will be decided by a vote of the adjacent property owners, similar to the process for noise barriers.

Comments: Several comments addressed traffic noise effects and the infeasibility of applying noise abatement in many cases.

Response: The Final EIS explains the recommended feasible and reasonable mitigation for predicted traffic noise impacts based on TxDOT’s (FHWA-approved) Guidelines for Analysis and Abatement of Roadway Traffic Noise (TxDOT 2011) and Reasonable Cost Proposal for 2018 Noise Policy. See Section 3.6 of the Final EIS and Appendix I: Traffic Noise Technical Report. The Traffic Noise Technical Report discusses specific reasons why noise barriers would not be reasonable and feasible at specific locations. At this time, 76 noise barriers are proposed for incorporation into the final design of the project. The proposed locations may change during final design of the facility. TxDOT will hold public noise workshops to solicit the

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viewpoints of property owners and adjacent to the proposed barriers and allow the property owners to vote as to whether to construct the proposed barriers.

In addition to noise barriers, TxDOT is providing the opportunity for adjacent property owners in environmental justice (high minority and low-income) areas to receive noise mitigation even if they did not otherwise qualify for noise mitigation under TxDOT's noise guidelines or FHWA criteria. These walls are described as "aesthetic walls" and will be similar to the noise barriers that TxDOT constructs in the Houston area. The proposed walls could also serve as visual barriers should the adjacent property owners want a visual screen between the property and the highway. TxDOT is proposing this mitigation to further offset adverse effects in environmental justice areas. These walls are proposed where they will be effective for noise mitigation (reduce traffic noise levels by at least 3 dB(A)) in locations in the TxDOT right-of-way where they will not restrict access to the property, not impede drainage, and otherwise be constructible. The proposed locations may change during final design of the facility. As with noise barriers, the decision whether to construct the walls will be decided by a vote of the adjacent property owners, similar to the process described for the noise barriers.

Neighborhood Impacts

Comments: Several comments raised concerns about the impacts of the project to neighborhoods, and the evaluation of the impacts.

Response: The analysis of community impacts and impacts to neighborhoods included: displacements; community cohesion; business impacts and economic conditions; parks, open space and hike and bike trails; mobility and accessibility; noise; air quality and community resources; safety; environmental justice; and limited English proficiency. More detailed information about the analysis of air quality, historical resources, traffic noise, and visual impacts is included in separate technical reports that are appendices to the Final EIS. Feedback received during the public engagement period after the Draft EIS was issued resulted in project design changes as well as new information on the project's environmental concerns, impacts, and mitigation. This input resulted in changes to the EIS, which are reflected in the Final EIS and associated technical reports. Design changes made after release of the Draft EIS are detailed at Section 2.3.5 of the Final EIS.

Specific impacts and mitigation measures for impacts to neighborhoods are detailed in the Final EIS and the Community Impacts Assessment Technical Report (Appendix F to the Final EIS). TxDOT will implement the commitments and mitigation as part of the project development process and into construction as applicable. Where implementation measures may be performed by a third party (e.g., construction contractor), TxDOT will direct the implementation through contracting provisions, specifications and agreements. During construction, TxDOT will oversee and monitor the performance and effectiveness of the mitigation measures.

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Need and Purpose

Comments: Several comments raised concerns about the purpose and need for the proposed project that is documented in the Final EIS.

Response: Section 1 of the Final EIS describes the purpose of the proposed project and documents the needs for highway transportation improvements in the I-45 project area. Section 2 of the Final EIS discusses the development of alternatives and documents that the alternatives were developed based on the specific goals for the project.

In 2011, following the FHWA’s approval of a draft Need and Purpose Statement and a Draft Agency Coordination and Public Involvement Plan, TxDOT and FHWA began preparation of the EIS to evaluate alternatives to meet the proposed project’s goals in the I-45 and Hardy Toll Road corridors. The need and purpose for the project was developed based on findings of the North-Hardy Planning Studies and refined during analyses for the EIS. Pursuant to the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), TxDOT and FHWA, as joint lead agencies when the NHHIP EIS was initiated, involved Cooperating and Participating agencies and the public in a formal scoping process for the EIS. Through agency and public scoping meetings, agency and public meetings, and other stakeholder meetings, the federal, state, and local agencies and the public have been afforded the opportunity to participate in defining the need for and purpose of the proposed project; the range of alternatives to be considered for the proposed project, including input on preliminary design concepts; environmental and other factors or issues to be considered; and the process and methods for evaluating the alternatives. The team analyzed and evaluated the alternatives using engineering, traffic, and environmental criteria to determine which alternative would best meet the project’s need and purpose.

Furthermore, the Transportation Policy Council (TPC), the policy board of the 8-county metropolitan planning organization known as Houston-Galveston Area Council initially adopted in 2005 portions of the NHHIP in the federally required 2035 RTP. Since then, the TPC has adopted all portions of the NHHIP in the federally required 2040 and 2045 RTPs in 2015 and 2019, respectively.

Project Design

Comments: Several comments requested additional information about the proposed structural caps in Segments 2 and 3 of the NHHIP.

Response: The Selected Alternative provides structural “caps” over portions of the depressed lanes of the project in these areas:

- Over I-45 from north of Cottage Street to south of N. Main Street (Heights/Near Northside area)

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- Over I-45 and US 59/I-69 from approximately Commerce Street to Lamar Street (George R. Brown Convention Center/EaDo area)
- Over US 59/I-69 from approximately Main Street to Fannin Street, and in the area of the Caroline Street/Wheeler Street intersection (Midtown/Museum District area)

These areas could be used as open space. The open space option is conceptual only and would be separate from TxDOT's roadway project. Future use of the structural cap area for another purpose would require additional development and funding by entities other than TxDOT. TxDOT will continue to coordinate with the City of Houston and the stakeholders committed to developing enhancements for each of the highway caps to ensure safe pedestrian-bicycle access across adjacent streets is incorporated into the detailed design.

Comments: Several comments raised concerns about eliminating the N. Main Street off-ramp, relating to movement or safety of vehicles, pedestrians, or cyclists trying to travel through adjoining neighborhoods.

Response: The existing southbound exit ramp to N. Main Street is not included in the project design due to design standards. The existing ramp could not be maintained without additional right-of-way and closure of Cottage Street to vehicular traffic across I-45. Preliminary design for a southbound exit ramp near Patton Street is under review; adding this ramp will be further explored during the detailed design phase.

Comments: Several comments requested that Nance Street continue from the west to east sides of the proposed project.

Response: The proposed design provides east-west connectivity along I-10 with the proposed Rothwell Street and Providence Street connections. The new east-west connections will be grade-separated at railroads to provide unimpeded flow. During detailed design, TxDOT will evaluate adding a westbound I-10 frontage road connection across I-69 between Meadow Street and Jensen Drive.

Comments: Several comments requested the North Street bridge not be removed, indicating that Main Street will not accommodate traffic from the neighborhood, including White Oak Music Hall and other developments. One comment raised a concern about emergency evacuation from the Near Northside neighborhood if the North Street bridge is removed.

Response: Throughout the alternatives development, TxDOT looked at every feasible option to retain the North Street bridge over I-45. However, the improvements required to raise I-45 out of the floodplain and to provide the requested enhanced access from Quitman Street conflicted with the elevation of the bridge. TxDOT understands the importance of the North Street bridge to the local communities for access to Travis Elementary and for access to the White Oak Music Hall. To enhance circulation between the east and west side of I-45 without the North Street bridge, the NHHIP will add a new northbound frontage road between Quitman and North Main Streets. This will allow neighborhoods on the east side

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to access points of interest on the west side using North Main Street to Houston Avenue and return by using Quitman Street and the new northbound frontage road without having to enter I-45 at Quitman Street and exit soon after at North Main Street as currently required. North Main and Quitman Streets will have improved pedestrian and bicycle accommodations that separate these movements from vehicular traffic. In addition, raising I-45 above the floodplain creates the opportunity to make a first ever connection between Woodland Park and Moody Park along Little White Oak Bayou under I-45.

In regard to potential effects to emergency evacuation from the Near Northside neighborhood if the 2-lane North Street bridge is removed, Quitman Street and North Main Street will continue to provide access to the west from this area of Near Northside. In addition, Glenn Park Drive, which currently connects to the North Street bridge from Near Northside, will connect to the new northbound frontage road between Quitman and North Main Streets, allowing for access to northbound I-45, which will have increased capacity.

Comments: Several comments suggested or requested other specific project design changes.

Response: The design of the NHHIP remains open to future design changes and improvements during the post-ROD final design phase. The federal process to obtain environmental clearance is based on a schematic level design needed for completing impact analysis and identifying mitigation for adverse impacts that cannot be avoided per the current level of design. Efforts to further refine and enhance the NHHIP and further minimizing its impacts will be undertaken during the detailed final design phase, which is the next step in project development.

Comments: Several comments requested information about continuing discussions on the final design of the NHHIP after issuance of the Final EIS.

Response: Efforts to further refine and enhance the NHHIP and further minimize its impacts will be undertaken during the detailed final design phase, which is the next step in project development. For more information regarding next steps after issuance of the ROD and the possibility of design changes after the ROD, please refer to the “What is an FEIS?” white paper at http://www.ih45northandmore.com/NHHIP_Project_Facts_And_Highlights.aspx.

Property Acquisition

Comments: Several comments requested information about the effect of the proposed project right-of-way to individual properties, and the timing of right-of-way acquisition.

Response: The proposed schematic design for the Selected Alternative, which shows the existing and proposed right-of-way, can be viewed on the project website in two ways:

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1. Interactive project web map:
 - a. Go to www.ih45northandmore.com
 - b. Click on “Interactive Project Web map” on the left side of the screen under “Quick Links”
 - c. Enter the property address or place in the “Find address or place” search box.

2. PDFs of the project schematics:
 - a. Go to www.ih45northandmore.com
 - b. Click on “Updated Design Schematics” on the left side of the screen under “Quick Links”
 - c. Select the highway and limits in which the individual property is located.

After the ROD, project development will continue, including final design, right-of-way acquisition, utility relocation, mitigation activities related to environmental impacts, and construction of the project. TxDOT considers advance acquisition on a parcel by parcel basis and is proceeding with advance acquisition of some right-of-way, per property owner requests. For additional information about specific properties, please contact the TxDOT Public Information Office at HOU-piowebmail@txdot.gov.

Public Involvement

Comments: Several comments raised concerns about how community input was considered and questions were asked about how TxDOT will provide information to the affected people and the communities in a timely manner in the future.

Response: Public involvement for the NHHIP is discussed in Section 8 of the Final EIS, including from 2001 through the most recent activities in 2020. During that time, TxDOT participated in more than 300 public and stakeholder meetings, and consultations with experts and interested parties. Information received from stakeholders, including individuals, neighborhood associations, civic clubs, and others was taken into consideration as project alternatives were developed and refined and was incorporated into the Selected Alternative to the extent possible.

Public engagement and stakeholder involvement opportunities will continue as the project proceeds into future project development phases. Although the ROD marks the end of the NEPA process, TxDOT intends to continue meeting with stakeholders and accepting public input during further project development phases. For example, TxDOT will coordinate with the City of Houston and affordable housing providers on plans for building affordable housing for displaced residents. Project development after the ROD will include final design, right-of-way acquisition, utility relocation, mitigation activities related to environmental impacts, and construction of the project. TxDOT also anticipates continued refinements and

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improvements to the project as the project enters the final design phase and additional input is received from the public and other stakeholders.

Project Schedule

Comments: Several comments asked for information about construction schedules.

Response: The estimated potential construction start dates for the NHHIP are set forth below. These estimates are subject to change.

Segment 1 — no sooner than 2026

Segment 2 — no sooner than 2024

Segment 3 — late 2021

Safety

Comments: Several comments raised concerns about safety, including potential increase in traffic accidents as highway speeds increase, need to enhance safety, and the need to reduce speeds on frontage roads to improve safety for people utilizing transit.

Response: TxDOT designed the NHHIP so that it increases safety for drivers, cyclists and pedestrians by improving freeway and local street mobility. Safety is a key component of the project need and purpose and is incorporated into all aspects of the planning and engineering of the proposed project. The NHHIP includes over 26.4 miles of freeway including the Downtown loop system in the heart of Harris County. Many of these roadways have significant operational and safety needs and do not meet current FHWA or TxDOT design standards.

The NHHIP will bring the outdated infrastructure of the freeways up to current design standards along with reducing critical safety conflicts by reducing the instances of weaving distances to exits of less than 1,500 feet, eliminating crowded merging locations in short spaces, eliminating or fixing left-hand exits and entrances, and raising low bridge clearances. By addressing these safety conflicts, the NHHIP will reduce the crash frequency and severity for each freeway within the project limits. Based on the analysis conducted for the FHWA NHHIP Segments 2 and 3 Interstate Access Justification Report (IAJR) (August 2020), all freeways show an anticipated reduction in crash rates by at least 20% with a 28% reduction in fatal and injury crashes.

Improving safety and reducing crash frequency will contribute to travel time reliability. In addition, the proposed MaX lanes on I-45 will provide a 2-way, 24-hour/7 days-a-week dedicated right-of-way for the management of traffic. This added capacity will be managed by either type of vehicle, capacity, and/or ingress/egress points. This increased capacity means more users can access the system which has a subsequent benefit of a reduction in congestion on the local street network as well.

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TxDOT is proposing bicycle and pedestrian enhancements at all crossings and connections to current pedestrian elements. TxDOT partnered with the City of Houston to develop the design concept of the pedestrian-bike realm for the NHHIP. TxDOT and the City have identified the specific application of the pedestrian-bike realm on the 44 Downtown streets that cross the freeways that includes separate and adjacent sidewalks and bike paths. This increased width will create a buffer between the bicycle and pedestrian travelers and vehicle traffic, which is an important safety design feature. Accessible sidewalks will also be constructed and connected along frontage roads and an added pedestrian-bike realm at cross streets will include dedicated bicycle and pedestrian lanes separated from vehicular lanes by a 5-foot wide buffer zone. TxDOT is coordinating with the City of Houston to continue this partnership for the application of the pedestrian-bike realm on the streets that cross the freeways in Segments 1 and 2.

TxDOT will coordinate with schools in the project area regarding safe routes for school children traveling on foot, including the potential for additional pedestrian enhancements.

During detailed design, TxDOT will evaluate the function of the frontage roads where traffic is transitioning from higher speed mainlanes to lower speed frontage roads, and will determine whether design criteria should be implemented to reduce speeds on frontage roads.

Environmental Justice

Comments: Several comments raised concerns about the effects to low-income and minority individuals and communities and requested that TxDOT revise the project to reduce adverse impacts. Concern was also expressed regarding mitigation for adverse impacts.

Response: Mitigation in the form of avoidance, minimization and specific mitigation commitments was fully considered with input from the affected communities. The anticipated impacts will be made less severe based on the commitments made as a result of this mitigation, which is summarized in Section 5 of the ROD. The effects of the proposed project on minority and low-income communities are fully addressed in Final EIS Section and Section 5.9 of the Community Impacts Assessment Technical Report (Appendix F to the Final EIS).

The NHHIP is a large and complex, 26.4-mile long undertaking in a city that is predominantly minority. Segments 1, 2, and 3 of the NHHIP are 87 percent, 83.5 percent, and 73.6 percent minority, respectively, as measured by adjacent Census block groups. Similarly, 10 of the 17 super neighborhoods in the study area are predominantly minority. Adverse effects from the proposed project will be experienced by environmental justice (EJ) populations.

Where possible, the alignment options for the project have been refined through the NEPA process to minimize impacts. Environmental commitments and mitigation measures identified in the Final EIS address impacts from the NHHIP construction and operation activities that may affect EJ populations. TxDOT proposes measures to mitigate adverse

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impacts throughout both EJ and non-EJ communities. TxDOT will, however, provide enhanced outreach to EJ communities, particularly Spanish-speaking communities with limited English proficiency, to implement mitigation strategies effectively in those communities.

TxDOT has made a number of commitments to offset the adverse effects of the project on EJ populations related to relocation of residences and facilities, affordable housing, local access, pedestrian safety, traffic noise, air quality, and homelessness. In some of these areas there will be improvements over the existing conditions such as new facilities for the residents of Clayton Homes and Kelly Village, restoring local access in the area around the I-45/Loop 610 interchange, providing the opportunity for noise barriers, and improving safety (e.g., improved pedestrian and bicycle accommodations) on cross-streets in neighborhoods. Overall, the proposed improvements to the existing freeway facilities will have benefits that extend to environmental justice populations including improved safety, expanded capacity for transit use, and improved drainage. Taking into account proposed minimization and mitigation measures and added benefits, the proposed project will not result in disproportionately high and adverse effects to environmental justice populations.

This analysis considered community resources (specifically neighborhoods/community facilities and environmental justice populations), discussed the health of these resources and relevant trends, and identified a specific resource study area (RSA) boundary and appropriate temporal boundary for the analysis. Direct and potential indirect impacts were summarized for this resource. Past, present, and reasonably foreseeable future actions were identified through research, interviews, and cartographic analysis. The construction of the proposed project was considered in conjunction with these other actions to consider cumulative impacts. This analysis provided detailed information about community resources within the RSA for the proposed NHHIP project and described the extensive public and private activities that have evolved over time to help protect these resources.

Comments: Several comments raised concerns about the effects to homeless individuals.

Response: TxDOT will continue to coordinate with the City of Houston and other local homeless services providers to develop a plan to assist in the relocation of the homeless population in a safe and appropriate manner.

Socioeconomic Impacts

Comments: Several comments raised concerns about social and economic impacts of the proposed project.

Response: TxDOT has developed the NHHIP to meet the project's need and purpose and also avoid, minimize, and mitigate environmental impacts. The potential impacts to social and economic resources are documented in the Section 3 of the Final EIS and in the Community Impacts Assessment Technical Report (Appendix F to the Final EIS). The Final EIS identifies

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the mitigation measures to address adverse impacts of the proposed project to community resources and businesses.

Transit

Comments: Several comments indicated there is a need for additional transit (high-occupancy vehicle, bus rapid transit (BRT) and high speed rail) in the I-45 corridor. Also, several comments supported increases in bike lanes and public transportation, including extending light rail lines and weekend and late-night bus services; improving transit connections; and integrating the METRONext Moving Forward Plan.

Response: The NHHIP has been designed to be compatible with transit infrastructure in the area and TxDOT continues to coordinate with METRO. Section 1 of the Final EIS explains that high capacity transit was considered during the North-Hardy Corridor Studies, which were jointly initiated by TxDOT, METRO, and the 8-county metropolitan planning organization known as the Houston-Galveston Area Council (H-GAC). Modes of transportation addressed in the North Hardy Corridor Studies included transit (bus and rail) and highway. The studies identified a need for alternative transportation modes in the north Houston corridor between Houston’s Central Business District and Bush Intercontinental Airport.

A major transit investment outcome of these studies was METRO’s delivery of the extension of the light rail Red Line from Downtown north to the Northline Transit Center in 2013. The H-GAC High Capacity Transit (HCT) Task Force completed their Phase I study in 2019 and will continue to work with METRO and other transit agencies in the region to advance HCT.

The proposed NHHIP will address the issues identified in the studies for the freeways. The proposed highway improvements of the NHHIP will accommodate METRO’s current and future transit bus service. The proposed MaX lanes will provide 2-way, 24-hour/7-day-a-week operations for high capacity transit bus service and are included in the METRONext plan. The MaX lanes will have a flexible footprint for high-occupancy vehicle (HOV), bus and rubber-tire high-capacity transit (e.g., Bus Rapid Transit [BRT]) and future autonomous vehicles. TxDOT will continue to coordinate with METRO during the final design phase of NHHIP to incorporate other elements of the METRONext plan, such as the University Line BRT and 2-way express bus service along US 59/I-69. TxDOT will work with METRO to keep to a minimum the temporary disruptions to light rail and bus transit services during the construction of the NHHIP.

New pedestrian and bicyclist facilities can build neighborhood connections and provide an increased sense of safety within the community. Although pedestrian and bicycle access may be temporarily impacted during construction, the numerous improvements being made will allow greater access once completed. TxDOT is proposing bicycle and pedestrian enhancements at all crossings and connections to current pedestrian elements with the NHHIP. These enhancements were developed in partnership with the City of Houston Department of Public Works and Department of Planning. This partnership produced the

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design concept of pedestrian-bike realm, which is comprised of all or a varying combination of three elements, a buffer space, bike lane and sidewalk, all separate from the vehicle travel lane and behind a protective curb on both sides of the cross-street. TxDOT and the City have identified the application of the pedestrian-bike realm on the 44 Downtown streets that cross the freeways in Segment 3. TxDOT is coordinating with the City of Houston to continue this partnership for the application of the pedestrian-bike realm on the streets that cross the freeways in Segments 1 and 2. This increased width will create a buffer between the bicycle and pedestrian travelers and vehicle traffic, which is an important safety design feature. Accessible sidewalks will also be constructed and connected along frontage roads.

Visual and Landscaping

Comments: Several comments indicated the Final EIS does not adequately address the visual impacts of the project.

Response: A technical analysis of visual resources and aesthetic impacts is included in the Final EIS (Appendix L). As indicated by FHWA's Guidelines for the Visual Impact Assessment of Highway projects (January 2015), design-related mitigation considerations often occur during the design process rather than during NEPA but may result from input received on the project during the public involvement process. Some types of specific design elements and specific details regarding design elements cannot be determined until the project enters the final design phase, after completion of the NEPA process. However, certain elements intended to mitigate the visual impacts of the project were considered during the NEPA process, as discussed below.

Roadway and structural design were developed to be compatible with the surrounding natural and cultural environment in order to minimize visual impacts. TxDOT anticipates continued refinements and improvements to the proposed project and mitigation measures during detailed project design. Where practicable, mitigation to improve the visual and aesthetic qualities of the project area will include the following features:

- Landscape plantings and revegetation per TxDOT's Green Ribbon Landscape Improvement Program, which allocates funds for trees and plants within roadway ROW.
- Promoting roadside native wildflower planting programs.
- Noise barriers which are integrated into the context of the surrounding environment.
- Providing adequate signage and easy access to roadway facilities.
- Treatment of the side surfaces and columns of the project using façade materials of varying texture, color, etc.
- Installing landscaping and maintenance for the storm water detention basins.

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- Coordinating with local groups and agencies to accommodate enhancements to standard landscaping and recreation use of open space in and around storm water detention areas, where feasible. Wet bottom storm water detention basins will be considered if a partner entity agrees to maintain them. The storm water detention areas will not be designated as parks as their primary use is for drainage and flood mitigation.
- Miscellaneous aesthetic improvements along Heights Bike Trail between Taylor Street and Main Street will be provided (coordinated by TxDOT with City of Houston, Houston Parks Board, and other entities).
- Conducting the design of bridges in the area of the Near Northside neighborhood as a collaboration between the Greater Northside Management District and TxDOT.
- Conducting the design of bridges over Sam Houston Park and Buffalo Bayou as a collaboration between the management districts or neighborhood groups and TxDOT.

The project will be developed under TxDOT's Green Ribbon Program, which allocates funds for trees and plants within roadway ROW. TxDOT will apply the Green Ribbon themes to the proposed project, including landscaping and hardscaping elements. A detailed landscaping plan will be developed as part of the final design process. Landscaping will include regionally native plants for landscaping and implementing design and construction practices that minimize adverse effects on the natural habitat. To the extent possible, the proposed project will be designed to create an aesthetically and visually pleasing experience for both roadway users and roadway viewers.

There are opportunities for aesthetic enhancements under elevated sections of the highways. The Mayor of Houston has appointed a committee to oversee the potential designs and funding options for uses for the open space areas in Segment 3 and TxDOT will consider its recommendations.

All lighting will be in accordance with the Texas Health and Safety Code Title 5 425.002 regarding light pollution. To the extent possible, outdoor lighting fixtures will only be installed and operated if the purpose of the lighting cannot be achieved by the installation of reflective road markers, lines, warning, or informational signs, or other effective passive methods. Additionally, full consideration will be given to energy conservation, reduction of glare, minimizing light pollution, and preserving the natural light environment. An example of commonly used lighting meeting these considerations is the use of high-pressure sodium lamps equipped with glare shields.

TxDOT has been consistent in noting that some elements proposed by the City of Houston and other stakeholders may require third party funding due to their significant variance from the Green Ribbon Guidelines and Standards, which may increase their respective cost to fabricate and construct. TxDOT will also provide opportunities for reforestation and

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landscaping following construction with both TxDOT funded projects and third-party funded landscaping enhancements.

In the final design phase, TxDOT will consider the City of Houston’s request that TxDOT adopt, design, and build new highway components with a neutral theme so that highway elements visually recede and green landscaped components become more prominent, to the extent practicable.

Water Quality

Comments: Several comments indicated that the Final EIS does not indicate how TxDOT will mitigate for water quality impacts or treat stormwater.

Response: Best management practices (BMPs) to address surface water runoff and water quality considerations are discussed in the Final EIS Section 3.7.4 and Section 7.8.2. As part of TxDOT’s MS4 permit, TxDOT minimizes potential stormwater pollutants to the maximum extent practicable, including the use and maintenance of post-construction BMPs.

TxDOT will continue coordinating with the HCFCD during development of the proposed project, and during final design will consider HCFCD’s requests that TxDOT commit to providing nature-based stormwater quality features within the proposed storm water detention basins, where practicable; consider measures to reduce the amount of trash and debris that will be washed into District channels through the roadway drainage system; and assess velocity to ensure erosion along the receiving streams are not exacerbated and that TxDOT implement the appropriate measures, with the preference on green approaches, to protect those portions of receiving streams that are vulnerable to erosion.

Water Resources

Comments: Several comments raised concerns about impacts on stream environmental function.

Response: As discussed in Section 7.10 of the Final EIS, if construction of the Selected Alternative requires permit authorization from the U.S. Army Corps of Engineers (USACE), the USACE’s wetland and stream functional assessment procedures would be used to identify wetland and stream functions and services, which would serve as the basis to develop compensatory mitigation to be considered as part of the permit review and evaluation.

TxDOT will continue coordinating with the HCFCD during development of the proposed project, and during final design will consider HCFCD’s request that TxDOT work with the district to determine appropriate efforts to mitigate impacts to channel stability, riparian buffer conditions, aquatic life, water quality, and channel aesthetics, if modifications along HCFCD’s open channel networks are required to accommodate the NHHIP alignment or drainage improvements.

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Green space/Open space

Comments: Several comments raised concerns about adverse effects to Bayou Greenways and other green space and open space and the conclusion that the White Oak Bayou green space is not designated parkland. Increasing the amount of green space was also recommended.

Response: TxDOT designers worked to minimize impacts to open space throughout the project area. TxDOT understands the critical function of White Oak Bayou for conveyance of storm water, and will design the highway system as it crosses and parallels White Oak Bayou between Quitman Street and Downtown with this in mind. A significant portion along the west side of the main channel between I-10 and the proposed Downtown Connectors is proposed to contain storm water detention pond features under some of the elevated highway bridges and interchange connectors. Highway elements, including but not limited to columns, will be located in a manner that does not adversely impact the conveyance of storm water in drainage channels.

TxDOT also will work with the City of Houston and others to identify opportunities on the southwest side of the channel to expand the local trail system. The storm water detention areas are expected to provide opportunities to build future additional trails, and design will provide for future reforestation and landscaping projects by both TxDOT and third parties. TxDOT will provide design requirements for the finished grade along the channel and around the storm water detention areas that provide for future trails and that identify future reforestation and landscaping areas. Additionally, TxDOT will coordinate with the City and the community for other potential public space uses around these storm water detention areas and future trails.

Section 4(f) resources are discussed in Section 3.18 of the FEIS and in the Final Section 4(f) Evaluation (Appendix O to the Final EIS). “Open space” is only considered a Section 4(f) resource if it is designated and the primary purpose of the property is for recreation. The open areas along the bayou “greenways” in the project area do not qualify as parkland under Section 4(f) because, as reflected in the legislation creating the HCFCD, and as further confirmed in the interlocal agreements between the HCFCD and the City, the primary use of the property along the bayous is for drainage and flood control. Any recreational use of these properties is secondary and incidental and does not subject these areas to Section 4(f) protection. Even so, efforts have been made to maintain existing open space and proposed storm water detention areas are being evaluated as potential open spaces. TxDOT will coordinate with local groups and agencies to accommodate enhancements to standard landscaping and recreational use of open space in and around storm water detention areas, where feasible. Additionally, TxDOT is working with the City to identify highway cap areas that would serve to create even more open space and to ensure that safe bicycle and pedestrian access across adjacent streets is incorporated into the final design.

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The Selected Alternative includes a structural “cap” at several locations in Segment 3 and one location in Segment 2. These areas could be used as open space. The open space option is conceptual only and would be separate from TxDOT’s roadway project. Any open space project would require development and funding by parties other than TxDOT.

Historic Resources

Comments: Several comments raised concerns about the impact of the project on historic resources and the historic nature of the project area.

Response: All historic-age resources in the project's Area of Potential Effects were surveyed, documented, and evaluated for National Register of Historic Places (NRHP) eligibility. The NRHP eligibility determinations received concurrence from the Texas Historical Commission. The project will have an adverse effect on a total of five historic properties: the Houston Warehouse Historic District, the Carlisle Plastics North Warehouse, the Readers Distributors Warehouse, the Cheek-Neal Coffee Company Building and associated property parcel 2, and Rossonian Cleaners. Section 3.15 of the Final EIS summarizes adverse direct effects, indirect effects, and cumulative impacts of the proposed project to historic resources. The September 2019 Historical Resources Survey Report — Update (Appendix H to the Final EIS) contains a full discussion of direct, indirect, and cumulative effects to all identified historic properties in the defined Area of Potential Effects. Adverse effects to historic resources as a result of this project have been minimized with careful planning and will be mitigated. Section 7.15 of the Final EIS discusses design refinements, design-build prescriptives (i.e., restrictions and special commitments), and mitigation for adverse effects to historic resources. Extensive work was done in several phases by qualified historians to assess potential impacts to historic age resources; please refer to the Historic Resources Survey Report. Additionally, TxDOT has entered into an agreement with the Advisory Council on Historic Preservation and the Texas State Historic Preservation Officer regarding TxDOT’s commitments with respect to treatment of historic properties (Appendix R to the Final EIS).

Supports the Project

Comments: Several comments expressed support for the proposed project. Some of the comments noted: the project would improve safety and lessen congestion along the corridor; incorporating BRT in the managed lanes will improve and expand transit opportunities; the project will improve mobility, connectivity, air quality and address flood mitigation as well as attract economic development; proposed improvements for pedestrians and bicyclists are needed; the facility will provide shoulders on both sides of the roadway and make the lanes wider, which will improve safety; and displaces from Clayton Homes and Kelly Village will have new residences that are better than what they currently have.

Response: TxDOT acknowledges and appreciates the comments submitted in support of the NHHIP.

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Opposed to the Project

Comments: Several comments indicated opposition to the proposed project, with various reasons including: the project takes too much right-of-way; additional lanes are not needed; removal of green areas; traffic projections are inaccurate; affordable housing will be an issue; ignores flooding issues; significant impacts to low-income/minority areas; costs too much money; does not focus on transit; will increase pollution; Hardy Connector will help alleviate some of the traffic problems this project proposes to address; and requests to consider implementing the City of Houston plan.

Response: TxDOT acknowledges and appreciates the comments submitted in opposition of the NHHIP. In consideration of all of these comments, TxDOT has addressed the substantive issues raised in these comments to the maximum extent practicable given the current stage of project development. Also, although some stakeholders may not agree, the NHHIP is a much needed project that has evolved over the years with valuable input from the community to include many tangible benefits for the Houston area. As described in the Final EIS, the project is needed to relieve traffic congestion, update the freeways to current design standards, improve storm water drainage on the freeways, and improve the I-45 evacuation route. TxDOT recognizes that the Selected Alternative has impacts and is committed to implementing the identified mitigation measures to address the unavoidable adverse impacts. TxDOT is committed to continuing to meet with stakeholders and accepting public input during detailed design and other future project development phases. Throughout the final design phase of the project, TxDOT will continue to monitor design changes/refinements and will determine if project impacts would change and if changes to mitigation commitments are warranted.

Greenhouse Gas Emissions and Climate Change

Comments: Several comments observed that the Draft EIS included a project-level assessment of greenhouse gas (GHG) emissions and climate change, while the Final EIS included a statewide analysis of GHG and climate change; some comments stated the Final EIS does not mention GHG and climate change; and some comments stated the information included in the Final EIS is not sufficient.

Response: TxDOT has prepared a Statewide On-Road Greenhouse Gas Emissions Analysis and Climate Change Assessment technical report, which can be found at <https://ftp.dot.state.tx.us/pub/txdot-info/env/toolkit/725-01-rpt.pdf>.

A summary of key issues in this technical report (which details how TxDOT is responding to a changing climate) is provided in Section 4 of the Final EIS. This statewide approach was consistent with the CEQ draft Guidance on the Consideration of Climate Change in NEPA Reviews (dated June 26, 2019). A summary of key issues in this technical report is provided in Section 4 of the Final EIS. Please refer to the statewide technical report for more details,

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including the climate change assessment and how TxDOT is responding to a changing climate.

Supplemental EIS

Comments: Several comments stated that the new information included in the Final EIS and changes to the Recommended Alternative should be documented in a Supplemental EIS.

Response: The content of the Draft EIS was compliant with the requirements of the Council on Environmental Quality, FHWA, and TxDOT. Accordingly, TxDOT is not required to prepare a supplemental Draft EIS.

Pursuant to 23 USC §139(f)(4)(d), TxDOT developed the Proposed Recommended Alternative to a higher level of detail in order to facilitate the development of mitigation measures and to comply with other federal requirements. Additionally, as explained in the Final EIS, based on stakeholder input and engineering review, changes to the design of the Preferred Alternative as presented in the Draft EIS were developed in each of the project segments. Some of the design changes were made to avoid impacts to parks. Other design changes also included modifications to intersections, proposed storm water detention basins, ramp and direct connector refinements, a pedestrian-bike trail connection, frontage road and surface street realignments, ramp modifications, realignment of the Downtown connectors, and managed lane connections to the Downtown area.

The inclusion of this new information and the resulting changes in impacts documented in the Final EIS are consistent with 23 CFR §771.130 and do not result in new significant impacts relative to those evaluated in the Draft EIS, therefore a Supplemental EIS is not warranted.

Deadline for Comments on the Final EIS

Comments: Several comments requested that the time period for public review and comment on the Final EIS be extended.

Response: The Final EIS was released for public review on September 25, 2020 on the project website www.ih45northandmore.com and the official Notice of Availability (NOA) was published in the Federal Register on October 9, 2020. TxDOT proactively elected to solicit public comments on the document within 30 days of the publishing of the NOA in the Federal Register to further welcome and encourage public engagement, even though solicitation of public comments at the final EIS stage is not required under NEPA or NEPA-implementing regulations. TxDOT also arranged for in-person review of the Final EIS at its Houston District headquarters office located at 7600 Washington Avenue Houston, Texas 77007. This TxDOT office is nearest to the NHHIP corridor and had the additional benefit of being directly along METRO's bus route 85, with bus stops immediately in front and nearby the office. This

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particular bus route has service in and from Downtown where many transfer connections can be made with other bus and light rail routes.

In response to requests by elected officials, agencies, and other stakeholders, TxDOT granted an additional 30 days for accepting public comments, and the due date for submittal of comments on the Final EIS was extended from November 9, 2020 to December 9, 2020. When combined with the additional two weeks of availability in advance of the NOA publishing date, this provided a total of 75 days to submit comments to TxDOT for consideration in preparation of the ROD. Finally, TxDOT has included in the official documentation any communication postmarked by or received on December 18, 2020, which represents a 9-day grace period

Timing of MOU between TxDOT and local agencies

Comments: Several comments suggested the Memorandum of Understanding (MOU) between TxDOT and several local agencies be completed before TxDOT issues a ROD for the NHHIP.

Response: TxDOT has been coordinating with the Transportation Policy Council (TPC) of the H-GAC to document the commitments from TxDOT, City of Houston, Harris County, HCFCD, METRO, and the TPC in regard to the continued planning and implementation efforts of the NHHIP. TxDOT will remain engaged in collaborating with these agencies on the project.