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Categorical Exclusion Checklist

This checklist is to help Federal Transit Administration (FTA) grantees comply with the National Environmental Policy Act (NEPA). The checklist helps determine whether a proposed project may qualify for a Categorical Exclusion, that is, an action that normally does not have a significant effect on the human environment. Please contact your FTA Community Planner if you need help completing the checklist.

Step 1: Describe the project:

Project Name: METRORapid Inner Katy Project Sponsoring Agency: Metropolitan Transit Authority of Harris County (METRO) Point of Contact: Amma Cobbinah Anticipated Source of Federal Funds: Federal Congestion Mitigation and Air Quality Improvement (CMAQ) Funds

Project Description: The METRORapid Inner Katy Project is designed to provide a dedicated rapid transit route connecting Downtown and Uptown in the I-10 corridor. The alignment will also enhance Regional Express commuter service originating from the western and northwestern portions of the METRO service area. The project is identified as a top regional priority that responds to the need to relieve the impacts of increased traffic congestion, to improve travel reliability, to close the gap in the HOV lane network on I-10, and to enhance transit connectivity and accessibility on both METRO's high-capacity rapid transit and local bus service network. The Inner Katy Project would provide a vital east-west bus rapid transit (BRT) connection along the Houston region's busiest travel corridor, I-10 West (Inner Katy corridor) between I-610 and Downtown Houston and close a major gap in the regional transportation network through implementation of an exclusive busway. The exclusive busway would accommodate METRORapid bus rapid transit service, Regional Express Park & Ride bus service from US 290 and I-10 West corridors, as well as express bus service along the Inner Katy corridor. The project would begin at Northwest Transit Center (NWTC) and continue east along the south side of I-10 on an elevated guideway to Downtown Houston. Once in Downtown, the project would continue along the street pairings of Capitol and Rusk Streets to St. Emanuel Street. The project is divided into two segments: the Inner Katy Segment and Downtown Segment. The Inner Katy Segment would be grade-separated on new and existing structures. The Downtown Segment would be street-running. The project would include five new stations – three in the Inner Katy corridor (at Memorial Park, Shepherd/Durham and Studemont) and two in Downtown (at Franklin/Bagby and St. Emanuel/EaDo). In addition to the new stations, the project would also utilize the existing NWTC and three existing METRORail Green and Purple Line stations (at Theater District, Central and Convention District) along Capitol and Rusk streets in Downtown. Figure 1 depicts the project alignment and stations.



Figure 1: METRORapid Inner Katy Project Source: METRO, 2022

In the Inner Katy Segment, METRO is advancing two design options. Design Option 1 consists of an exclusive busway on an elevated structure located along the south side of I-10 that ties back to the existing Katy CBD ramp into Downtown. Option 2 is similar to Option 1 and consists of an exclusive busway along the south side of I-10 but accounts for TxDOT's North Houston Highway Improvement Project (NHHIP), the planned reconstruction of I-45 north between Downtown Houston and the North Sam Houston Tollway. The NHHIP calls for the partial removal of the Katy CBD ramp. Under Option 2, the exclusive busway would not transition to the CBD ramp but continue along the south side of I-10 toward Downtown, and transition to the remaining segment of the CBD ramp, just north of Franklin Street. NHHIP is currently on hold and being reviewed by the FHWA. Traffic conditions along the Inner Katy I-10 corridor would be the same under either design option. Effects of the NHHIP project are discussed in **Attachment F**.

In the Downtown Segment, the project features a new exclusive transit lane for BRT and Light Rail Transit (LRT) with improvements to signal timings, to safely accommodate buses and trains. The LRT is currently operating along the south side of Capitol Street (left lane) and Rusk Street (right lane) with mixed general vehicular traffic.

Step 2: Answer the following questions:

- 1. Will the project have a significant effect on the project area or its resources?
 - □ Unknown, contact FTA. This project may not qualify for a categorical exclusion.
 - \Box Yes, contact FTA. This project may not qualify for a categorical exclusion. \blacksquare No.
- Is the project likely to generate intense public discussion, concern, or present extraordinary circumstances which may pose a significant effect?
 □ Unknown, contact FTA.

 \Box Yes, contact FTA. This project may still be categorically excluded. \boxdot No.

- 3. Will the project involve property acquisition?
 - \Box We already own the property.
 - ☑ Yes, we intend to acquire property. Note that FTA generally prohibits property acquisition prior to the completion of NEPA.
 - \Box No, no property acquisition has or will be done for the project.
- 4. Is the project the type of activity that has the potential to cause effects on historic properties, assuming historic properties are present?
 - \Box Unknown, contact FTA.
 - □ Yes, contact FTA regarding consultation under Section 106 of the National Historic Preservation Act.

🗹 No.

5. Does the project involve the use of land from publicly owned parks, recreation areas, wildlife and waterfowl refuges, or public or private historic sites?

 \Box Unknown, contact FTA.

 \Box Yes, contact FTA regarding requirements under Section 4(f) of the DOT Act of 1966. \blacksquare No.

6. Will the project have disproportionately high and adverse impacts on minority/low-income populations?

 \Box Unknown, contact FTA.

□ Yes, contact FTA regarding requirements for Environmental Justice.

 \blacksquare No, continue.

7. Will the project be located within a 100-year floodplain?

 \Box Unknown, contact FTA.

- ☑ Yes, contact FTA regarding further evaluation under Executive Order 11988.
- \Box No, continue.

Step 3: Select the appropriate c-list Categorical Exclusion, if it applies:

Actions listed under 23 CFR 771.118(c), c-list CEs, usually require minimal supporting documentation. However, other environmental requirements may require documentation.

Utility and Similar Appurtenance Action

□ (1) Acquisition, installation, operation, evaluation, replacement, and improvement of discrete utilities and similar appurtenances (existing and new) within or adjacent to existing transportation right-of-way, such as: utility poles, underground wiring, cables, and information systems; and power substations and utility transfer stations.

Pedestrian or Bicycle Action

□ (2) Acquisition, construction, maintenance, rehabilitation, and improvement or limited expansion of stand-alone recreation, pedestrian, or bicycle facilities, such as: a multiuse pathway, lane, trail, or pedestrian bridge; and transit plaza amenities.

Environmental Mitigation of Stewardship Activity

□ (3) Activities designed to mitigate environmental harm that cause no harm themselves or to maintain and enhance environmental quality and site aesthetics, and employ construction best management practices, such as: noise mitigation activities; rehabilitation of public transportation buildings, structures, or facilities; retrofitting for energy or other resource conservation; and landscaping or re-vegetation.

Planning and Administrative Activity

□ (4) Planning and administrative activities which do not involve or lead directly to construction, such as: training, technical assistance and research; promulgation of rules, regulations, directives, or program guidance; approval of project concepts; engineering; and operating assistance to transit authorities to continue existing service or increase service to meet routine demand.

Action Promoting Safety, Security, Accessibility

□ (5) Activities, including repairs, replacements, and rehabilitations, designed to promote transportation safety, security, accessibility and effective communication within or adjacent to existing right-of-way, such as: the deployment of Intelligent Transportation Systems and components; installation and improvement of safety and communications equipment, including hazard elimination and mitigation; installation of passenger amenities and traffic signals; and retrofitting existing transportation vehicles, facilities or structures, or upgrading to current standards.

Acquisition, Transfer of Real Property Interest

□ (6) Acquisition or transfer of an interest in real property that is not within or adjacent to recognized environmentally sensitive areas (e.g., wetlands, non-urban parks, wildlife management areas) and does not result in a substantial change in the functional use of the property or in substantial displacements, such as: acquisition for scenic easements or historic sites for the purpose of preserving the site. This CE extends only to acquisitions and transfers that will not limit the evaluation of alternatives for future FTA-assisted projects that make use of the acquired or transferred property.

Acquisition, Maintenance of Vehicles/Equipment

□ (7) Acquisition, installation, rehabilitation, replacement, and maintenance of vehicles or equipment, within or accommodated by existing facilities, that does not result in a change in functional use of the facilities, such as: equipment to be located within existing facilities and with no substantial off-site impacts; and vehicles, including buses, rail cars, trolley cars, ferry boats and people movers that can be accommodated by existing facilities or by new facilities that qualify for a categorical exclusion.

Maintenance, Rehabilitation, Reconstruction of Facilities

(8) Maintenance, rehabilitation, and reconstruction of facilities that occupy substantially the same geographic footprint and do not result in a change in functional use, such as: improvements to bridges, tunnels, storage yards, buildings, stations, and terminals; construction of platform extensions, passing track, and retaining walls; and improvements to tracks and railbeds.

Assembly or Construction of Facilities

□ (9) Assembly or construction of facilities that is consistent with existing land use and zoning requirements (including floodplain regulations) and uses primarily land disturbed for transportation use, such as: buildings and associated structures; bus transfer stations or intermodal centers; busways and streetcar lines or other transit investments within areas of the right-of-way occupied by the physical footprint of the existing facility or otherwise maintained or used for transportation operations; and parking facilities.

Joint Development of Facilities

□ (10) Development of facilities for transit and non-transit purposes, located on, above, or adjacent to existing transit facilities, that are not part of a larger transportation project and do not substantially enlarge such facilities, such as: police facilities, daycare facilities, public service facilities, amenities, and commercial, retail, and residential development.

Emergency Recovery Actions

- □ (11) The following actions for transportation facilities damaged by an incident resulting in an emergency declared by the Governor of the State and concurred in by the Secretary, or a disaster or emergency declared by the President pursuant to the Robert T. Stafford Act (42 U.S.C. 5121):
 - (i) Emergency repairs under 49 U.S.C. 5324; and
 - (ii) The repair, reconstruction, restoration, retrofitting, or replacement of any road, highway, bridge, tunnel, or transit facility (such as a ferry dock or bus transfer station), including ancillary transportation facilities (such as pedestrian/bicycle paths and bike lanes), that is in operation or under construction when damaged and the action:
 - (A) Occurs within the existing right-of-way and in a manner that substantially conforms to the preexisting design, function, and location as the original (which may include upgrades to meet existing codes and standards as well as upgrades warranted to address conditions that have changed since the original construction); and
 - (B) Is commenced within a 2-year period beginning on the date of the declaration.

Actions within Existing Operational Right-of-Way

□ (12) Projects, as defined in 23 U.S.C. 101, that would take place entirely within the existing operational right-of-way. Existing operational right-of-way refers to right-of-way that has been disturbed for an existing transportation facility or is maintained for a transportation purpose. This area includes the features associated with the physical footprint of the transportation facility (including the roadway, bridges, interchanges, culverts, drainage, fixed guideways, mitigation areas, etc.) and other areas maintained for transportation purposes such as clear zone, traffic control signage, landscaping, any rest areas with direct access to a controlled access highway, areas maintained for safety and security of a transportation facility, parking facilities with direct access to an existing transportation facility, transit power substations, transit venting structures, and transit maintenance facilities. Portions of the right-of-way that have not been disturbed or that are not maintained for transportation purposes are not in the existing operational right-of-way.

Actions with Limited Federal Funding

- \Box (13) Federally-funded projects:
 - (i) That receive less than \$5,000,000 of Federal funds; or
 - (ii) With a total estimated cost of not more than \$30,000,000 and Federal funds comprising less than 15 percent of the total estimated project cost.

Bridge Removal and Related Activities

□ (14) Bridge removal and bridge removal related activities, such as in-channel work, disposal of materials and debris in accordance with applicable regulations, and transportation facility realignment.

Preventative Maintenance of Culverts/Channels

□ (15) Preventative maintenance, including safety treatments, to culverts and channels within and adjacent to transportation right-of-way to prevent damage to the transportation facility and adjoining property, plus any necessary channel work, such as restoring, replacing, reconstructing, and rehabilitating culverts and drainage pipes; and, expanding existing culverts and drainage pipes.

Geotechnical and Other Similar Investigations

□ (16) Localized geotechnical and other investigations to provide information for preliminary design and for environmental analyses and permitting purposes, such as drilling test bores for soil sampling; archeological investigations for archeology resources assessment or similar survey; and wetland surveys.

If your project falls within one or more of the c-list Categorical Exclusions above, skip to Step 5.

Step 4: Select the appropriate d-list Categorical Exclusion, if it applies:

Actions listed under 23 CFR 771.118(d), d-list CEs, generally require additional documentation demonstrating the requisite criteria are met. This is not an exhaustive list of all actions that may qualify as a d-list Categorical Exclusion. Again, other environmental requirements may apply.

Highway Modernization

□ (1) Modernization of a highway by resurfacing, restoring, rehabilitating, or reconstructing shoulders or auxiliary lanes (e.g., lanes for parking, weaving, turning, climbing).

Bridge Replacement or Rail Grade Separation

 \Box (2) Bridge replacement or the construction of grade separation to replace existing at-grade railroad crossings.

Hardship or Protection Property Acquisition

□ (3) Acquisition of land for hardship or protective purposes. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.

(i) Hardship acquisition is early acquisition of property by the applicant at the property owner's request to alleviate particular hardship to the owner, in contrast to others, because of an inability to sell his property. This is justified when the property owner can document on the basis of health, safety or financial reasons that remaining in the property poses an undue hardship compared to others.

(ii) Protective acquisition is done to prevent imminent development of a parcel which may be needed for a proposed transportation corridor or site. Documentation must clearly demonstrate that development of the land would preclude future transportation use and that such development is imminent. Advance acquisition is not permitted for the sole purpose of reducing the cost of property for a proposed project.

Acquisition of Right-of-Way

□ (4) Acquisition of right-of-way. No project development on the acquired right-of-way may proceed until the NEPA process for such project development, including the consideration of alternatives, has been completed.

 \Box (5) [Reserved] – Do not use

Facility Modernization

 \Box (6) Facility modernization through construction or replacement of existing components.

Minor Facility Realignment for Rail Safety Purposes

□ (7) Minor transportation facility realignment for rail safety reasons, such as improving vertical and horizontal alignment of railroad crossings, and improving sight distance at railroad crossings.

Facility Modernization/Expansion Outside Existing ROW

□ (8) Modernization or minor expansions of transit structures and facilities outside existing right-of-way, such as bridges, stations, or rail yards.

Other

- ☐ Categorically excluded, though not otherwise identified (no specific category applies). You must provide supporting documentation.
 - Construction of an exclusive, bi-directional transit guideway within the State right-ofway (TxDOT's ROW) with proposed in-line stations, and standard amenities at the station locations. Please refer to the CE Summary Report attached.

If your project does not meet the criteria listed above, it may not qualify as a d-listed Categorical Exclusion. Contact FTA if questions.

Step 5. Provide supporting documentation, as necessary:

Include documentation, as applicable, for the areas of concern below:

A. Property Acquisition/Relocations: (Refer to <u>FAQs on Real Property Acquisition</u> and FTA's <u>Circular 5010.1E</u>)

Document compliance with the Uniform Relocation Assistance and Real Property Acquisition Act.

- Indicate whether property, in any form of ownership, has already been acquired or whether acquisition will result in relocation of individuals or businesses.
 - No property has already been acquired. The proposed project is expected to result in six potential commercial displacements for the proposed Shepherd/Durham Station.
- Attach maps or graphs of affected parcel(s), including relocations.
 - Please refer to Attachment A for the associated Displacement Map.

B. Land Use and Zoning Impacts:

Document that the project is consistent with surround land use and zoning.

- Attach a land use map showing the project location and its surrounding parcel's land use classification.
 - Please refer to Attachment B for the associated Land Use Map.
- Attach a zoning map showing/describing the project's zoning classification.
 - No zoning is within the project area.

C. Traffic and Parking Impacts:

Document potential traffic and parking impacts.

- Indicate whether the existing roadways have adequate capacity to handle increased bus or other vehicular traffic.
 - Along I-10, BRT and Regional Express and express buses would operate on a new exclusive transit guideway which would be constructed as a separate, elevated structure along the corridor. Only BRT, Regional Express and express buses will be able to access the new transit guideway; personal vehicles and HOVs would continue to use the

general-purpose lanes. By operating transit on a separate structure, more capacity would be provided to general-purpose traffic.

- Along the Downtown alignment, there is adequate capacity. BRT buses would operate within existing transportation ROW via Bagby Street, Rusk Street, and Capitol Street. Along the Green and Purple LRT lines on Capitol Street (leftmost lane) and Rusk Street (rightmost lane), the BRT would utilize the existing lanes of the LRT. There will be no change to the existing Regional Express and express service and alignments in Downtown.
- Is there any loss of parking? Loss of general-purpose travel lane?
 - For the Inner Katy Segment, other than temporary losses in parking and travel lanes during periods of construction, there would be no permanent loss of on-street or off-street public parking and no permanent loss in the number of I-10 general-purpose travel lanes. The existing parking spaces at the proposed Shepherd/Durham Station would be displaced along with the businesses.
 - In the Downtown Segment, there will be no loss in parking. The southern most lane on both Capitol and Rusk streets, is used by both vehicular and LRT traffic. This lane will be converted into a transit exclusive lane.
- Describe connectivity to other transportation facilities and modes, and coordination with relevant agencies.
 - METRO has been in close coordination with TxDOT along with regional and local agencies and stakeholders on the proposed project. Together, METRO, the COH and TxDOT continue strategizing on new, sustainable, and multimodal solutions along the I-10 Inner Katy corridor to provide improved connectivity between Downtown, Uptown, and West Houston, serving the needs of local communities and creating a more resilient and accessible corridor.
 - Additionally, the proposed station provides connections to METRO's local bus and regional express networks as well as METRORail system
- If the project will modify an existing roadway configuration include a map/diagram.
 - Diagram below presents the lane geometry along I-10 under the Build condition. The diagram shows no changes in the number of generalpurpose lanes along its entire length.

Conceptual Lane Diagram – Build Condition



- How does the project address safety of the users of all transportation modes (motorists, transit users, bicyclists, and pedestrians)?
 - Inner Katy Segment: The project through the provision of the exclusive guideway for transit would reduce congestion, bus on vehicle conflicts, and improve safety of transit vehicles.
 - Downtown Segment:
 - Through the provision of dedicated transit lanes along Capitol and Rusk, overall crashes and/or fatalities and injuries would be reduced.
 - The physical separation and queue jumps offer safety benefits for all users.

D. Air Quality:

Document that requirements of the Clean Air Act have been met.

- Describe any impacts to air quality resulting from the project.
 - The Build Alternative has been determined to generate minimal air quality impacts for Clean Air Act (CAA) criteria pollutants and has not been linked with any special MSAT concerns. The proposed Project will not result in changes in traffic volumes, vehicle mix, basic facilities location, or any other factor that would cause a meaningful increase in MSAT impacts of the proposed Project relative to the No Build Alternative. Construction activities would be temporary and would not persist for more than five years.
- Is the project located in an Environmental Protection Agency-designated non-attainment or maintenance area? If so, indicate the criteria pollutant below and contact FTA to determine if a hot spot analysis is necessary.
 - □ Carbon Monoxide (CO)
 - ☑ Ozone (O₃)
 - □ Particulate Matter (PM_{2.5})
 - \Box Particulate Matter (PM₁₀)
 - \Box Nitrogen Dioxide (NO₂)
 - □ Sulfur Dioxide (SO₂)
- Does the project require conformity analysis?

 \Box No, it is exempt from conformity analysis under 40 CFR 93.126 \blacksquare Yes

- If the non-attainment area is also in a metropolitan area, was the project included in the MPO's Transportation Improvement Program air quality conformity analysis?
 - \Box N/A
 - 🗆 No
 - ☑ Yes, date of conformity finding: 8/2/2019
- **E. Historic/Cultural Resources:** (Refer to <u>FTA's procedure on the Section 106 process</u>) Document compliance with Section 106 of the National Historic Preservation Act.
 - Describe any cultural, historic, or archaeological resources that are in or around the immediate vicinity of the project.
 - An Area of Potential Effects (APE) of 150 feet from new ROW areas and new elevated construction was established. One hundred and four (104) historic-age resources constructed in or before 1979 were recorded. Three of the recorded resources were recommended eligible for the NRHP. At the Memorial Park Station, one recorded archeological resource is mapped withing the APE, 41HR614 or Camp Logan. Approximately 800 feet southwest of the proposed Studemont Station is the Historic Olivewood Cemetery (41HR1071). Site 41HR1071 is a historic African American cemetery. Three archeological resources have been previously recorded in the vicinity of the proposed METRORail Stations improvements along Capitol and Rusk Streets in Downtown: Site 41HR978, Site 41HR861, and Site 41HR795.
 - Describe the potential for the project to affect that resource. Attach any relevant documentation and correspondence.
 - The proposed project would have no direct effect on any of the historic resources. No further archeological work is recommended prior to construction.
 - Document any consultation and determinations or findings made.
 - Please refer to Appendices G and H of the Categorical Exclusion Report for the Historical and Archeological Coordination. The Texas Historical Commission concurred with the no adverse effect finding on September 29, 2022.
- **F.** Section 4(f) finding: (Refer to <u>FTA's procedure on Section 4(f) Evaluations</u>) Document compliance with Section 4(f) of the Department of Transportation Act of 1966.
 - If the project is located in or adjacent to a publicly-owned park, recreation area or wildlife or waterfowl refuge, or a publicly or privately owned historic district/ property, document any use of that resource.
 - Four parks and two trails were identified within a 500-foot buffer of the Inner Katy Segment. Six parks were identified within a 500-foot buffer of the Downtown Segment. All identified parks and trails are active; no passive parks exist in the study area. No wildlife refuges are located within the study area.

- Describe the potential impacts so FTA can make a Section 4(f) finding.
 - The proposed project does not require ROW acquisition from any parks or trails. The Inner Katy project would have a positive impact on the existing recreational parks and trails located along the corridor through enhanced access and use.

G. Environmental Justice: (Refer to FTA's Circular on Environmental Justice)

- Determine the presence of minority/low-income populations within the project area.
 - For the Inner Katy Segment, the total minority populations range from approximately 12.7 percent to 92.1 percent of the total population in each of the 27 block groups in the project area. None of the block groups within the project area reported a median household income below the Department of Health and Human Services (DHHS) poverty level for a family of four. For the Downtown segment, minority populations ranged from 31.3 percent to 59.7 percent. None of the block groups met or exceeded the total minority population percentages for the City of Houston or Harris County. None of the block groups had a median household income below the DHHS poverty level.
- Indicate whether the project will have disproportionately high and adverse impacts on minority/low-income populations.
 - No disproportionately high and adverse effects would occur to minority or low-income populations.
- Describe any outreach efforts targeted specifically at minority/low-income populations
 - Public involvement efforts have been conducted in parallel with project development. Through each phase, including project initiation, alternatives development, analysis, study findings, and recommendations, information has been shared with the public and input has been received based on the information presented.
 - The METRORapid Inner Katy Project's public and stakeholder involvement process kicked off in January 2021 with a virtual public meeting. Since then, over 40 public and stakeholder meetings have been conducted over a 17-month period to inform and solicit information from the public, specific stakeholders, and interest groups. Additional community meetings were held in early 2022 as follow-up sessions to discuss community concerns that have been raised, such as those regarding noise and air quality, and the potential solutions to mitigate these concerns. The series of public meeting and stakeholder engagement opportunities are generally organized into the following categories:
 - Interagency coordination meetings with representatives of relevant agencies including local, state, and federal agencies
 - Public meetings open to all interested individuals
 - Neighborhood Group meetings
 - Smaller special interest stakeholder meetings
- H. Hazardous Materials: (Refer to FTA's procedure on Contaminated Properties)

Document if there is any known or potential contamination (e.g., lead/ asbestos, above/ underground storage tanks, a history of industrial use) at the project site?

- Describe the analysis used to determine whether hazardous materials were present.
 - A total of 1,291 database records at 562 mapped sites were documented within the standard radii of the proposed project corridor. Fourteen of these sites are located within and an additional 668 sites are located immediately adjacent (within 0.125 mile) to the proposed right-of-way and easements. Many of these records are historically contaminated sites with some level of remediation work. These historic sites have the potential to retain groundwater and soil contamination that could affect the project site. No oil and gas wells or pipelines are located on the project site.
- Describe mitigation and clean-up measures that will be taken to remove hazardous materials. If the project includes property acquisition, a Phase I Environmental Site Assessment may be required for the land to be acquired.
 - Mitigation measures, if needed, would be determined after the recommended Phase II analyses are performed. A Phase II ESA is recommended for all areas where right-of-way is acquired, deep impacts (such as the placement of bridge bents/piers) are planned, and if soil removal or groundwater disturbance is anticipated in the downtown Houston area.

I. Noise/Vibration: (Refer to FTA's Noise and Vibration Manual)

Document whether the project has the potential for noise or vibration impacts.

- Identify receptors within the screening distance.
 - Noise-sensitive receivers were identified within the applicable FTA noise impact screening distance (500 feet from the proposed alignments for busways). Because there are numerous noise-sensitive receivers within the screening distance, noise measurement was conducted at 28 representative noise-sensitive receivers within the screening distance including 17 sites within the Inner Katy Segment and 11 sites within Downtown Segment (Please see Appendix J for the Noise and Vibration Analysis Technical Report)
- Attach a general noise or vibration assessment.
 - Please refer to Appendix J for the Noise and Vibration Analysis Technical Report.
- Describe impacts, if any, proposed mitigation measures, and remaining impacts after mitigation.
 - The FTA noise impact criteria include three levels of impact. These impact levels include "No Impact" where project-generated noise is not likely to cause community annoyance, "Moderate Impact" where projectgenerated noise is considered to cause impact at the threshold of measurable annoyance, and "Severe Impact" where project-generated noise is likely to cause a high level of community annoyance. According to FTA guidance, mitigation measures must be considered for severe

noise impacts and mitigation should be considered for moderate noise impacts based on project specifics and details concerning the affected properties.

- Inner Katy Segment
 - For Option 1 of the Inner Katy Segment alignment, the results of the assessment identify moderate noise impacts without mitigation at a total of 60 residences, all on the eastbound (south) side of the busway. Most (46) of these predicted impacts are in the neighborhood between Patterson Street and Yale Street where many of the closest residences are shielded from existing traffic noise by a sound wall that results in lower existing noise levels. No severe impacts are predicted at any residences. Furthermore, no moderate or severe impacts are predicted at any noise-sensitive institutional land use.
 - For Option 2, the noise impacts are predicted to be the same as for Option 1, with one additional moderate impact predicted between Spring Street and Crockett Street. No severe impacts are predicted at any residences. Furthermore, no moderate or severe impacts are predicted at any noise-sensitive institutional land use.
- Downtown Segment: The results of the noise impact assessment indicate that no moderate or severe noise impacts are predicted for BRT operations along the Downtown Segment.
- No vibration impacts are expected from the project for either the Inner Katy Segment or the Downtown Segment.
- Mitigation Measures: Based on the above factors, the following three pavement options have been determined to be feasible and to warrant consideration for mitigating noise impacts from bus operations along the Inner Katy Segment:
 - Longitudinal Saw Grooving
 - Portland Cement Concrete (PCC) with Diamond Ground Surface
 - Next Generation Concrete Surface (NGCS)"

No vibration impacts are predicted from project operations along the Inner Katy Segment or along the Downtown Segment and therefore no vibration mitigation measures are required.

J. Floodplain Impacts: (Refer to FTA's guidance on Floodplain Management)

Document compliance with US DOT Order 5650.2, Floodplain Management and Protection.

- Is the project located within the 100-year floodplain? If so, provide the appropriate Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM).
 - Yes, a portion of the project is located within the 100-year floodplain. The appropriate FEMA FIRM panels are attached. Please refer to Attachment C for the associated FEMA FIRM panel maps.
- **K. Biological Resources:** (Refer to <u>FTA's procedure on Biological Resources</u>) Document project effects on protected wildlife and plant species and/or their habitats.

- Describe if there are any species located within the project vicinity that are listed as threatened or endangered under the Endangered Species Act.
 - The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool and TPWD's Rare, Threatened, and Endangered Species of Texas (RTEST) database identify 27 federally or state listed or proposed listed species as potentially occurring within the project limits.
- Describe any critical habitat, essential fish habitat or other ecologically sensitive areas within or near the project area.
 - There is no identified critical habitat, essential fish habitat, or other ecologically sensitive areas within or near the project area.

L. Water Resources: (Refer to FTA's procedure on Water Resources)

- Document that requirements of the Clean Water Act have been met.
- Describe the project's potential to impact water quality, including during construction.
 - The proposed project area does not impact any currently identified impaired waters or water quality of current water courses within the project area. The proposed action will not have a direct and significant adverse effect on the coastal natural resource areas identified in the applicable policies.
- Describe potential impacts and best management practices that will be in place.
 - The proposed project has the potential to impact potentially jurisdictional waters of the U.S., including wetlands, and would implement a Nationwide Permit 14 with a Pre-Construction Notification prior to construction.
- Will there be an increase in new impervious surface or restored pervious surface?
 Yes, there will be an increase in new impervious surface cover.
 - Describe potential impacts and proposed treatment for storm water runoff.
 - A total of approximately 7.59 acres of potentially jurisdictional waters could be impacted; however, because a construction site plan was not available during the time of the delineation, it cannot determine whether the placement of dredged and fill material could impact these likely waters of the U.S. METRO will require the contractor to comply with appropriate federal, state, and local regulations in the disposal of debris and spoil generated during construction. A Notice of Intent (NOI) will be filed with the TCEQ for the project to qualify under General Permit TXR 150000. The permit requires that a Storm Water Pollution Prevention Plan (SW3P) be developed according to the provisions of the permit. The SW3P must clearly define and ensure the implementation of practices that will be used to reduce pollutants in storm water discharges associated with construction activity at the construction site and assure compliance with the terms and conditions of the permit.
- Document whether the project will affect on-site or adjacent wetlands. Include any findings by the U.S. Army Corps of Engineers.
 - Six aquatic features were identified withing the project area, including one ephemeral stream, one emergent wetland, one forested wetland, and

three perennial streams within the limits of the project area. All the identified aquatic features are potentially jurisdictional waters of the U.S. and would be subject to Section 401/404 of the Clean Water Act. Coordination with the U.S. Army Corps of Engineers has not occurred to date.

- Is the project located near an EPA-designated sole source aquifer? Provide the name of the aquifer which the project is in and describe any potential impacts to the aquifer. Also, include the approximate amount of new impervious surface created by the project.
 - No, the project is not located near an EPA-designated sole source aquifer.

M. Visual and Aesthetics Impacts:

- Describe the project's effects on the existing visual/aesthetic character or quality of the site, its surrounding, and/or recognized view sheds.
 - The proposed project is within a highly urban transportation corridor and proposed ROW required is very limited, so visual impacts are not considered to be significant and adverse. In addition, there are some segments of the Visual Assessment Units that would benefit from potential mitigation measures, some of which are consistent with aesthetic design elements and others that would be taking additional steps to limit disruptions of viewsheds for permanent viewers along the corridor. During construction, additional visual quality impacts may occur but would be temporary.

N. Utilities:

- Describe any relocations to utility lines or facilities.
 - The following utility owners and facility types have been identified within the project corridor and will require relocations or adjustments due to the proposed METRORapid Inner Katy Project improvements:
 - AT&T Fiber Optic and Telephone
 - CenturyLink Fiber Optic
 - CenterPoint Energy Electric Distribution
 - CenterPoint Energy Electric Transmission
 - CenterPoint Energy Gas
 - City of Houston Water and Sanitary sewer
 - Phonoscope Fiber Optic
 - Purespeed Fiber Optic
 - o TxDOT Intelligent Transportation Systems /Traffic and Fiber Optic
 - Wave Media Fiber Optic
 - Verizon Fiber Optic
- Describe coordination done with utility providers.
 - Utility coordination during the conceptual design phase of the project has included early notification to all utility owners of the proposed project scope and limits, as well as a request for utility records and establishment of primary points

of contact for coordination of any necessary relocations or adjustments. Individual coordination meetings will take place during the preliminary and final design phases of the project.

O. Prime and Unique Farmlands: (Refer to Farmland Protection Policy Act)

- Does the proposal involve the use of any prime or unique farmlands?
 - No, the proposed project does not involve the use of any prime or unique farmlands.
- If so, describe potential impacts and any coordination with the Soil Conservation Service of the U.S. Department of Agriculture.
- P. Safety/Security: (See FTA's Transit Safety and Oversight webpage for more information)
 - Describe all measures that would need to be taken and that have been included for the safe and secure operation of the project (e.g., pedestrian and traffic hazards, as well as user and employee security issues).
 - No impacts to safety or security are anticipated as a result of this project. The Inner Katy Project has the potential to enhance the safety and security of the corridor for all pedestrian users. Infrastructure and pedestrian improvements undertaken for the project would contribute to enhanced safety for all roadway users. The BRT stations would include new or revised pedestrian access, enhanced accessibility through sidewalks and ramps, pedestrian signals, and transit signals, where appropriate. Lighting, shelters, signage and increased use will contribute to both safety and security. Bus stop placement along side streets will consider pedestrian and traffic travel and enhance public access around the stops, even for those not utilizing the METRORapid service. Security measures, such as consideration of Crime Prevention Through Environmental Design (CPTED) will contribute to a safer environment.

Q. Construction Impacts:

- Describe temporary impacts associated with construction activities, such as noise, air quality, sidewalk and road closures, traffic detour/access change, construction schedules.
 - Temporary air, noise, vibration, water quality, traffic flow, and visual impacts are expected due to the dedicated bus guideway, retaining wall, station platform, drainage and ancillary construction in the I-10 Inner Katy corridor. Those impacts would temporarily affect tenants, residents, and visitors in the immediate vicinity of the project. For the Downtown Segment of the Inner Katy BRT project, temporary air, noise, vibration, water quality, traffic flow, and visual impacts are expected from construction of two new ground-level stations and from minor modifications to the City of Houston streets and existing LRT platforms to allow the BRT buses to safely utilize each LRT station.
- Describe mitigation measures to address the impacts.
 - Air: Typically, activities to minimize air quality impacts during construction include covering or treating disturbed areas with dust suppressors, using tarpaulins on loaded trucks, and sprinkling water on

dust generating surfaces such as roads and other areas where construction equipment is in operation.

- Noise: City of Houston noise ordinances will be applicable to this project. The city's noise ordinances restrict construction at night and on weekends.
- Vibration: Vibration impacts during construction could be avoided through numeric limits and monitoring requirements that could be developed during final design and included in the construction documents for the project. Measures that will be considered as requirements to meet the vibration limits include the use of alternative equipment or processes, such as the use of drilled piles in place of impact pile driving and avoiding the use of vibratory compactors near vibrationsensitive areas.
- Water Quality: METRO will require the contractor to comply with appropriate federal, state, and local regulations in the disposal of debris and spoil generated during construction. The TCEQ governs general construction activities within the State of Texas under provisions of Section 402 of the Clean Water Act and Chapter 26 of the Texas Water Code. A Notice of Intent (NOI) must be filed with the TCEQ for the project to qualify under General Permit TXR 150000. The permit requires that a Storm Water Pollution Prevention Plan (SW3P) be developed according to the provisions of the permit.

R. Public Involvement: (Refer to FTA's procedure on Public and Agency Comments)

- Document public meetings, project websites, public notices, and general response given.
- Has the affected community been informed of the project?
 - Yes. Public involvement efforts have been conducted in parallel with project development. Through each phase of the project development process, including project initiation, alternatives development, analysis, study findings, and recommendations, information has been shared with the public and input has been received based on the information presented.
- Describe any public outreach done and/or coordination with partner agencies.
 - The Inner Katy Project's public and stakeholder involvement process kicked off in January 2021 with a virtual public meeting. Since then, over 40 public and stakeholder meetings have been conducted over a 17month period to inform and solicit information from the public, specific stakeholders, and interest groups. Additional community meetings were held in early 2022 as follow-up sessions to discuss community concerns that have been raised, such as those regarding noise and air quality, and the potential solutions to mitigate these concerns.
 - METRO used a variety of engagement tools to inform the public of project updates and public meetings. As part of TxDOT's I-10 Inner Katy Corridor virtual public meeting in February 2021 that METRO participated in, the community was informed of the meeting and the featured projects through mail, newspaper advertisements, social media,

and METRO's project webpage (RideMETRO.org/InnerKaty). METRO also used social media platforms, including Facebook, Twitter, and Instagram, for subsequent engagement opportunities and continuously kept the project webpage updated with project details, a question-andanswer section, previous public meeting records, and upcoming public meeting details. In addition, the project was featured in a METRO Matters podcast, which was later uploaded to YouTube for the public to view. METRO responded to media requests regarding the project, and several articles were published in local newspapers and broadcast on local television that provided an overview of the project, its benefits to the region, and public meeting opportunities. METRO's Public Affairs and Government Affairs departments also maintained email correspondence with community and governmental groups to respond to comments and questions and share information on public meetings.

- The public and stakeholders had the option to provide comments and questions during meetings, through METRO's project email, by mail, and through METRO's online public comment system. The majority of the public comments expressing an opinion on the project were supportive of the project and of having improved transit connectivity and service in the area. Several comments requested METRO to consider additional transit station locations. Of the comments that expressed a mixed or negative response to the project, they were generally concerned with whether the project would have negative impacts to the surrounding community such as on air quality, noise levels, traffic, and land acquisition.
- TxDOT Coordination
 - Since late 2020, METRO and TxDOT have been coordinating on several projects, including the Inner Katy Project, through joint planning meetings, which are held monthly to provide updates to management and advance on decision making critical to the agencies' projects.
 - METRO has carried out a series of coordination meetings with TxDOT occurring once or twice a week, during which TxDOT has presented its plans for the construction of the North Houston Highway Improvement Project (NHHIP), its White Oak Bayou roadway improvement project, its Managed Lanes project, and preliminary plans to develop a new trunkline system of large (12x12 and 10x12) reinforced concrete box culvert designs between I-610 and Patterson Street to the east. In these meetings, METRO has also presented its alternative alignment options, focusing mainly on the Locally Approved Alternative (LPA) approved by the METRO Board of Directors on March 24, 2022.
 - In 2022, METRO conducted concept design workshop with TxDOT to review TxDOT's concepts for managed lanes along with BRT concepts which TxDOT has considered in its conceptual I-10 Inner Katy improvements. Subsequently,

METRO established weekly conceptual design workshops to further the coordination of both the TxDOT and METRO projects within the I-10 Inner Katy ROW.

- METRO has performed subsurface utility engineering (SUE) services within the ROW of I-10 to help determine locations of existing private and public utilities.
- METRO hosted a series of meetings (five meetings in 2021 and one in 2022) with COH to discuss the operations, traffic analysis methodology and traffic analysis results of the project in the Downtown Segment.
- Central Houston is an organization that represents the interests of Downtown Houston Business Associations. METRO has coordinated directly with Central Houston regarding this project since the beginning of early spring of 2021. Items of discussion include:
 - Efficiency of including exclusive transit lanes on Capitol Street and Rusk Street as part of the BRT project
 - Location of the east terminus of the BRT route in Downtown
 - Driveways, loading docks, and parking facility access impacts and controls
 - On-street parking impacts and restrictions.

Please refer to the Attachment D for the Inner Katy Agency Coordination Memo for more information regarding TxDOT, COH and Central Houston coordination efforts.

S. Mitigation Measures:

- Describe any other measures taken to mitigate project impacts.
 - METRO will require the contractor to comply with appropriate federal, state, and local regulations regarding construction staging areas. The contractor will store equipment and materials in conformance with applicable local regulations. Materials will not be allowed to be stored on private property without written authorization of the owners of the property. Staging areas must not be in wetland areas or on any property listed or eligible to be listed in the NRHP.
 - METRO's maintenance of traffic and sequence of construction will be well defined in future final engineering documents to minimize disruption to traffic and pedestrians during construction throughout the project. However, the planning starts early, and the following concepts represent the current status of the Maintenance of Traffic and Sequencing of Construction.
 - To mitigate potential driver uncertainties and to increase safety, signage would be developed and placed bi-directionally at the beginning, end and along the construction route both prior to and during construction to warn drivers of upcoming or current lane and road closures, as well as other pertinent information. Houston TranStar and the local news media would be informed of the upcoming schedule of activities so that local travelers and visitors can plan alternative travel routes in advance.

Step 6. Date and Submit for FTA Review:

Date: 12/8/2022

Submitted by: Amma B. Cobbinah

Title: Senior Planning Program Manager

Please note that submitting this checklist does not mean that NEPA is complete. FTA determines whether a project qualifies as a Categorical Exclusion. Upon review, FTA will provide you with our final determination, signaling NEPA is complete. If you have any questions, please contact your FTA representative below.

Region 6 Contacts:

David Bartels Director of Planning and Program Development <u>david.bartels@dot.gov</u> (817) 978-0572

Lynn Hayes Community Planner <u>lynn.hayes@dot.gov</u> (817) 978-0565 Ronisha Hodge Community Planner ronisha.hodge@dot.gov (817) 978-0576

Tony Ogboli Community Planner tony.ogboli@dot.gov (817) 978-0566 Marc Oliphant Community Planner <u>marc.oliphant@dot.gov</u> (817) 978-0501

Terence Plaskon Environmental Protection Specialist terence.plaskon@dot.gov (817) 978-0573



REGION VI Arkansas, Louisiana, New Mexico, Oklahoma, Texas 819 Taylor St., Suite 14A02 Fort Worth, TX 76102 (817) 978-0550 (817) 978-0575 (fax)

Attachments

Attachment A – Displacements Map



Attachment B – Land Use Map

Data Sources: City of Houston (2021), Stantec (2022) Aerial Source: Maxar (2020) Current Land Use Along Right of Way Acquisition

Data Sources: City of Houston (2021), Stantec (2022) Aerial Source: Maxar (2020) Current Land Use Along Right of Way Acquisition

Attachment C – FEMA FIRM Panel Maps

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator, Zone 15. The **horizontal datum** was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services NOAA, N/NGS12 National Geodetic Survey SSMC-3, #9202 1315 East-West Highway Silver Spring, Maryland 20910-3282 (301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the Harris Galveston Area Council and was revised and enhanced by Harris County.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **FEMA Map Service Center** (MSC) website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

Vertical Datum Adjustment due to subsidence is the 2001 adjustment.

Benchmarks shown on this map were provided by either Harris County or the National Geodetic Survey. To obtain elevation, description, and location information for benchmarks provided by Harris County, please contact the Permits Office of the Public Infrastructure Department at (713) 956-3000 or visit their website at http://www.eng.hctx.net/permits. For information regarding the benchmarks provided by the National Geodetic Survey, please see note above.

Some bridges and other structures shown on the detailed studied streams are not labeled. See corresponding flood profile for appropriate name.

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NGS Information Services NOAA, N/NGS12 National Geodetic Survey SSMC-3, #9202 1315 East-West Highway Silver Spring, Maryland 20910-3282 (301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit their website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the Houston-Galveston Area Council and was revised and enhanced by Harris County.

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If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/national-flood-insurance-program.

Vertical Datum Adjustment due to subsidence is the 2001 adjustment.

Benchmarks shown on this map were provided by either Harris County or the National Geodetic Survey. To obtain elevation, description, and location information for benchmarks provided by Harris County, please contact the Permits Office of the Engineering Department at 713-274-3900 or visit their website at http://www.eng.hctx.net/permits. For information regarding the benchmarks provided by National Geodetic Survey, please see note above.

Some bridges and other structures shown on the detailed studied streams are not labeled. See corresponding flood profile for appropriate names.

Federal Emergency Management Agency

Attachment D - Inner Katy Agency Coordination Memo

MEMO

To: Gail Lyssy Regional Administrator, Federal Transit Administration ATTN: Ronisha Hodge From: Clint B. Harbert, AICP Vice President of System & Capital Planning, Metropolitan Transit Authority of Harris County

Date: August 29, 2022 Subject: METRORapid Inner Katy Project Agency Coordination Memo for the Categorical Exclusion

This memorandum summarizes the Metropolitan Transit Authority of Harris County's (METRO) previous and ongoing coordination with key stakeholder agencies regarding the METRORapid Inner Katy Project. METRO is submitting this memorandum as part of the project's Categorical Exclusion (CE). The first section of the memorandum focuses on coordination with the Texas Department of Transportation (TxDOT) on planning and design work. The second section discusses stakeholder coordination conducted as part of the traffic analysis, which is being prepared to support the METRO Board approved Locally Preferred Alternative (LPA) for the Downtown interlining operations for the project.

1.0 TxDOT Coordination

1.1 Joint Planning Coordination Meetings with TxDOT

Since late 2020, METRO and TxDOT have been coordinating on several projects, including the METRORapid Inner Katy Project, through joint planning meetings, which are held monthly to provide updates to management and advance on decision making critical to the agencies' projects. These meetings are typically high-level but have proven effective in coordinating on different elements and reaching decisions (See **Appendix A** for a list of meeting dates and participants).

Beginning in early 2021, METRO, along with its consultants, initiated numerous coordination efforts, including both formal and informal data requests, meetings, and workshops where design concepts by both METRO and TxDOT were shared, compared and evaluated. The following is a brief summary of those coordination efforts.

1.1.1 Data Collection

Beginning May 2021, METRO initiated a series of data requests to TxDOT-Houston District for as-builts, surveys and reports (drainage, traffic, geotechnical) within the bus rapid transit (BRT) project limits. Over the next several months, limited data was received by METRO. In July 2022, METRO requested and received complete right-of-way (ROW) data for the I-10 Inner Katy corridor between the Northwest Transit Center (NWTC) and Washington Avenue to the

east. These data became instrumental in assessing impacts to the Memorial Park Conservancy, bordering the south ROW of I-10.

1.1.2 Coordination Meetings

METRO has carried out a series of coordination meetings with TxDOT (see Appendix A) occurring once or twice a week, during which TxDOT has presented its plans for the construction of the North Houston Highway Improvement Plan (NHHIP), its White Oak Bayou roadway improvement project, its Managed Lanes project, and preliminary plans to develop a new trunkline system of large (12x12 and 10x12) reinforced concrete box culvert designs between I-610 and Patterson Street to the east. In these meetings, METRO has also presented its alternative alignment options, focusing mainly on the Locally Approved Alternative (LPA) approved by the METRO Board of Directors on March 24, 2022. The LPA is briefly described as follows:

- Inner Katy (I-10) Segment
 - Option 1 of the Inner Katy Segment extends from the NWTC to Downtown at I-45 within the TxDOT I-10 Inner Katy ROW, except for several station locations that would require ROW acquisition. The Inner Katy Segment would use the existing HOV ramp from the NWTC, crossing over I-10, and then transition to a four-mile elevated guideway, supporting one lane in each direction, along the south frontage road of I-10 in the vicinity of Washington Avenue. The elevated BRT guideway would continue along the I-10 south ROW and would cross over the eastbound I-10 mainlanes to connect to the existing CBD ramp. BRT and regional buses would continue to Franklin Street in downtown Houston.
 - Option 2 would follow Option 1 to where Option 1 departs from the south side alignment, as described above. Option 2 would instead continue along the south ROW of I-10 and continue into a point just outside of downtown where it would tie into eastern end of the CBD ramp to connect to Franklin Street and the Downtown Segment.
- Downtown Segment
 - The Downtown Segment would begin at the I-10 Franklin Street connection and travel along Bagby Street, where a new at-grade station would be constructed. From Bagby Street, the BRT alignment would make an easterly turn onto Rusk Street, utilizing the existing Rusk Street light rail (LRT) guideway to St. Emanuel Street in the East Downtown (EaDo) neighborhood. From a new BRT-only St. Emanuel Station, the alignment would then turn west traveling within the Capitol Street LRT guideway and return to Bagby Street and to the I-10 Inner Katy Segment.

For a more detailed description of these options, see **Chapter 3**. Proposed Action of the Categorical Exclusion.

Beginning in March 2022, METRO initiated weekly TxDOT concept coordination meetings. These are ongoing through the completion of the conceptual engineering phase. The purpose of these meetings was to address TxDOT's consultants' additional design concepts for accommodating not only TxDOT's needs, but also to offer solutions for the placement of the BRT in or along the TxDOT ROW. These meetings have allowed both agencies to better

understand each other's needs and have opened up the possibility of designs not previously explored.

1.1.3 TxDOT/METRO Concept Design Workshops

In 2022, METRO and Entech conducted concept design workshop with TxDOT and TxDOT's I-10 consultants to review TxDOT's concepts for managed lanes along with BRT concepts which TxDOT has considered in its conceptual I-10 Inner Katy improvements. Subsequently, METRO established weekly conceptual design workshops to further the coordination of both the TxDOT and METRO projects within the I-10 Inner Katy ROW.

1.2 RODS SUE - TxDOT Utility Coordination

RODS SUE, under contract with Entech, has performed subsurface utility engineering (SUE) services within the ROW of I-10 to help determine locations of existing private and public utilities, as TxDOT utility drawings were unavailable at the time of conceptual BRT alignment development. Coordination was conducted with TxDOT Houston District that permitted legal access of RODS crews into the TxDOT I-10 ROW. The following activities were directed by METRO:

- I-10 BRT SUE TIES 8/31/2021 contacted the TxDOT Houston Area Engineering office for West Harris the Permits and Agreements Office
- I-10 BRT SUE TIES 9/9/2021 Coordinated locations for SUE ties with TxDOT
- I-10 BRT SUE TIES 4/11/2022 Requested from TxDOT existing control data

1.3 HVJ (Geotechnical Investigations) - TxDOT Coordination

In order to help establish subsurface geological conditions along the proposed BRT alignment where large bridge foundations are proposed, METRO successfully directed Entech and HVJ to obtain the necessary permits to enter TxDOT ROW and to carry out limited and specific borings.

1.4 Next Steps

Currently, METRO is in the Conceptual Engineering Phase of the Inner Katy BRT project and continues to advance its design of the I-10 Segment BRT alignment to obtain TxDOT approval of a METRO-acceptable BRT alignment. The next steps in the process of advancing this project include:

- Continue regular weekly or semi-weekly meetings with TxDOT to develop design concepts that include METRO and TxDOT "must have" design features to be evaluated, compared, and adjusted until an acceptable BRT alignment is agreed upon that is also compatible with TxDOT's future I-10 plans.
- Advance a conceptual-level BRT design compatible with TxDOT's planned improvements, which will include TxDOT-coordinated engineering evaluations of and conceptual solutions to other engineering concerns (drainage, lighting, etc.).
- Advance traffic modeling along the I-10 segments, as requested by TxDOT, to assist TxDOT in determining a future roadway configuration compatible with its proposed I-10 improvements (listed above) and to help secure an acceptable BRT alignment for METRO.

- Prepare estimate(s) of probable costs for the recommended BRT design solutions in the I-10 corridor.
- Complete the conceptual-level BRT design in order to obtain a Memorandum of Understanding with TxDOT that memorializes the agreed upon BRT design.
- Initiate Preliminary Engineering.

2.0 Traffic Analysis Coordination

2.1 City of Houston

The City of Houston (COH) is the primary owner and operator of public streets in Downtown Houston, where the majority of this project's traffic impact considerations are located. METRO hosted a series of meetings (five meetings in 2021 and one in 2022) with COH in attendance (February 14, June 17, July 19, August 2, August 16, and December 6). Key items of discussion included:

- Assessment of viable downtown route options for BRT
- Traffic analysis methodology BRT operational scenarios
- Downtown Study Area Interlining Existing light rail (LRT) and Proposed BRT
- Typical Weekday AM, PM, and midday peak hours
- Existing Conditions VISSIM model calibration
 - VISSIM models calibrated to real world conditions, as documented, or observed using a variety of field data sources.
 - Calibration models were developed that reasonably reflect existing multimodal traffic operations within the downtown study area – vehicle, transit, and pedestrian modes included in the models.
 - Calibrated models will be used as a basis for evaluation of future roadway and multimodal analysis.
- Future Conditions Analysis Opening Year (2027) and Design Year 2045)
- No Build conditions VISSIM model
 - Update to conditions listed under existing conditions
 - Traffic forecasting
 - METRONext transit schedule
 - Background Projects
 - 1. Bagby Street improvements
 - 2. POST Houston development
 - 3. North Houston Highway Improvement Project (NHHIP)
 - 4. LRT exclusive lane (transit only) on Capitol and Rusk Streets
- Build conditions VISSIM model
 - Update to conditions listed under No Build conditions
 - BRT operation corridor along Bagby Street connecting I-10 CBD/HOV ramp and Capitol/Rusk Streets

- Exclusive transit lanes along the south sides of Capitol Street and Rusk Street
- Proposed traffic signal timing and phasing revisions along the exclusive transit lanes

2.1.1 Next Steps

The COH has expressed support of the proposed development along the downtown corridors and generally agrees with the traffic analysis methodology, analysis results, and conclusions. METRO's next coordination steps are to provide the traffic analysis to COH as a "Traffic Impact Analysis" to obtain formal concurrence, necessary to allow for entry into any potential agreements or understanding that may be needed.

2.2 Central Houston

Central Houston is an organization that represents the interests of Downtown Houston Business Associations. METRO has coordinated directly with Central Houston regarding this project since the beginning of early spring of 2021. Items of discussion include:

- Efficiency of including exclusive transit lanes on Capitol Street and Rusk Street as part of the BRT project
- Location of the east terminus of the BRT route in Downtown
- Driveways, loading docks, and parking facility access impacts and controls
- On-street parking impacts and restrictions.

2.2.1 Next Steps

Central Houston has expressed support of the proposed development along the downtown corridors and generally agrees with the traffic analysis methodology, analysis results, and conclusions. METRO's next coordination steps are to provide Central Houston with project updates as requested.

2.3 Texas Department of Transportation (TxDOT)

TxDOT is the primary operating agency for I-10, where this project's proposed alignment is along a limited-access, elevated two-lane guideway (one travel lane in each direction) within the right-of-way and along southside of I-10 mainlanes. METRO has coordinated directly with TxDOT regarding this project beginning August 2021. Items of discussion include:

- Categorical Exclusion Methodology and Assumptions for Traffic Impact Analysis
- Study Area
- Traffic Forecasting
- Freeway analysis methodology
 - Preferred software tool for this analysis: Highway Capacity Software (HCS) for freeway and ramp segments
 - Existing and future traffic volumes were developed using available TxDOT's counts and travel demand forecasting models from Houston-Galveston Area Council (H-GAC)

> Traffic impact analysis during morning, mid-day and afternoon peak hour conditions

TxDOT has expressed support of the proposed development along I-10 and generally agrees with METRO's CE methodology and assumptions for traffic impact analysis.

2.3.1 TxDOT/METRO Concept Design Coordination

In 2022, METRO conducted a concept design workshop with TxDOT and TxDOT's I-10 managed lanes project consultants to review TxDOT's concepts for managed lanes along with BRT concepts which TxDOT has considered in its conceptual I-10 Inner Katy improvements. As requested by TxDOT, METRO agreed to perform limited traffic operational and safety analysis (from west of I-610/I-10 interchange to Durham/Shepherd Drives) to assist TxDOT in determining the future roadway configuration compatible with its proposed improvement concepts.

2.3.2 Next Steps

METRO's next coordination steps are to work with TxDOT to develop a detailed BRT alignment configuration between the I-610/I-10 interchange to Washington Avenue that supports the future expansion of the I-10 Inner Katy corridor and any additional traffic analysis of the updated alignment. In working with TxDOT, the next steps on limited traffic operational analysis for refinement of the proposed concepts include the following:

- Inclusion of the proposed managed lanes in the analysis
- Analysis of the transit and HOV traffic weaving sections along the I-10 between I-610 and Washington Avenue.
- NHHIP schedule for downtown interstate re-alignment
- Future availability of the existing Central Business District (CBD) connector roadway for I-10 HOV traffic
- cc: Shri Reddy, Executive Vice President of Planning, Engineering, & Construction Amma Cobbinah, Senior Planning Program Manager William M. Phillips, Senior Program Manager

Appendix A: Meeting Log

METRORapid Inner Katy Project

Texas Department of Transportation (and Consultants) Coordination Meetings Log Date of Coordination Participants Subject Discussion Notes Inner Katy TxDOT Coordination Meeting 20-May-21 METRO Amma Cobbinah: 2/25/2021 Public meeting take-aways William "Mark" Phillips Linda Trevino Tanya McWashington TXDOT Patrick Gant RPS David Balmos William Lisska Jeff Casbeer Martin Gonzalez WSP Sina Raouf Tim Reynolds Bin Wang Katherine Cheng CivilTech Mike Tegethoff Barry Vanderwalt Entech Michael Ponce Tim Lyng 7-Jul-21 METRO Inner Katy - Technical Coordination w/ TxDOT Amma Cobbinah; Project Progress to date William Mark Phillips Conceptual design TXDOT Ongoing TxDOT Inner Katy projects Working together Patrick Gant RPS Next Steps David Balmos Future meetings Martin Gonzalez CivilTech Barry Vanderwalt Mike Tegethoff WPS Sina Raouf Tim Reynolds Bin Wang Entech Roger Gonzalez Michael Ponce Tim Lyng Wahida Wakil 13-Jul-21 METRO Inner Katy TxDOT Coordination Meeting Amma Cobbinah; Project Progress to date **RPS Representing TxDOT** Conceptual design David Balmos Soils Boring Data request Patrick Gant Future meetings 4-Aug-21 METRO Inner Katy - Technical Coordination w/ TxDOT Amma Cobbinah; Project Progress to date William Mark Phillips Conceptual design TxDOT Ongoing TxDOT Inner Katy projects Patrick Gant Working together **RPS (TxDOT Consultant)** Next Steps David Balmos Future meetings Martin Gonzalez CivilTech Barry Vanderwalt **Mike Tegethoff** WSP Sina Raouf Tim Reynolds Bin Wang Entech Roger Gonzalez Michael Ponce Tim Lyng 15-Nov-21 METRO Collaboration with Metro & TxDOT Design Teams Amma Cobbinah Discuss ways to collaborate designs, schedules William Mark Phillips and cost sharing between METRO and TxDOT Woolpert

Mike Tegethoff

METRORapid Inner Katy Project Texas Department of Transportation (and Consultants) Coordination Meetings Log			
Date of Coordination	Participants RPS Representing TxDOT David Balmos Patrick Gant Martin Gonzalez Entech Michael Ponce Timothy Lyng Wahida Wakil Roger Gonzalez WSP Sina Raouf	Subject Discussion	<u>Notes</u>
7-Jan-22	Entech Roger Gonzalez Tim Lyng Wahida Wakil RPS Representing TxDOT David Balmos Patrick Gant	METRO maintaining HOV traffic into Downtown Discussed TxDOT managed lanes options	
9-Mar-22	METRO Amma Cobbinah William Mark Phillips Rachael Die Woolpert Mike Tegethoff RPS Representing TxDOT David Balmos Patrick Gant Entech Tim Lyng TxDOT Amanda Austin Tim Little	Discuss schematic Inner Katy options CenterPoint coordination with NHHIP Maintenance of HOV traffic on CBD ramp White Oak Project Old Katy Road potential for BRT, HOV	
12-Apr-22	METRO Amma Cobbinah William Mark Phillips Rachael Die Woolpert Mike Tegethoff RPS Representing TxDOT David Balmos Patrick Gant Entech Tim Lyng	Lessons Learned and next steps with TxDOT METRO Option 2 modifications CBD ramp White Oak Project Managed Lanes Options	
7-Jul-22 3-Aug-22	Entech Timothy Lyng Wahida Wakil METRO Amma Cobbinah William Mark Phillips Steven Washington RPS Martin Gonzales TxDOT Amanda Austin Grady Mapes WOOLPERT: Mike Tegethoff WSB: David Balmos (TxDOT Consultant) Woolpert Mike Tegethoff WSB (TxDOT Consultant) David Balmos Entech	TxDOT Coordination Teleconference Traffic Analaysis of I-10 for Corridor KML 5+2 Concept Status of I-10 corrdior as-built request Multi-agency CNP Coordination CMAQ Funds for white oak project Memorial Park ROW WHITE OAK PROJECT At-grade INTERIM OPTION ALONG OKR Air quality OPTION MATRIX Franklin concept – reversible HOV TxDOT option 2, 5 main lanes/4ml, Elev Ramp	
3-Aug-22	Enteen Timothy Lyng Lloyd Wolf Wahida Wakil Roger Gonzalez Yuki Williams Gerald Foster METRO Amma Cobbinah RPS (TxDOT Consultant) Martin Gonzales	inner Katy BKI and Managed Lane options South Option.	

METRORapid Inner Katy Project Texas Department of Transportation (and Consultants) Coordination Meetings Log			
<u>Date of Coordination</u> 11-Aug-22	Participants METRO Amma Cobbinah William Mark Phillips Steven Washington Entech Timothy Lyng Yuki Williams Woolpert Mike Tegethoff WSB (TxDOT Consultant) David Balmos	Subject Discussion Inner Katy Conceptual Working Meeting Discuss work-in-progress TxDOT Options Discuss work-in-progress METRO Options	<u>Notes</u>
17-Aug-22	METRO Amma Cobbinah William Mark Phillips Steven Washington Entech Timothy Lyng Yuki Williams Woolpert Mike Tegethoff WSB (TxDOT Consultant) David Balmos	Inner Katy Conceptual Working Meeting Discuss work-in-progress TxDOT Options Discuss work-in-progress METRO Options	
25-Aug-22	METRO Amma Cobbinah William Mark Phillips Steven Washington Entech Timothy Lyng Yuki Williams Woolpert Mike Tegethoff WSB (TxDOT Consultant) David Balmos	Inner Katy Conceptual Working Meeting Discuss work-in-progress TxDOT Options Discuss work-in-progress METRO Options	

METRORapid Inner Katy Project City of Houston Technical Coordination Meetings Log

Date of Coordination	Participants	Subject Discussion	Notes
6/17/2021	COH , METRO	METRORapid Inner Katy Project, potential alignment	ī — · · · ·
		options, COH signal timing and other available data	
7/19/2021	COH, METRO	request. Discuss Inner Katy Downtown Segment alignment concepts, METRO's evaluation of operational feasibility, and signal timing. Traffic analysis methodology	Prepare assessment of Downtown routing options to discuss with City of Houston in the next meeting, scheduled for Monday 8/2 at 2pm CT. Presentation could include landuse plan, employment centers, ridership forecasts, transit service routes.
8/2/2021	COH, METRO	Background of projects currently under construction Downtown, downtown bike plan, congress bridge project, NHHIP.	Jacobs to setup follow up meeting with COH to review the traffic signal timing/phasing and logic to operate multi- modal traffic through downtown intersection signals and interlocking with LRT operations.
8/16/2021	COH, METRO	METRORapid Inner Katy Project, downtown signal plan, downtown bike plan, NHHIP, Katy managed lane project	Jacobs to provide documents including data collection, traffic analysis methods and assumtions memo, traffic forecasting methodology. Work with COH staff for follow-up meeting to discuss signal timing plan, phasing and current LRT signal operations logic along key downtown intersections and corridors.
12/6/2021	COH, METRO	METRORapid Inner Katy Projecto. Franklin St improvements, proposed EaDP plan, other downtown future improvements, NHHIP, Katy managed lane project. Existing condition analysis - VISSIM calibration effort, future No-build and Build conditions	Share VISSIM files along with supporting docments with COH for review and comments

METRORapid Inner Katy Project			
	City of Ho	ouston Technical Coordination Meetings Log	
Date of Coordination	on <u>Participants</u> COH, METRO	Subject Discussion No-Build and Build conditions VISSIM models - Operational analysis results for future 2027 and 2045 conditions. Overall the study area roadway and intersections projected to operate acceptably	Notes Address the interim plan without the completion of the NHHIP project, the proposed St Emanual/EaDo station location will be impacted by the timing of the improvements of the I-69 project and may also impacted of the downtown traffic patterns from the CBD ramp.
	Joint Texas Depart Metropolitan Tra	Planning Meetings: ment of Transportation and nsit Authority of Harris County	
Date of Coordination December 4, 2020	Participants Laura B. González Amma Cobbinah James Koch Patrick Gant Andrew Mao Larry Blackburn Clint Harbert Kimberly Smith - EA Systems Planning Ujari Mohite Eliza Paul Sue Theiss david.balmos@rpsgroup.com Raquelle Lewis Amanda Austin dmenendez@Huitt-Zollars.com Michael Tegethoff Priya Zachariah Vincent Sanders	Projects Discussion North Houston Highway Improvement Project (METRO/TxDOT) METRORapid University Project (METRO) BOOST (METRO) SH 35 (Spur 5) from 1-45 to 1-610 (TxDOT) Cypress P&R Project (METRO) US 59/69 Two-way HOV (METRO) Katy Managed Lanes Project (METRO) Outer Katy Service - TxDOT	Notes
January 26, 2021	Martin Gonzalez Catherine McCreight Varuna Singh Name Laura B. González James Koch Patrick Gant Andrew Mao Larry Blackburn Clint Harbert Kimberly Smith - EA Systems Planning Ujari Mohite Eliza Paul Sue Theiss david.balmos@rpsgroup.com Raquelle Lewis dmenendez@Huitt-Zollars.com Michael Tegethoff Priya Zachariah	North Houston Highway Improvement Project (METRO/TxDOT) METRORapid University Project (METRO) BOOST (METRO) SH 35 (Spur 5) from 1-45 to 1-610 (TxDOT) Cypress P&R Project (METRO) US 59/69 Two-way HOV (METRO) Katy Managed Lanes Project (METRO) Outer Katy Service - TxDOT	
February 5, 2021	Vincent Sanders Martin Gonzalez Catherine McCreight Varuna Singh Emily Reddix Amma Cobbinah Laura B. González James Koch Patrick Gant Andrew Mao Larry Blackburn Clint Harbert Kimberly Smith - EA Systems Planning Ujari Mohite Eliza Paul Sue Theiss david.balmos@rpsgroup.com Raquelle Lewis Amanda Austin dmenendez@Huitt-Zollars.com Michael Tegethoff Priya Zachariah Vincent Sanders Martin Gonzalez Catherine McCreight Varuna Singh	North Houston Highway Improvement Project (METRO/TxDOT) METRORapid University Project (METRO) BOOST (METRO) SH 35 (Spur 5) from 1-45 to 1-610 (TxDOT) Cypress P&R Project (METRO) US 59/69 Two-way HOV (METRO) Katy Managed Lanes Project (METRO) Outer Katy Service - TxDOT	

Notes

Joint Planning Meetings: Texas Department of Transportation and Metropolitan Transit Authority of Harris County

Date of Coordination March 5, 2021	<u>Participants</u>	Projects Discussion North Houston Highway Improvement Project (METRO/TxDOT)
	Laura B. González	METRORapid University Project (METRO)
	James Koch	METRORapid Inner Katy Project (METRO)
	Patrick Gant	BOOST (METRO)
	Andrew Mao	SH 35 (Spur 5) from I-45 to I-610 (TxDOT)
	Larry Blackburn	Cypress P&R Project (METRO)
	Clint Harbert	US 59/69 Two-way HOV (METRO)
	Kimberly Smith - EA Systems Planning	Katy Managed Lanes Project (METRO)
	Uiari Mohite	Outer Katy Service - TxDOT
	Eliza Paul	
	Sue Theiss	
	david balmos@rnsgroup.com	
	Baquelle Lewis	
	Amanda Austin	
	dmenendez@Huitt-Zollars.com	
	Michael Tegethoff	
	Priva Zachariah	
	Vincent Sanders	
	Martin Conzoloz	
	Cathoring McCroight	
	Varuna Singh	
	Varuna Singn	
wil 1 2021	Amma Cobbinan	North Houston Highway Improvement Desires (APTRO / DOT)
prii 1, 2021		METROPERION HIGHWAY IMPROVEMENT Project (METRO/TXDOT)
	Laura B. Gonzalez	METRORapid University Project (METRO)
	James Koch	METRORapid Inner Katy Project (METRO)
	Patrick Gant	BOOST (METRO)
	Andrew Mao	SH 35 (Spur 5) from I-45 to I-610 (TxDOT)
	Larry Blackburn	Cypress P&R Project (METRO)
	Clint Harbert	US 59/69 Two-way HOV (METRO)
	Kimberly Smith - EA Systems Planning	Katy Managed Lanes Project (METRO)
	Ujari Mohite	Outer Katy Service - TxDOT
	Eliza Paul	
	Sue Theiss	
	david.balmos@rpsgroup.com	
	Raquelle Lewis	
	Amanda Austin	
	dmenendez@Huitt-Zollars.com	
	Michael Tegethoff	
	Priya Zachariah	
	Vincent Sanders	
	Martin Gonzalez	
	Catherine McCreight	
	Varuna Singh	
	Amma Cobbinah	
une 4, 2021		North Houston Highway Improvement Project (METRO/TxDOT)
	Laura B. González	METRORapid University Project (METRO)
	James Koch	METRORapid Inner Katy Project (METRO)
	Patrick Gant	BOOST (METRO)
	Andrew Mao	SH 35 (Spur 5) from I-45 to I-610 (TxDOT)
	Larry Blackburn	Cypress P&R Project (METRO)
	Clint Harbert	US 59/69 Two-way HOV (METRO)
	Kimberly Smith - EA Systems Planning	Katy Managed Lanes Project (METRO)
	Uiari Mohite	Outer Katy Service - TxDOT
	Eliza Paul	
	Sue Theiss	
	david halmos@rnsgroup.com	
	Requelle Lewis	
	Amanda Austin	
	Amanud Austin	
	Drive Zechenick	
	Priya Zacharian	
	Vincent Sanders	
	wartin Gonzalez	
	Catherine McCreight	
	Varuna Singh	
	Amma Cobbinah	

Joint Planning Meetings: Texas Department of Transportation and Metropolitan Transit Authority of Harris County

Date of Coordination July 2, 2021	Participants	Projects Discussion North Houston Highway Improvement Project (METRO/TxDOT)	Note
	Laura B. González	METRORapid University Project (METRO)	
	James Koch	METRORapid Inner Katy Project (METRO)	
	Patrick Gant	BOOST (METRO)	
	Andrew Mao	SH 35 (Spur 5) from I-45 to I-610 (TxDOT)	
	Larry Blackburn	Cypress P&R Project (METRO)	
	Clint Harbert	US 59/69 Two-way HOV (METRO)	
	Kimberly Smith - EA Systems Planning Ujari Mohite	Katy Managed Lanes Project (METRO) Outer Katy Service - TxDOT	
	Eliza Paul		
	Sue Theiss		
	david.balmos@rpsgroup.com		
	Amanda Austin		
	Michael Tegethoff		
	Vincent Sanders		
	Martin Gonzalez		
	Catherine McCreight		
	Varuna Singh		
AND NOTE LODGE	Amma Cobbinah		
August 6, 2021	Leves B. Cometine	North Houston Highway Improvement Project (METRO/TxDOT)	
	Laura B. Gonzalez	METRORapid University Project (METRO)	
	Patrick Gant	BOOST (METRO)	
	Andrew Mao	SH 35 (Spur 5) from I-45 to I-610 (TxDOT)	
	Larry Blackburn	Cypress P&R Project (METRO)	
	Clint Harbert	US 59/69 Two-way HOV (METRO)	
	Kimberly Smith - EA Systems Planning	Katy Managed Lanes Project (METRO)	
	Eliza Paul	Outer Katy Service - TxDOT	
	Sue Theiss		
	david.balmos@rpsgroup.com		
	Raquelle Lewis		
	Amanda Austin Michael Tegethoff		
	Vincent Sanders		
	Martin Gonzalez		
	Catherine McCreight		
	Varuna Singh		
	Amma Cobbinah		
September 3, 2021		North Houston Highway Improvement Project (METRO/TxDOT)	
	Laura B. González	METRORapid University Project (METRO)	
	James Koch Patrick Cant	POOST (METRO)	
	Andrew Mag	SH 35 (Spur 5) from I-45 to I-610 (TxDOT)	
	Larry Blackburn	Cypress P&R Project (METRO)	
	Clint Harbert	US 59/69 Two-way HOV (METRO)	
	Kimberly Smith - EA Systems Planning	Katy Managed Lanes Project (METRO)	
	Eliza Paul	Outer Katy Service - TxDOT	
	Sue Theiss	Wheeler TC	
	david.balmos@rpsgroup.com	82 Westheimer	
	Raquelle Lewis		
	Amanda Austin		
	Vincent Sanders		
	Martin Gonzalez		
	Catherine McCreight		
	Varuna Singh		
	Amma Cobbinah		
November 5, 2021		North Houston Highway Improvement Project (METRO/TxDOT)	
	Laura B. González	METRORapid University Project (METRO)	
	James Koch	METRORapid Inner Katy Project (METRO)	
	Patrick Gant	BOOST (METRO)	
	Andrew Mao	SH 35 (Spur 5) from I-45 to I-610 (TxDOT)	
	Larry Blackburn	Cypress P&R Project (METRO)	
	Clint Harbert Kimborly Smith - EA Systems Planning	US 59/69 Two-way HOV (METRO)	
	Fliza Paul	Outer Katy Service - TyDOT	
	Sue Theiss	Wheeler TC	
	david.balmos@rpsgroup.com	82 Westheimer	
	Raquelle Lewis		
	Amanda Austin		
	dmenendez@Huitt-Zollars.com		
	Michael Tegethoff		
	Vincent Sanders		
	Martin Gonzalez		
	Catherine McCreight		
	varuna Singn		
	Amma Coobinan		

Notes

Joint Planning Meetings: Texas Department of Transportation and

Metropolitan Transit Authority of Harris County		
Date of Coordination	Participants	Projects Discussion
February 4, 2022	Name	North Houston Highway Improvement Project (METRO/TxDOT)
	Laura B. González	METRORapid University Project (METRO)
	James Koch	METRORapid Inner Katy Project (METRO)
	Andrew Mao	BOOST (METRO)
	Larry Blackburn	SH 35 (Spur 5) from I-45 to I-610 (TxDOT)
	Clint Harbert	Cypress P&R Project (METRO)
	Kimberly Smith - FTA Coordinator	US 59/69 Two-way HOV (METRO)
	Sue Theiss	Outer Katy Service - TXDOT
	david.balmos@rpsgroup.com	Wheeler TC
	Raquelle Lewis	82 Westheimer
	Amanda Austin	
	Vincent Sanders	
	Martin Gonzalez	
	Catherine McCreight	
	Varuna Singh	
	Terri Dedhia	
	Camilie Grazda	
	Yubayna Mahmud	
	Rachael Die	
	Amma Cobbinah	
	Taylor Marcantel	
	Shri Reddy	
March 4, 2022	Name	North Houston Highway Improvement Project (METRO/TxDOT)
	Laura B. González	METRORapid University Project (METRO)
	Yuhayna Mahmud	METRORapid Inner Katy Project (METRO)
	Rachael Die	BOOST (METRO)
	Amma Cobbinan	SH 35 (Spur 5) from I-45 to I-610 (IXDOT)
	laura B. González	LIS 59/69 Two-way HOV/ (METRO)
	James Koch	Katy Managed Lanes Project (METRO)
	Andrew Mao	Outer Katy Service - TxDOT
	Larry Blackburn	Wheeler TC
	Clint Harbert	82 Westheimer
	Kimberly Smith - EA Systems Planning	
	Eliza Paul	
	Sue Theiss	
	david.balmos@rpsgroup.com	
	Raquelle Lewis	
	Amanda Austin Vincent Sanders	
	Martin Gonzalez	
	Catherine McCreight	
	Varuna Singh	
	Terri Dedhia	
	Camille Grazda	
	Shri Reddy	
April 1, 2022	Name	North Houston Highway Improvement Project (METRO/TxDOT)
	Laura B. González	METRORapid University Project (METRO)
	Yunayna Manmud	METROKAPID INNER KATY Project (METRO)
	Amma Cobbinab	SH 35 (Spur 5) from L 45 to L 610 (TyDOT)
	Taylor Marcantel	Cypress P&R Project (METRO)
	Laura B. González	US 59/69 Two-way HOV (METRO)
	James Koch	Katy Managed Lanes Project (METRO)
	Andrew Mao	Outer Katy Service - TxDOT
	Larry Blackburn	Wheeler TC
	Clint Harbert	82 Westheimer
	Kimberly Smith - EA Systems Planning	
	Eliza Paul	
	david halmos@rnsgroup.com	
	Baquelle Lewis	
	Amanda Austin	
	Vincent Sanders	
	Martin Gonzalez	
	Catherine McCreight	
	Varuna Singh	
	Terri Dedhia	
	Camille Grazda	
	Shri keddy	

Joint Planning Meetings: Texas Department of Transportation and Metropolitan Transit Authority of Harris County

Date of Coordination May 6, 2022	Participants Name Laura B. González Yuhayna Mahmud Rachael Die Amma Cobbinah Taylor Marcantel Laura B. González James Koch Andrew Mao Larry Blackburn Clint Harbert Kimberly Smith - EA Systems Planning Eliza Paul Sue Theiss david.balmos@rpsgroup.com Raquelle Lewis Amanda Austin Vincent Sanders Martin Gonzalez Catherine McCreight Varuna Singh	Projects Discussion North Houston Highway Improvement Project (METRO/TxDOT) METRORapid University Project (METRO) BOOST (METRO) SH 35 (Spur 5) from 1-45 to 1-610 (TxDOT) Cypress P&R Project (METRO) US 59/69 Two-way HOV (METRO) Katy Managed Lanes Project (METRO) Outer Katy Service - TxDOT Wheeler TC 82 Westheimer	<u>Notes</u>
	Terri Dedhia Camille Grazda		
June 3, 2022	Shri Reddy Name Laura B. González Yuhayna Mahmud Rachael Die Amma Cobbinah Taylor Marcantel Laura B. González James Koch Andrew Mao Larry Blackburn Clint Harbert Kimberly Smith - EA Systems Planning Eliza Paul Sue Theiss david.balmos@rpsgroup.com Raquelle Lewis Amanda Austin Vincent Sanders Martin Gonzalez Catherine McCreight Varuna Singh	North Houston Highway Improvement Project (METRO/TxDOT) METRORapid University Project (METRO) BOOST (METRO) SH 35 (Spur 5) from I-45 to I-610 (TXDOT) Cypress P&R Project (METRO) US 59/69 Two-way HOV (METRO) Katy Managed Lanes Project (METRO) Outer Katy Service - TXDOT Wheeler TC 82 Westheimer	
	Camille Grazda Shri Beddy		
July 1, 2022	Laura B. González Yuhayna Mahmud Rachael Die Amma Cobbinah Taylor Marcantel Laura B. González James Koch Larry Blackburn Clint Harbert Kimberly Smith - EA Systems Planning Eliza Paul Sue Theiss david.balmos@rpsgroup.com Raquelle Lewis Amanda Austin Vincent Sanders Martin Gonzalez Catherine McCreight Varuna Singh Terri Dedhia Camille Grazda Shri Reddy	North Houston Highway Improvement Project (METRO/TxDOT) METRORapid University Project (METRO) BOOST (METRO) SH 35 (Spur 5) from 1-45 to 1-610 (TxDOT) Cypress P&R Project (METRO) US 59(58 Two-way HOV (METRO) Katy Managed Lanes Project (METRO) Outer Katy Service - TxDOT Wheeler TC 82 Westheimer	

Joint Planning Meetings: Texas Department of Transportation and Metropolitan Transit Authority of Harris County

Date of Coordination

Projects Discussion

Notes

August 5, 2022

Rachael Die

James Koch

Clint Harbert

Sue Theiss

Terri Dedhia Camille Grazda Shri Reddy

Participants Name Laura B. González Yuhayna Mahmud Amma Cobbinah Taylor Marcantel Laura B. González Larry Blackburn Kimberly Smith - EA Systems Planning Eliza Paul david.balmos@rpsgroup.com Raquelle Lewis Amanda Austin Vincent Sanders Martin Gonzalez Catherine McCreight Varuna Singh

North Houston Highway Improvement Project (METRO/TxDOT) METRORapid University Project (METRO) METRORapid Inner Katy Project (METRO) BOOST (METRO) SH 35 (Spur 5) from I-45 to I-610 (TxDOT) Cypress P&R Project (METRO) US 59/69 Two-way HOV (METRO) Katy Managed Lanes Project (METRO) Outer Katy Service - TxDOT Wheeler TC 82 Westheimer

Attachment F – NHHIP Impacts

Mission Statement

"Provide safe, clean, reliable, accessible and friendly public transportation services to our region."

Board of Directors

Sanjay Ramabhadran (Ram), P.E. *Chair*

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Thomas C. Lambert

January 19, 2023

Ms. Gail Lyssy Regional Administrator Federal Transit Administration, Region VI 819 Taylor Street, Room 14A02 Fort Worth, TX 76102

ATTN: Ms. Ronisha Hodge

SUBJECT: TxDOT's North Houston Highway Improvement Project Impacts to the METRORapid Inner Katy Project: *FTA's Comment on Categorical Exclusion*

Dear Ms. Lyssy:

Thank you for the opportunity to discuss the impacts of the Texas Department of Transportation (TxDOT)'s North Houston Highway Improvement Project (NHHIP) to the Metropolitan Transit Authority of Harris County (METRO)'s operations, specifically the METRORapid Inner Katy Project.

Over the past several years, METRO has specifically expressed how the NHHIP project impacts the METRORapid Inner Katy project, METRONext Program, current and future METRO projects and service through formal and informal communication. METRO has also provided comments on TxDOT's Draft and Final Environmental Impact Statements and Record of Decision for NHHIP, actively participated in the Mayor's Facilitation Workgroup, and also held several design and strategy coordination meetings between the two agencies.

In December 2022, the City of Houston (COH) and Harris County each executed a Memorandum of Understanding (MOU) with TxDOT for the NHHIP project. Harris County also dismissed the associated lawsuit filed over the Project. The Federal Highway Administration (FHWA) review of and hold on the Project, however, remains. TxDOT maintains coordination and collaboration with METRO on the potential accommodation of METRO's planned Inner Katy Bus Rapid Transit ("BRT") connection into the Central Business District ("CBD"), as well as current and future transit bus service through the MOUs, but without specific commitments.

Background

The existing Katy CBD ramp offers the most convenient and effective means for connecting transit along I-10 West and US 290 corridors into Downtown Houston for both existing Park & Ride services, express/local services and the proposed Inner Katy Bus Rapid Transit (BRT). The CBD ramp is also an essential element in the alignment definition of the Inner Katy project in the voter-approved

1

METRONext plan (2019) and a part of the Inner Katy BRT Congestion Mitigation Air Quality (CMAQ) grant approved by the Houston-Galveston Area Council in 2019.

TxDOT's NHHIP project, the planned reconstruction of I-45 north between Downtown Houston and the North Sam Houston Tollway, calls for the removal of the CBD ramp. Following METRO's coordination with TxDOT, METRO decided to advance two design options in the Inner Katy project categorical exclusion (CE) submitted to FTA. Design Option 1 uses the CBD ramp as proposed in the METRONext plan; Design Option 2 was developed to allow for mitigation of impacts due to NHHIP and to provide METRO the flexibility to adapt to the changes from NHHIP.

Design Option 1(METRO's Preferred Option): This consists of an exclusive busway on an elevated structure located along the south side of 1-10 that ties back to the existing Katy CBD ramp into Downtown. The Inner Katy project assumes the use of the existing Katy CBD ramp connector into Downtown.

Design Option 2 is similar to Option 1, consisting of an elevated busway along the south side of I-10 but accommodates for NHHIP project. The NHHIP calls for the partial removal of the Katy CBD ramp. Under Option 2, the exclusive busway from I-10 would not transition to the CBD ramp but continue along the south side of I-10 on a new structure toward Downtown that would transition to the southern end of the CBD ramp, just north of Franklin Street. METRO will utilize this option if necessary and seek reimbursement from TxDOT for the new elevated structure that will be necessary in lieu of the CBD ramp.

Traffic conditions along the I-10 Inner Katy corridor is also anticipated to be the same under either design options, as demonstrated in the Inner Katy CE.

Below are some of the impacts from the NHHIP project which have been raised by METRO to TxDOT through letters:

Major Impacts from the NHHIP project to the METRORapid Inner Katy project:

- 1. *On December 8, 2020*, a letter was sent to TxDOT summarizing specific concerns along with impacts of the removal of the CBD connector as a result of the NHHIP project on (See Pages 3-5 of 5):
 - The removal of the Katy-CBD bus ramp impacts METRO operations by forcing commuter buses into mixed traffic to enter Downtown. In response to this concern, TxDOT states that a dedicated bus/HOV lane has been added to the IH-10 Express Lanes with direct access to Smith and Louisiana Streets to replace the existing connector. More clarification is needed

regarding the design of the IH-10 Express Lanes (Managed Lanes) and how they will interface with the pending Inner Katy HOV/BRT lanes.

- Removal of the Katy CBD ramp severely impacts METRO's ability to construct and operate the Inner Katy BRT project as approved by voters in METRONext and in the grant approved by the Transportation Policy Council at the Houston-Galveston Area Council. This impact must be acknowledged and resolved by TxDOT. The removal will add significant capital costs to the Inner Katy BRT Project.
- The Katy CBD ramp is a federally funded facility, and its demolition may require repayment of funds to FTA. TxDOT needs to acknowledge this and commit to addressing this issue.
- The MaX Lane operations on the proposed Katy Express Lanes need to be defined prior to letting the Design-Build contract. Supplementing access and mobility during construction will be undefined and potentially unreliable without a clear expectation of the function and connectivity of these facilities.
- Historically, when TxDOT project design issues have affected another agency's service operations like METRO, TxDOT commits to resolving those design issues to their mutual benefit. METRO has worked with TxDOT in several aspects of this project and can be a valuable resource to help mitigate NHHIP construction impacts by providing mass transit during peak periods.
- Should removal of the Katy-CBD ramp go forward, TxDOT must commit to keeping the ramp in service during construction until an interim ramp or lane with similar or better operations is provided or until the connection to the I-10 Express Lanes is completed.
- 2. In another letter to TxDOT dated *February 23, 2021*, regarding North Houston Highway Improvement Project Record of Decision review (See Pages 2, 4 and 5), METRO reiterated that TxDOT must find, "*alternatives acceptable to METRO and our operations due to the removal of this downtown connector*". METRO provided comments to the NHHIP Record of Decision, where METRO's concerns were stated (See page 4 of 6).
- 3. On August 4, 2021, METRO sent comments regarding the NHHIP Unified Transportation Program and stated that TxDOT should focus on "either replacing or compensating METRO for the loss of the Katy Freeway CBD bus ramp" (See page 1 of 2).

It should be noted here, that in December 2022, the City of Houston and TxDOT signed Memorandum of Understanding (attached) which states that TxDOT commits to, "work with METRO to find a mutually acceptable solution needed to address the replacement of the Downtown Connector Ramp." So, while

TxDOT has acknowledged the impact to the Katy CBD Ramp, they have not addressed the issue in design.

- 4. Additionally, TxDOT's White Oak Project also impacts the Inner Katy project. The project aims to raise the existing main lanes above the White Oak Bayou floodplain and construct a new shared use path and detention pond along I-10 from Heights Boulevard to I-45, which significantly impacts the Inner Katy project. The proposed design of the White Oak Bayou project also assumes partial demolition of the existing CBD connector presently used by transit and HOV traffic in and out of Downtown. On November 28, 2022, METRO sent a letter to TxDOT outlining these concerns (See page 2 of 3).
- 5. The Inner Katy end-of-line station at St. Emanuel/EaDo is also impacted by TxDOT's NHHIP Segment 3D which proposes to depress and widen the I-59/69 Southwest Freeway, with some drainage improvements along St. Emanuel. The anticipated completion of Segment 3D is 2034, which would delay the opening of the BRT station at St. Emanuel/EaDo by approximately seven years. As a result, an interim end-of-line station is under evaluation. In a recent interagency coordination meeting in November 2022, which TxDOT participated in, the issue was discussed.

With the execution of the COH-TxDOT and Harris County-TxDOT MOUs, and a possible federal action that may release the pause on NHHIP sometime in the future, METRO and our regional partners are prepared to engage with TxDOT as their projects continue. METRO will continue to coordinate with TxDOT for reasonable and efficient transit operations for the region and for the Inner Katy BRT project, with the intention to execute an agreement on a project-by-project basis to mitigate impacts from NHHIP. If you have any questions, please feel free to contact me at (713) 739-6062.

Sincerely,

Andly

Shri Reddy, P.E. Executive Vice-President Planning, Engineering and Construction

Cc: Mr. Thomas Lambert – President & CEO/METRO Clint B. Harbert, AICP – Vice President -System and Capital Planning -PEC/METRO Amma Cobbinah – Sr. Planning Program Manager - PEC/METRO

PREVIOUS COORDINATION WITH THE TEXAS DEPARTMENT OF TRANSPORTATION REGARDING IMPACTS TO THE METRORAPID INNER KATY PROJECT

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Thomas C. Lambert

December 8, 2020

Ms. Eliza Paul, P.E. District Engineer Texas Department of Transportation Houston District P.O. Box 1386 Houston, Texas 77251-1386

RE: North Houston Highway Improvement Project (NHHIP) Final Environmental Impact Statement (FEIS) Review

Dear Ms. Paul:

The Metropolitan Transit Authority of Harris County (METRO), as a Cooperating Agency in the environmental process, appreciates the opportunity to review the North Houston Highway Improvement Project (NHHIP) Final Environmental Impact Statement (FEIS). This is a generational undertaking that will alter mobility and transportation in the Houston region for the foreseeable future. Therefore, METRO believes it is imperative that this project improve current and future transit operations within the Houston region. It is also imperative that this project integrate the voter approved METRONext Plan. The project itself should use transit as mitigation to address the long construction phases that have been proposed and position transit as a long-term capacity solution.

In reviewing the FEIS, METRO finds that most of its comments have not been adequately addressed and that the FEIS is deficient in specific design changes and mitigation commitments requested by METRO. This is particularly troubling in light of the fact that METRO has the special standing of a Cooperating Agency in this environmental process, and under normal practices, TxDOT as the lead agency, should be particularly diligent in assuring that the comments and concerns of the Cooperating Agency are fully addressed.

The project as proposed will severely impact METRO's facilities, operations, our riders and travel times for many others. Keep in mind, about one-third of downtown Houston employees rely on METRO to get to and from work. Whether they use local or commuter buses, transit services for these employees and others would be diminished, yet our operating costs would go up.

It's not just downtown employees who will have their service and travel times impacted. METRO carries over one-quarter of the employees into the

December 4, 2020 Page 2 of 5

Texas Medical Center, so NHHIP project impacts at the Wheeler Transit Center would diminish service along the METRORail Redline.

METRO expects and insists that its services and facilities are kept whole or improved as part of this project. We do acknowledge TxDOT's commitment to continued coordination that will occur throughout the project, especially regarding METRORail impacts and bus service adjustments. We also acknowledge there may be benefits to our Regional Express on IH-45 North, but this does not outweigh the seriousness of the impacts that will result.

After a thorough review of the FEIS and the responses to our comments, we have identified the following overarching concerns. METRO asks that the following issues be addressed in both design and mitigation commitments in the Record of Decision, as well as including a summary of how all of the comments received on the FEIS are addressed.

Operating Costs

 Based on information included in the FEIS, METRO will incur significant increased operating costs annually during construction of this project, as well as in the long-term. METRO identified these impacts in response to the DEIS. TxDOT must commit to managing theses impacts through design changes, improved construction methods, or negotiating a cost reimbursement with METRO.

Downtown Access

- METRO extensively uses access ramps into Downtown to provide efficient service; Polk Street on the east end, Pierce/St. Joseph Parkway ramps on the southwest, and the Louisiana Street northbound access to the IH-45 HOV lane. These connections have been eliminated in the NHHIP design. TxDOT has declined to modify the existing plans to preserve these access points per our request stating design constraints. The FEIS must include commitments to mitigate the service impacts METRO will incur from route deviations caused by the changes. The FEIS does not address this issue.
- The Louisiana Street access to the IH-45 HOV lane is a Federal Transit Administration (FTA) funded project (transit streets and ramps). As proposed, this facility is removed, and transit will be consolidated on Travis/Milam. We are concerned about the operational impacts that are not disclosed in the document and METRO will need to be made whole to meet the terms of the FTA funded ramp connection, as well as implement the voter approved METRONext projects.

MaX Lane Access and Operation

December 4, 2020 Page 3 of 5

- The FEIS does not define how the proposed Managed Lanes on IH-45 will operate. The FEIS states that managing the operations will be determined during final design and coordinated with METRO. Since the MaX lanes will not be tolled, the FEIS should identify a range of methods to manage the capacity and operating speed of the MaX lanes and commit to minimum acceptable thresholds for traffic and transit speeds.
- METRO recommends that TxDOT commit to dedicated transit operations within the Max Lanes or another traffic management solution. This would assure reliable travel times for METRO's Regional Express Bus service in the absence of tolling or other mechanisms for managing MaX lane operations. Dedicated lanes would support voter approved METRONext projects, such as Bus Rapid Transit (BRT) to Bush Intercontinental Airport (IAH) and improved Regional Express service.
- METRONext proposes using the proposed MaX lanes for the IH-45 BRT to IAH. METRO asks that TxDOT work with METRO to include accommodations for the design and construction of a future BRT stop inside IH-610, as well as potential modifications at other key points in the corridor, such as North Shepherd Drive, SH-249 and Greenspoint.
- A re-evaluation of portions of the project are being proposed by numerous stakeholders, including the City of Houston and Harris County. METRO should be included in all aspects of any change to the proposed concept. TxDOT should work with all parties in the development of a cross section that could include a high-capacity transit envelope and infrastructure that will accommodate a range of options from Regional Express Bus to BRT to future autonomous/connected vehicle technologies. This is especially important with tolling being removed from the project.

Katy CBD Ramp

- The removal of the Katy-CBD bus ramp impacts METRO operations by forcing commuter buses into mixed traffic to enter Downtown. In response to this concern, TxDOT states that a dedicated bus/HOV lane has been added to the IH-10 Express Lanes with direct access to Smith and Louisiana Streets to replace the existing connector. More clarification is needed regarding the design of the IH-10 Express Lanes (Managed Lanes) and how they will interface with the pending Inner Katy HOV/BRT lanes.
- Removal of the Katy CBD ramp severely impacts METRO's ability to construct and operate the Inner Katy BRT project as approved by voters in METRONext and in the grant approved by the Transportation Policy Council at the Houston-Galveston Area Council. This impact must be acknowledged and resolved by TxDOT.

December 4, 2020 Page 4 of 5

The removal will add significant capital costs to the Inner Katy BRT Project.

- The Katy CBD ramp is a federally funded facility and its demolition may require repayment of funds to FTA. TxDOT needs to acknowledge this and commit to addressing this issue.
- The MaX lane operations on the proposed Katy Express Lanes need to be defined prior to letting the Design-Build contract. Supplementing access and mobility during construction will be undefined and potentially unreliable without a clear expectation of the function and connectivity of these facilities.
- Historically, when TxDOT project design issues have affected another agency's service operations like METRO, TxDOT commits to resolving those design issues to their mutual benefit. METRO has worked with TxDOT in several aspects of this project and can be a valuable resource to help mitigate the construction impacts by providing mass transit during peak periods.
- Should removal of the Katy-CBD ramp go forward, TxDOT must commit to keeping the ramp in service during construction until an interim ramp or lane with similar or better operations is provided or until the connection to the IH-10 Express Lanes is completed.

Wheeler Station/Transit Center Impacts

- The FEIS acknowledges that, "A portion of the Wheeler Transit Center property is located within the proposed right-of-way of the Preferred Alternative. However, access to the transit center and rail services provided at the transit center would not be permanently impacted, as US 59/I-69 would be depressed in that area, and the rail lines would be located above the freeway at ground level. (pg. 3-25, lines 22-25)". While METRO has been coordinating with TxDOT on the design and construction phasing of the Red Line and the Wheeler Station, there is no acknowledgment of the magnitude of impact to the transit center. The entire transit center, including rail platforms, tracks and systems, and bus bays will need to be redesigned and reconstructed. The FEIS must include a commitment to accommodating, funding, and resolving these impacts both during construction and the final condition.
- The FEIS does not address operating impacts to the Red Line and bus routes at the Wheeler Transit Center during construction of the underpass. Design and construction phasing coordination with METRO needs to continue, in order to limit the need for expensive bus bridges at this location, thereby reducing additional construction impacts. The Red Line ridership and the transfers that occur at this location are some of the highest in the system. The impacts to the travel times of these passengers are not addressed.

December 4, 2020 Page 5 of 5

- A Traffic Impact Analysis (TIA) has been requested to determine the implications of closing Wheeler Transit Center driveway and Blodgett Street. TxDOT's response was that METRO has contracted a TIA. METRO has not contracted a TIA and reiterates that TxDOT conduct one to assess the impacts to the transit center.
- METRO has been working with TxDOT's designers in the design and construction phasing to minimize the interruption of METRORail operations on the Red and Green/Purple Lines. Similar to impacts described for the Redline above, the FEIS does not commit TxDOT to restoring METRO's services and facilities or reimbursing METRO the additional operating costs incurred when the affected METRORail lines are out of commission. Both the Red and Purple lines are Federally funded. Nor does the FEIS identify how the reconstruction of these facilities will be funded. These commitments should be defined prior to letting any Design-Bid-Build or Design-Build contracts.

A detailed assessment of each of the responses to METRO's DEIS comments is included in the attached matrices: one for the FEIS Volume I and one for the schematic drawings. METRO also noticed that the schematic drawings were dated December 2019 and needs to be kept apprised as the drawings are updated.

Our continued collaboration on the NHHIP is necessary to achieve a satisfactory resolution to the outstanding issues identified. Our partnership is vital to ensure that the project provides a variety of safe and reliable travel options for the greater Houston region. Feel free to contact me at 713-615-6409 with any questions you may have.

Sincerely, Thomas C. Lamb President & Chief Executive Officer

Attachments:

- METRO Comments to the FEIS Volume 1
- METRO Comments to the FEIS Drawings

cc: METRO Board of Directors

Mission Statement

"Provide safe, clean, reliable, accessible and friendly public transportation services to our region."

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President & Chief Executive Officer

Thomas C. Lambert

February 23, 2021

Ms. Eliza Paul, P.E. District Engineer Texas Department of Transportation (TxDOT) Houston District P.O. Box 1386 Houston, Texas 77251-1386

RE: North Houston Highway Improvement Project (NHHIP) Record of Decision Review

Dear Ms. Paul:

The Metropolitan Transit Authority of Harris County (METRO), as a Cooperating Agency in the environmental process and a critical stakeholder for the project, has reviewed the North Houston Highway Improvement Project (NHHIP) Record of Decision (ROD). In prior correspondence. METRO has stressed how this is a generational undertaking that will alter mobility and transportation in the Houston region for the foreseeable future. However, the project as currently designed, as well as described in the Record of Decision (ROD) does not address METRO's concerns or comments on the FEIS. Our Agency has a mandate to implement the voter approved METRONext projects. The current NHHIP project is anticipated to have negative impacts on, not only METRONext project implementation, but our agency's current operations. facilities, maintenance, associated costs, in addition to severe impacts to transit patrons and transit travel times. The scale of NHHIP construction will have significant short-term impacts on METRO ridership; but the long term impacts resulting from relocated bus stops, indirect routes, forced transfers from METRORail, and increased travel time may dissuade transit use in the corridor for years to come.

METRO appreciates TxDOT's assurances in the ROD that continued coordination will occur throughout the project; however, we still have reservations on a number of unresolved topics which have been articulated in detail during the environmental process. Most notably, METRO has provided the following substantive feedback on how the NHHIP impacts both our facilities and ridership:

- Operating Costs
- Downtown Access

- MaX Lane Access and Operation
- Katy CBD Ramp
- Wheeler Station/Transit Center Impacts

Further, METRO still views an untapped opportunity to add value to NHHIP by providing transit as a mitigation and mobility solution for future generations.

METRO's primary requirement is that METRO's services and facilities are kept whole or improved as part of this endeavor, that NHHIP allows for implementation of METRONext projects and that TxDOT view transit as a mitigation measure to the short- and long-term transportation impacts caused by this project. TxDOT has committed numerous times that they would undertake a Re-Evaluation(s) regarding the serious impacts that had been identified over the last few years once the ROD was issued. These commitments were made to METRO, City of Houston, Harris County, H-GAC and other stakeholders beginning in 2018 at meetings hosted by the City. To that end, METRO asks that TxDOT include the following issues as part of their Re-Evaluation process:

- <u>Spur 527</u>: at grade bus only connection to Richmond
- <u>Wheeler Station/Transit Center</u>: scope to realign rail tracks, redesign bus platforms, access, and overall transit center (including associated infrastructure). Additionally, ensure future operations for the METRONext University Corridor BRT
- <u>Heiner Layover</u>: alternatives acceptable to METRO and our operations due to the removal of this downtown layover location
- <u>Katy CBD Ramp Removal</u>: alternatives acceptable to METRO and our operations due to the removal of this downtown connector. This impacts our Inner Katy project that is underway
- <u>Downtown Lanes</u>: alternatives acceptable to METRO and our operations due to the revised routing of downtown lanes for buses
- <u>Polk Street Removal</u>: operational costs involved with rerouting buses from temporary and permanent street closure
- <u>Pierce / St. Joseph Ramp Removal</u>: operational costs involved with rerouting buses from permanent ramps being removed
- <u>Operations of MaX Lanes</u>: clarity on how the MaX Lanes will operate and allow for exclusive transit operations (BRT and commuter service) in the design of the MaX Lanes; or provide exclusive operations for transit
- <u>Mitigation Process</u>: revise process for determining mitigation measures to include operational costs to METRO

We look forward to working with TxDOT on a detailed scope for Re-Evaluation and our continued collaboration on the NHHIP. METRO anticipates a satisfactory resolution to the outstanding issues identified. Our partnership is vital to ensure that the project provides a variety of safe and reliable travel options for the greater Houston region. Feel free to contact me at 713-615-6409 with any questions you may have.

Sincerely, Thomas C. Lambe President & CEO

Attachment: NHHIP Record of Decision - Summary

Cc: Thomas J. Jasien, Deputy Chief Executive Officer Clint Harbert, AICP, Vice President of System Planning & Development Ujari Mohite, Manager of Capital Planning & Project Coordination

NHHIP Record of Decision - Summary

TxDOT's Record of Decision (ROD) for the North Houston Highway Improvement Project (NHHIP) Final EIS was published on February 4, 2021. METRO has provided comments on both the Draft and Final EIS. TxDOT has not adequately addressed METRO's concerns or comments in any of the documentation including the ROD. TxDOT has paraphrased and summarized all comments received on the FEIS in the ROD. Below is a summary of how METRO's concerns are NOT addressed in the ROD.

- METRO has requested an explanation of how TxDOT will address disruptions to bus service along the corridor due to construction. TxDOT's response has been that coordination will continue during final design and construction to relocate and reconstruct stops and inform the public. It does not address increased operating costs during construction.
- NHHIP improvements will alter METRO's access into Downtown, causing delays and increased operating costs. TxDOT has made no adjustments to the access designs in the current configuration. TxDOT has only noted the following in response to METRO's concerns:
 - The Katy-CBD HOV ramp will be replaced by express lane access to Smith and Louisiana,
 - METRO has continued to state that this will negatively impact current operations and our ability to implement Inner Katy BRT.
 - Polk will remain closed, but signal improvements will facilitate the route detour on St. Emanuel Street and the new Hamilton Street extension to off-set the added distance and current signal timing. Long-term cost and passenger impacts have not been addressed.
- TxDOT has not specified on how the managed express (MaX) lanes will be managed to maintain capacity and traffic flow and has not offered a response or clarification.
 METRO is not confident that the proposed two-way MaX lanes on North Freeway will meet METRO's plans for high-capacity transit as proposed in METRONext Regional Express Bus and BRT, as stated in the ROD.
- NHHIP will impose significant disruption and redesign of METRORail lines and facilities at several locations – Wheeler Transit Center (TC) and Station being the most impacted. Wheeler TC will need to be fully replaced. TxDOT offers no specific response to these concerns other than the general statement that coordination will continue in final design and construction. Significant cost impacts are not addressed.
- The ROD makes very little effort in addressing the potential impact to transit and makes no mention of using transit as a form of mitigation to assist with mobility during construction.

NHHIP Record of Decision - Summary

The following Comment-Response Matrix provides more specific information with page references:

METRO Concern	ROD response	Page No.
Short- and long-term impacts of the project on transit operations	The ROD proposes continued coordination on design issues and public outreach on service interruptions during final design and construction.	Appendix A, pgs. 6-8
Disrupted access in and out of Downtown: Pierce/St. Joseph Polk St.	Regarding access into Downtown, TxDOT states improved traffic operations on St. Emanuel and the extended Hamilton will offset the detour time forced by closing Polk Street.	Appendix B, pgs. 9, 14
Smith & Louisiana HOV access	Express bus lanes on Smith and Louisiana are proposed to replace the Downtown HOV connection. This Express bus lane connection will also replace Katy CBD ramp, which does not replace the dedicated functionality of the ramp in- kind.	Appendix A, pg. 8
	No response to replacing current redundant access to I-45 HOV.	
METRO will incur increase operating costs from the alteration of downtown access points	No mention of reimbursing increased operating costs.	
Inclusion of high-capacity transit in NHHIP footprint	The MaX lanes and the T-ramp to N. Shepherd P&R are offered as a solution to expanded bus service and future BRT.	Appendix A, pg. 8 Appendix B, pgs. 14, 24
	The Crosstimbers/Airline HOV T-ramp is being removed to reduce cut through traffic and being replaced with MaX lane connectors.	Appendix A, pg. 8
	H-GAC's High Capacity Task Force will work with METRO and the other agencies to advance HCT in the corridor.	Appendix B, pg. 24
	TxDOT essentially states that Max Lanes will have a flexible footprint to allow for HOV and High-Capacity Transit operations in the MaX lanes.	
	No details regarding how these MaX lanes will operate have been offered.	

NHHIP Record of Decision - Summary

Request for traffic studies	 Projections based on H-GAC's 2035 and 2040 RTP and the following studies: North Corridor AA (2004-5) I-45/Hardy Corridor Update 2014 NHHIP AA Traffic study TxDOT Top Ten Congested Roadways 2018 Top Ten Bottleneck List, Am. Trasnp. Reasearch Inst., 2018 Interstate Access Justif. Report, for Segs 2 & 4 	Appendix B, pg. 13.
Impacts to bus and rail operations at Wheeler TC and	No mention of the Red line, Wheeler Station, or transit center redesign.	Appendix A, pg. 8 Appendix B, pgs. 17,18
Station	The structural caps at N. Main, Commerce, and S. Main/Fannin are mentioned.	, , , , , , , , , , , , , , , , , , ,
Continued design refinements during final design	"Efforts to further refine and enhance the NHHIP and further minimize its impacts will be undertaken during the detailed final design phase."	Appendix B, pg. 19
Impacts to Green and Purple METRORail lines	No mention of addressing NHHIP impacts to METRORail. However, as part of addressing temporary road closures and traffic detours, TxDOT mentions the use of temporary track alignments and shooflies with minimum closures.	Appendix A; pg. 7
Use transit to mitigate construction impacts	No mention of transit as a form of mitigation.	
How will MaX lanes be operated to maintain flow and capacity?	No explanation of MaX lanes operation.	

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President & Chief Executive Officer

Thomas C. Lambert

METRO

August 4, 2021

Texas Department of Transportation Attn: TPP-Unified Transportation Program P.O Box 149217 Austin, Texas 78714-9217

RE: North Houston Highway Improvement Project (NHHIP) Unified Transportation Program Comments

Dear Chairman Bugg,

The Metropolitan Transit Authority of Harris County (METRO) appreciates the opportunity to comment on the *North Houston Highway Improvement Project (NHHIP)* and its inclusion in the Unified Transportation Program. METRO is supportive of this transformative project for the Houston Area and the potential it offers to integrate the voter approved METRONext Plan.

TxDOT identified METRO as a Coordinating Agency on the project due to the numerous existing and proposed transit facilities it will impact. It is imperative that TxDOT proceed with re-evaluating and refining the project scope to both address and minimize negative impacts to METRO's existing and proposed transit system. METRO has specifically identified these concerns throughout the development of this project.

As currently proposed, the NHHIP will have significant short and long-term impacts on METRO's facilities, operations, riders, and travel times. We urge TxDOT to focus on the following areas for project refinements:

- Re-envisioning of the Wheeler Station/Transit Center area to minimize project impacts to that facility,
- Evaluate and minimize adverse short and long-term impacts to METRO's services as result of route changes, interruptions of light rail services, and more circuitous downtown access,
- Compensate METRO for increased costs resulting from these service interruptions,
- Either replace or compensate METRO for the loss of the Katy freeway CBD bus ramp,
- Evaluate, coordinate and collaborate with new METRONext projects within or intersecting the NHHIP corridor, and
- Define commitments on MaX Lane access and operations.

Where METRO and TxDOT share facilities, any proposed improvements should increase the safety, mobility and efficiency of all users. We look forward to the continued coordination with TxDOT and area stakeholders to ensure our goals and commitments to improve mobility in the region remain aligned as they have in the past.

We acknowledge TxDOT's commitment to continued coordination and we believe together we can address the impacts METRO has identified creating a better project that works to improve mobility in the region.

Sincerely, omas C. President & Chief Executive Officer

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Terry Morales

Roberto Treviño, P.E.

President & Chief Executive Officer

Thomas C. Lambert

November 28, 2022

Mr. James Koch Director Transportation Planning & Development Texas Department of Transportation - Houston District P.O. Box 1386 Houston, Texas 77251-1386

Subject: METRO's Comments on the "I-10 from Heights Blvd. to I-45" Project

Dear Mr. Koch:

On July 28, 2022, the Texas Department of Transportation (TxDOT) Houston District presented its I-10 White Oak Bayou schematic improvement plans at a public meeting held at its Houston District office. TxDOT is proposing improvements along I-10 from Heights Boulevard to I-45 to raise the existing main lanes above the White Oak Bayou floodplain and construct a new shared use path and detention pond.

The METRORapid Inner Katy project is impacted by the current design concept and timeline of the White Oak Bayou project, in addition to the impacts on the Inner Katy project of TxDOT's North Houston Highway Improvement Project. TxDOT's materials at the last meeting did not mention the Inner Katy BRT project. We recommend all future communication on the White Oak Bayou project acknowledge and consider the Inner Katy BRT project design options we are discussing with TxDOT.

The current design of the White Oak Bayou project, as described at the public meeting, assumes partial demolition of, and other impacts to, the existing METRO Central Business District (CBD) ramp presently used exclusively for HOV and regional bus traffic into and out of Downtown Houston. Due to the timeline of the project, our existing bus services that currently use the CBD connector will face schedule unreliability and travel time issues. In addition, the METRONext plan includes the ramp as a major component of the METRORapid Inner Katy project. The current White Oak cross sections also omit the proposed Inner Katy BRT project and its use of the existing ramp or its significance as part of the corridor within this segment of the freeway.

Based upon the information provided by TxDOT at the public meeting, METRO has the following comments:

- The existing I-10 CBD ramp is a crucial part of METRO's infrastructure in providing fast and efficient bus and HOV service to downtown commuters using the I-10 corridor. Currently, all METRO regional buses and HOV traffic use this ramp to enter and/or to depart downtown at Franklin Street.
- Under TxDOT's proposed I-10 White Oak Bayou project, the CBD ramp will be closed during construction. The closure of this structure will be severely detrimental to METRO's bus service as well as HOV users. METRO is very concerned about the impacts to METRO's bus service, which include delay of buses to METRO's downtown destinations, unreliable bus service due to unpredictable time delays, safety issues due to the mix of private and commercial vehicles with buses, and a reduction of ridership due to the loss of reliable regional bus service. Westbound I-10 buses and HOV users from downtown will be similarly affected, further compounding the impact on commuters.

Therefore, METRO requests that TxDOT consider the following:

- Preserve the existing CBD ramp operation during White Oak project construction as long as possible by implementing creative construction phasing and sequencing of traffic and to engage METRO in these discussions.
- Provide a replacement facility for the CBD ramp as part of the longterm mitigation for White Oak Bayou and NHHIP projects.
- Consider all possible solutions that maintains the operations of services (local, express, and park & ride) currently utilizing the CBD ramp infrastructure, including:
 - Consider adjusting the I-10 main lane plan and profile to allow the existing CBD ramp to remain operational between Taylor Street and Houston Avenue.
 - Provide a dedicated HOV/Bus Lane both inbound and outbound when the CBD ramp is not operational during the White Oak project construction.

METRO has been in coordination with TxDOT as a result of the North Houston Highway Improvement Project; the same level of coordination will be needed for the understanding of White Oak Bayou Projects and how it impacts the Katy CBD ramp, as well as the potential alignment of METRORapid Inner Katy BRT project. We look forward to continued collaboration on the White Oak Bayou project, and on other projects throughout the region. Please feel free to contact me or Clint Harbert at (713) 652-4371 if you have any questions.

Sincerely,

Shri Reddy, P.E. Executive Vice President – Planning, Engineering & Construction

cc. Thomas Lambert – President & CEO, METRO Eliza Paul - TxDOT Clint Harbert – VP -System & Capital Planning-PEC, METRO Amma Cobbinah - PM/PEC, METRO Amanda Austin - TxDOT