

METRORapid University Corridor

# Preface: Categorical Exclusion Checklist/Report

December 2023





## **Preface: Categorical Exclusion Checklist/Report Appendices**

This report summarizes the project's environmental analysis completed for all the areas required under the National Environmental Policy Act (NEPA): Land Acquisitions and Displacements, Historic Resources Survey Report and Addendum, Archaeological Survey and Work Plan, Section 4(f) Evaluation, Environmental Justice, Hazardous and Contaminated Materials, Noise and Vibration, Biological Resources, Water Resources, and Traffic Analysis. In addition, this report documents the commitments METRO has made to minimize anticipated impacts.

METRO Rapid University Corridor

# Categorical Exclusion

November 2023

In compliance with Section 304, some information has been redacted from this document to protect Archaeological and Historic resources.



## Version History

Date	Ver. No.	Section(s) Affected	Description of Changes
9/21/23	1.0	All	Draft submission to FTA
11/06/23	2.0	Parks	Draft submission to METRO for FTA
11/22/23	3.0	All	Submission to METRO for FTA

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## Acronyms and Abbreviations

ACRONYM	DEFINITION
ACS	American Community Survey
ADA	Americans with Disabilities Act
APE	Area of Potential Effects
BMP	Best Management Practices
BRT	Bus Rapid Transit
CE	Categorical Exclusion
CAA	Clean Air Act
CFR	Code of Federal Regulations
COH	City of Houston
CPTED	Crime Prevention Through Environmental Design
CWA	Clean Water Act
DCRP	Dry Cleaner Remediation Program
DHHS	Department of Health and Human Services
EJ	Environmental Justice
ERIS	Environmental Risk Information Services
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	Greenhouse Gas
HEC	Hydrologic Engineering Center
HTC	Historic Texas Cemetery
HSC	Texas Health and Safety Code
IOP	Innocent Owner/Operator Program
LOS	Level of Service
LRT	Light Rail Transit
MBTA	Migratory Bird Treaty Act
METRO	Metropolitan Transit Authority of Harris County
MSAT	Mobile Source Air Toxins
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
OWJ	Official with Jurisdiction
HPARD	City of Houston Parks and Recreation Department
ROW	Right-of-Way
SAL	State Antiquities Landmark
SGCN	Species of Greater Conservation Needs
SIP	State Improvement Plan
STIP	Statewide Transportation Improvement Program
SWPPP	Stormwater Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality

<b>THC</b>	Texas Historic Commission
<b>TIP</b>	Transportation Improvement Program
<b>TOD</b>	Transit-Oriented Development
<b>TPDES</b>	Texas Pollutant Discharge Elimination System
<b>TPWD</b>	Texas Parks and Wildlife Department
<b>TXDOT</b>	Texas Department of Transportation
<b>UPRR</b>	Union Pacific Railroad
<b>USACE</b>	United States Corps of Engineers
<b>USFWS</b>	United States Fish and Wildlife Service
<b>USGS</b>	United States Geological Survey
<b>UST</b>	Underground Storage Tank
<b>USEPA</b>	United States Environmental Protection Agency
<b>VMT</b>	Vehicle Miles Traveled



## 1 Introduction

The Federal Transit Administration (FTA) and Metropolitan Transit Authority of Harris County (METRO) are conducting the environmental review process for the METRORapid University Corridor Project (the “Project”) in the City of Houston (COH), Harris County, Texas, in accordance with the National Environmental Policy Act (NEPA) and other regulatory requirements. This Categorical Exclusion (CE) is being prepared as part of this process. FTA is the Federal Lead Agency, and METRO is the Local Project Sponsor responsible for implementing the Project.

### 1.1 Project Description

The Project is a proposed 25.3-mile Bus Rapid Transit (BRT) line from Westchase Park & Ride in the west to the Tidwell Transit Center in the northeast. The Project would bring fast, reliable transit to some of Houston’s busiest and most densely populated areas, with high proportions of minority, low-income, and transit-dependent populations. When complete, the Project would connect to all of METRO’s existing light rail transit (LRT) and BRT lines, creating a more equitable transportation system and supporting the development of a high-frequency, high-capacity transit network across Houston, the fourth-largest city in the United States.

The Project would operate in dedicated, METRO-owned right-of-way (ROW) from Westchase Park & Ride to Interstate-610 (I-610) (West Loop), after which it would transition to the center of streets owned and maintained by the City. The Project would include signalization improvements at intersections to provide transit signal priority, improving travel times and reliability along the corridor. The Project is divided into five segments as shown in **Table 1-1**. **Figure 1-1** shows the proposed BRT alignment, existing LRT and BRT services to which it connects, and major activity centers along its path.

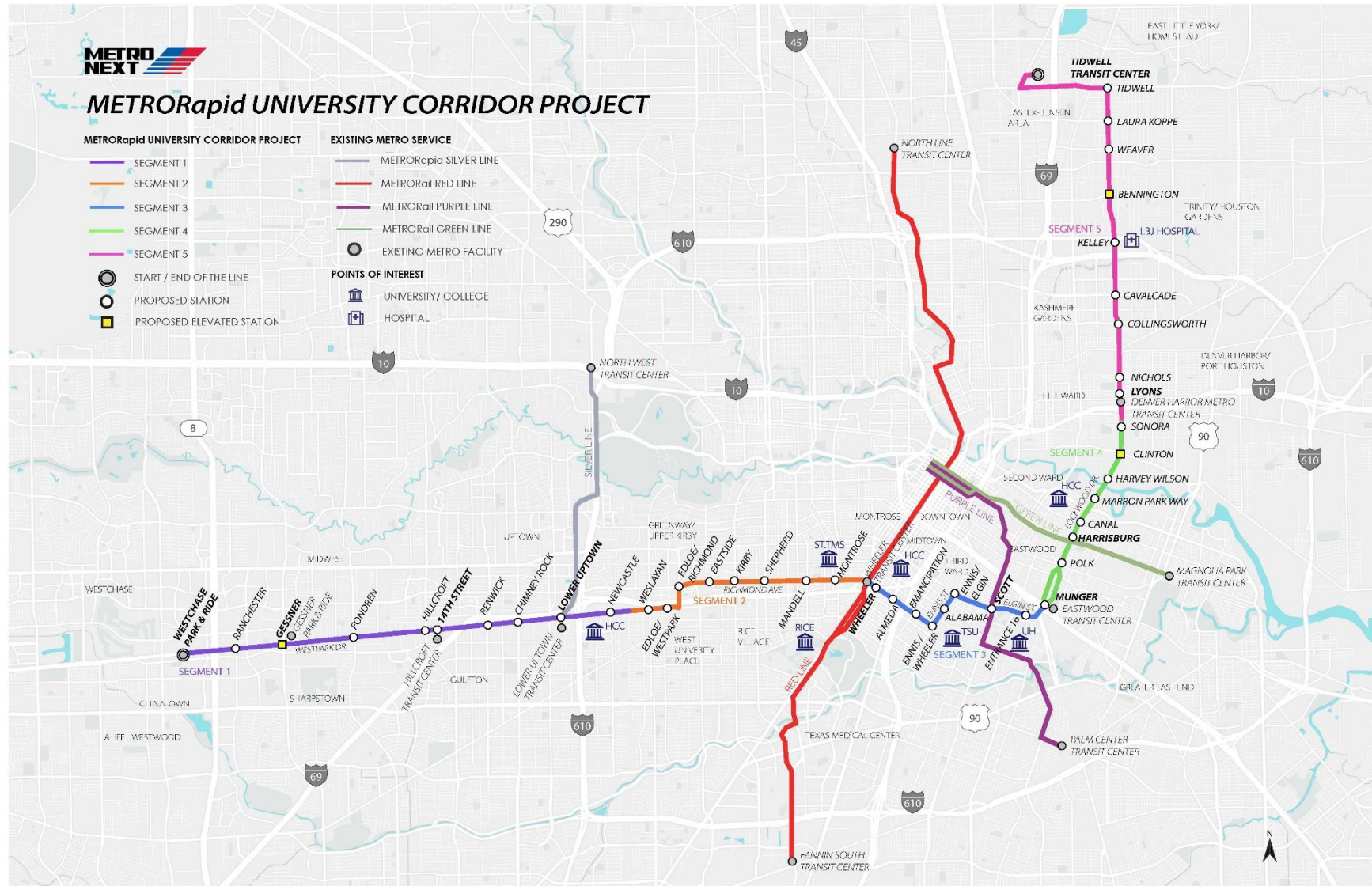
The Project would include 42 stations plus one stop at each end with accessible platforms, level boarding, next-bus arrival signs, security cameras, lighting, and offboard fare payment via ticket vending machines, electronic fare cards, or mobile devices. The Project would have the same fare structure as other services like METRORail, METRORapid, and local bus services. Two stations would be incorporated into existing METRO facilities, Westchase Park & Ride and Tidwell Transit Center. Sidewalk improvements would provide pedestrian and Americans with Disabilities Act (ADA) access to the transit stations.

METRO plans to procure articulated battery-electric buses as part of the Project. Weekday service would be provided from 4:00 AM to 12:30 AM, with buses operating every 6 minutes from 6:30 AM to 7:00 PM, and every 12 minutes from 4:00 AM to 6:30 AM and 7:00 PM to 12:30 AM. Weekend service would be provided from 5:00 AM to 12:30 AM, with buses operating every 12 minutes all day on weekends.

*Table 1-1: University Corridor Segments*

Segment	From	To
1	Westchase Park & Ride	Westpark Dr 1,500 feet east of Union Pacific Railroad (UPRR) tracks, east of Newcastle Drive
2	Westpark Drive 1,500 feet east of UPRR tracks, east of Newcastle Drive	Richmond Avenue at US-59
3	Richmond Avenue at US-59	Elgin Street at I-45 (Eastwood Transit Center)
4	Elgin Street at I-45 (Eastwood Transit Center)	Lockwood Drive at Margarita Street
5	Lockwood Drive at Margarita Street	Tidwell Transit Center

FIGURE 1-1: UNIVERSITY CORRIDOR PROPOSED BRT ALIGNMENT



## 2 Supporting Documentation on Areas of Concern

The following sections document the potential long and short-term (construction) impacts of the Project. Absent from discussion are impacts where no resources are present, i.e., Prime Farmlands, Coastal Resources.

### 2.1 Property Acquisition/Relocation

The *Land Acquisitions and Displacements Technical Report* provides the details of the proposed property acquisitions and displacements identified for the Project. Most of the Project will be constructed within METRO-owned ROW or within the center of streets owned and maintained by the City. Some acquisitions will be required to provide adequate ROW to accommodate station locations, expand existing sidewalks to current design standards, provide for ADA compliance at street crossings, and to provide a widened sidewalk for pedestrians and bicycles where feasible.

No advanced property acquisitions have been made. Twenty-three full acquisitions, 110 corner clips, and 448 partial acquisitions are estimated to be needed for the Project, affecting roughly 18 acres. The Project will not displace any community facilities. Property acquisition activities would occur after CE approval in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the State of Texas Landowner's Bill of Rights, and other laws that establish the process through which METRO may acquire real property through a negotiated purchase or through condemnation.

### 2.2 Land Use and Zoning

The Project would be located primarily within existing transportation ROW and is not anticipated to change current land use except where property is purchased as a full acquisition and converted for transportation use. The COH does not have zoning and the only land use regulation that the City has authority over is subdivision platting. The Project is consistent with existing land use and the property acquisitions would not be inconsistent with the land uses within the corridor. The Project is proposed along existing streets currently designated as either Major Thoroughfares, Major Collectors or Transit Corridors per the *City of Houston's 2022 Major Thoroughfare and Freeway Plan*.

Development in Houston is governed by municipal ordinance codes that address subdivisions, parking, tree and shrub requirements, setbacks, and access. The Project will be consistent with existing and future projected land development. The Project will enhance transit within the communities it will serve on streets where the METRO transit system currently operates.

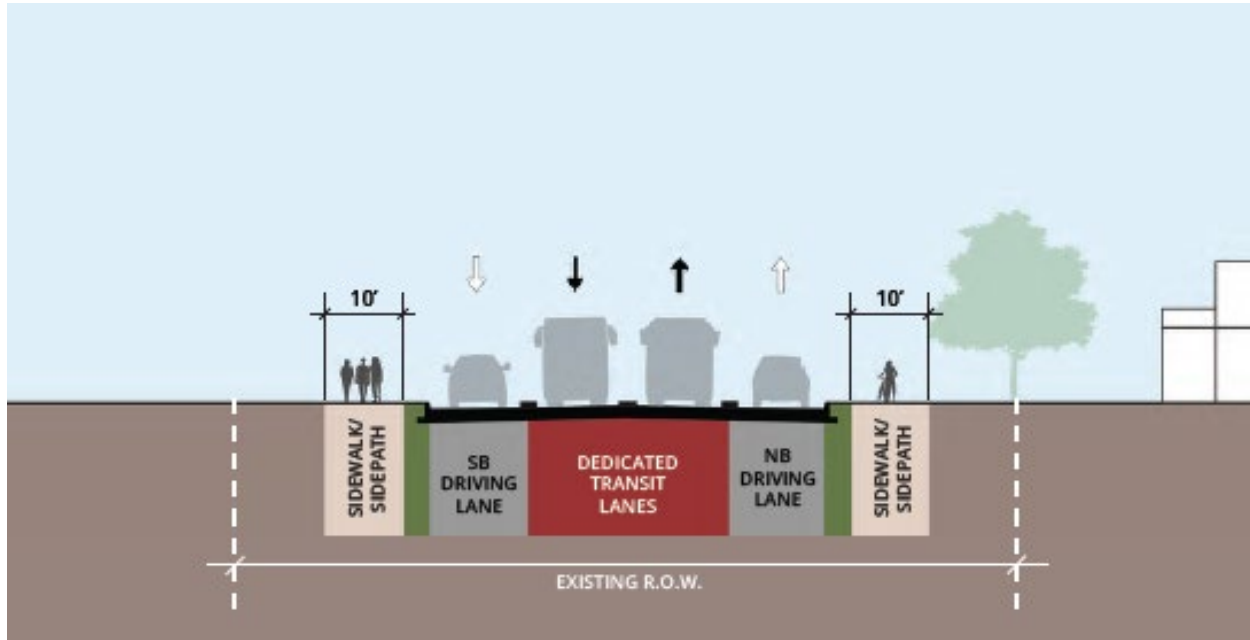
### 2.3 Traffic Impacts

The *Traffic Analysis Technical Memorandum* provides a detailed assessment of the potential traffic impacts. A traffic study was conducted to analyze traffic impacts at all signalized intersections along the proposed Project. One existing general-purpose lane in each direction will be converted to a dedicated BRT lane throughout most of the corridor and within COH ROW. With the removal of a general-purpose lane in each direction, it is anticipated that traffic capacity will be reduced resulting

in a reduction of level of service (LOS) for a number of intersections, but the multi-modal capacity is increased.

These LOS declines at intersections are expected and are consistent with the City and METRO's plans to provide increased multi-modal transportation options generally within the limits of the existing ROW. The alternative to this multi-modal approach would require significant negative impacts to corridor neighborhoods and business as extensive ROW would be needed to bring the LOS to within acceptable limits.

*FIGURE 2-1: REPRESENTATIVE CROSS SECTION*



Illustrations for representational purposes only. Preliminary and subject to change based on public input and engineering

Reported crashes within the proposed BRT corridor in 2017, 2018, and 2019 were analyzed and the crash rate per 100 million vehicle miles traveled (VMT) was calculated for both the overall corridor and each individual segment. A total of 2,044 crashes were reported over the three-year period. The highest crash rates were observed in Segment 3.

The Project will result in minimal loss of on-street parking as the majority of the streets do not allow on-street parking due to higher speeds, traffic volumes and safety. On-street parking has been identified and is allowed in a couple of areas within Segment 3 only - Wheeler Avenue between Caroline Street and Ennis Street and Ennis Street between Barbee Street and Elgin Street allows on-street parking mostly only available for use during non-peak periods. This on-street parking occurs for approximately 1.6 miles and provides additional convenience parking for residential homes with existing parking lots and 2-car driveways.

The Project will provide improved pedestrian and bicycle transportation in a widened sidewalk that will travel along segments of the Project. The existing sidewalks will be improved to meet the COH design standards and will provide improved accessibility for disabled persons, as required by ADA, resulting in improved pedestrian safety, bicycle connectivity, and vehicular buffer distances.



The Project will also provide improved connection to:

- Various local METRO bus routes
- METRORail Red, Green and Purple Lines
- METRORapid Silver Line in Uptown
- Multiple METRO Park & Ride facilities
- Multiple METRO transit centers

## 2.4 Air Quality

The Clean Air Act (CAA), its Amendments and the Final Conformity Rule (40 Code of Federal Regulations [CFR] Parts 51 and 93) direct the United States Environmental Protection Agency (USEPA) to implement environmental policies and regulations that will ensure acceptable levels of air quality. The CAA and the Final Conformity Rule apply to the proposed Project. The Project is included in the Metropolitan Planning Organization's (Houston Galveston Area Council) Transportation Improvement Program (TIP) and The Texas Department of Transportation's (TxDOT) 2021-2024 Statewide Transportation Improvement Program (STIP). Thus, the Project demonstrates regional conformity with STIP and the goals of the State Improvement Plan (SIP). The Project does not require a conformity analysis under 40 CFR 93.126 as the Project is in an area that is in attainment for CO, PM<sub>2.5</sub>, and PM<sub>10</sub> and is exempt from a localized project-level hot spot analysis for conformity. The Project is located in an USEPA designated non-attainment area for Ozone; however, the electric vehicle fleet would reduce emissions. Travel demand forecasts estimate a reduction of approximately 2.7 VMT and a reduction of 273,000 kilograms of regional mobile source air toxins (MSAT) and greenhouses gases.

## 2.5 Historic & Archaeological Resources

FTA initiated the Section 106 process in 2022 and consulted with the Texas Historic Commission (THC) in preparing the *Historic Survey Report*, *Archaeological Survey Report*, and an *Archaeological Work Plan for the Evergreen Cemetery*. FTA invited consulting parties, consisting of the THC, tribes, neighborhood organizations, the COH Preservation, Project Respect, and Preservation Houston to participate in the consultation. The following sections summarize the consultation on historic properties and the potential effects of the Project.

### 2.5.1 Historic Properties

The *Historic Survey Report* (June 2023) and the *Historic Survey Report Addendum* (August 2023) document the survey efforts to identify historic-age properties within the area of potential effects (APE) and describes the potential effects of the undertaking. FTA determined that 12 properties and two historic districts are National Register of Historic Properties (NHRP)-eligible and that two previously listed properties retain integrity. Based on the criteria for adverse effect, FTA determined that the Project would have No Adverse Effects to these properties (See **Table 2-1** NRHP-Eligible and Listed Historic Properties). Concurrence from THC on FTA's No Adverse Effect determination was received on November 17, 2023.

Table 2-1 NRHP-Eligible and Listed Historic Properties

Segment	Historic Properties	NRHP	FTA Determination
1	No resources	n/a	No effect
2	1836 Richmond Avenue	Eligible	No adverse effect
	3336 Richmond Avenue	Eligible	No adverse effect
	3334 Richmond Avenue	Eligible	No adverse effect
	3323 Richmond Avenue	Eligible	No adverse effect
	3322 Richmond Avenue	Eligible	No adverse effect
	3311 Richmond Avenue	Eligible	No adverse effect
	3121 Richmond Avenue	Eligible	No adverse effect
	3101 Richmond Avenue	Eligible	No adverse effect
3	Albert Sidney Johnston Jr. High School (Young Women's Preparatory Academy), 1906 Cleburne St.	Eligible	No adverse effect
	Third Ward Historic District	Eligible	No adverse effect
	Houston Negro Hospital, 3402 Ennis Street	Listed	No adverse effect
	Houston School of Nursing School, 3402 Ennis St.	Listed	No adverse effect
4	Eastwood Neighborhood Historic District	Eligible	No adverse effect
	International Harvester Company (Texas Mattress Makers), 4901 Navigation Blvd.	Eligible	No adverse effect
	Western Electric Company (Harris County Sheriff Offices), 601 Lockwood Dr.	Eligible	No adverse effect
5	Kashmere Gardens Elementary School, 4901 Lockwood Dr.	Eligible	No adverse effect

Source: AmaTerra/HNTB 2023.

METRO has committed to the following conditions to minimize visual effects within the NRHP-eligible Third Ward Historic District:

- Station designs that mimic the neighborhood scale, architectural styles, and materials of the district (varied styles),
- Historic interpretive panels that provide an educational opportunity on the history of the district's Ethnic Heritage/Jewish, Ethnic Heritage/Black, and Community Planning and Development to be identified with community input,
- Replanting of trees in the buffer between the curb and the sidewalk at intervals recommended by the City of Houston Arborist and in accordance with the City's Tree Ordinance,
- Public Outreach on station designs and METRO's arts-in-transit program to include a survey and a design workshop, and,
- 30-day Consulting party design reviews of 60 percent plans.

METRO has committed to the following conditions to minimize visual effects within the NRHP-eligible Eastwood Historic District:

- a) Station designs that mimic and complements the neighborhood scale, architectural styles, and materials of the district (Craftsman Bungalow, the Four Square and Colonial Revival),
- b) Historic interpretive panels that provide an educational opportunity on the history of the subdivision as a streetcar suburb, to be located with community input within the Project limits,
- c) Incorporation of the community Eastwood neighborhood sign into either the station design or the two entrances of the district along Lockwood,
- d) Minimizing the visual effects of the traffic barrier between the general-purpose lanes and the underpass, while maintaining safety requirements,
- e) Minimizing the visual effects of the four-and-a-half-foot-tall flood berm by including decorative fencing and landscaping, and by including arts-in-transit designs based on community input,
- f) Replanting of trees in the buffer between the curb and the sidewalk at intervals recommended by the City of Houston Arborist and in accordance with the City's Tree Ordinance,
- g) Noise minimization during construction,
- h) Public Outreach on Polk Station designs and arts-in-transit program to include a survey and a design workshop, and,
- i) 30-day Consulting party design reviews of 60 percent plans.

### 2.5.2 Archaeological Resources

The *Archaeological Survey Report* documents the survey efforts to identify known archaeological resources and the potential to encounter additional archaeological resources during subsurface construction activities. FTA, in consultation with THC, defined the APE, conducted desktop background research, and determined most of the Project posed little risk of impacting intact significant archaeological deposits due to: 1) disturbances from previous urban development; 2) Project to be constructed primarily in existing ROW; and 3) proposed new ROW will primarily be for sidewalk improvements with shallow impacts.

The Archaeological Survey Report identified that the proximity of the BRT lanes in the grass median between the north and south bound lanes of Lockwood Drive were in proximity to the Evergreen Negro Cemetery identified by the THC in 2009 as a Historic Texas Cemetery (HTC). Historical documents indicate that the Evergreen Negro Cemetery formerly encompassed the area now covered by [REDACTED]

[REDACTED].

In December 2022, archaeologists performed an investigation to determine the presence or absence of unmarked burials within the median near the Evergreen Negro Cemetery. The findings revealed 33 localities that contain evidence of a burial. Archival research indicates the burials could date between [REDACTED]. These localities included [REDACTED]



██████████ associated with a grave. Of these, three (3) localities contained sufficient human bone to be considered “intact” burials, as well as one (1) locality that contained a “partial” burial. These finds were left in place at the conclusion of fieldwork and are pending registration as an abandoned cemetery.

FTA has determined, and the THC concurred, that the cemetery is not eligible for inclusion in the NRHP as the grounds have been “substantially disinterred” and do not meet standards of integrity. The THC requested, and FTA agreed, to treat the cemetery as NRHP-eligible and METRO has committed that the cemetery boundaries will not be encroached into during construction. The site (41HR1270) is recommended eligible as a State Antiquities Landmark (SAL) having state-level information potential as a unique or rare resource. A “Notice of Existence of Abandoned or Unknown Cemetery” form was completed for this portion of the Evergreen Negro Cemetery and submitted to the Harris County Clerk on February 10, 2023. This form identifies the location and disposition of the abandoned section of the cemetery. As improvements to the land cannot occur within a cemetery boundary (Texas Health and Safety code (HSC) §711.010), the COH has elected to petition the district court for a removal of the cemetery designation for the area ██████████. This action will involve the removal of the identified remains ██████████ and subsequent reinternment elsewhere at the Evergreen Negro Cemetery.

METRO has coordinated with Project Respect, a non-profit organization overseeing the Evergreen Negro Cemetery, on the exhumation, research, curation, and planned reinternment of these unmarked graves. Once the Project enters engineering, METRO will seek a THC permit to begin exhuming the graves and METRO will resume coordination with Project Respect and the Evergreen Negro Cemetery for reinternment.

## 2.6 Section 4(f) Findings

A *Section 4(f) Evaluation Technical Report* documents the Section 4(f) properties located within the study area and the evaluation of use. FTA has determined that other than *de minimis* impacts, no permanent, temporary, or constructive use would result from any Section 4(f) property. The sections that follow describe the coordination with Officials with Jurisdictions (OWJ) that supports this determination.

### 2.6.1 Parks and Recreation Areas

The 51 parks within the study area were evaluated for “use” as defined by Section 4(f). FTA determined three parks would have minor uses of park property to construct wider 6’-10’ sidewalks within the boundaries of Mandell Park, Peggy Park, and Diez Street Park. These sidewalk improvements will bring the existing sidewalks up to the City’s current design standards and improve pedestrian/bicycle and handicap access.

No property would be acquired from a park or recreation area for permanent incorporation into the Project, other than the *de minimis* impacts of the three parks for ADA improvements for sidewalks. Effects would be minimal and would not substantially impair the features or attributes that qualify any of the parks and recreation areas afforded protection; therefore, no constructive use would occur.

A construction activity right of entry will be granted by the City of Houston Parks and Recreation Department (HPARD) for Mandell Park, Peggy Park, and Diez Street Park. The construction activities will be temporary and the OWJ has provided agreement that these activities would result in a *de minimis* impact.

FTA and METRO coordinated with the HPARD over the city-owned Section 4(f) properties described during development and evaluation of the preliminary alternatives and refinement of the Locally Preferred Alternative. METRO and HPARD reviewed the proposed design and potential Section 4(f) park and recreational area uses to minimize impacts on these resources and provide for increased accessibility to the parks. HPARD supports the sidewalk improvements and have provided a letter concurring with FTA's *de minimis* impact determination for Mandell, Peggy, and Diez Street Parks. HPARD also confirmed that Peggy's Point Plaza Park is no longer significant and is being removed from the park inventory.

**2.6.2 Public Notification and Opportunity to Comment on Section 4(f) *De Minimis* Impacts for Parks**  
Section 4(f) regulations at 23 CFR 774.5 states that "public notice and an opportunity for public review and comment concerning the effects on the protected activities, features, or attributes of the property must be provided. This requirement can be satisfied in conjunction with other public involvement procedures, such as a comment period provided on a NEPA document."

Approximately 20 in-person public meetings and two virtual ones have been held for the general public and interested citizens throughout the NEPA process to receive community input on the effects of the Project. The public meetings have been accompanied by meetings with local organizations, neighborhoods, universities, and various stakeholders. METRO sought public involvement on property acquisitions and impacts in a series of public workshops in February and March 2023. During these meetings, maps showed the locations of sidewalk expansions and ADA improvements and included the three parks with minor *de minimis* impacts for sidewalk improvements. METRO posted the materials from these meetings on their website for further review and comment. Community coordination is ongoing, and METRO considers all public and stakeholder input as it refines the design of the Project to maximize transportation and community benefits. These efforts will continue during the engineering phase to further avoid and minimize impacts to Section 4(f) resources and private property.

Specific to the three parks with sidewalk expansion, METRO has posted HPARD's concurrence letter with maps illustrating the *de minimis* impacts to park resources on the Project website. No comments have been received from the website posting. METRO also included a presentation reviewing the sidewalk expansions and a public display board at design workshops held in 6 locations along the corridor between September 13th and the 20th. METRO received six comments pertaining to parks during the workshops. These comments included providing parking, needing improved sidewalks, access, including access for strollers, connectivity, road lanes and power lines. See below for comments received and their associated segment.

- “Need to ensure there is enough parking along Wheeler near Peggy. Lots of homes and I don’t see parking for homeowners” Segment 3
- “Need improved sidewalks & access as this is a busy intersection (Alameda at Wheeler)” Segment 3
- “I want to wait for the BRT “in the park”. How can Mandell Park connect more to the BRT station” Segment 3
- “Can you bury power lines as part of this project? Can the TIRZ or MMD help?” Segment 2
- “Please don’t take away lanes at Mandell or Richmond” Segment 2
- “Don’t forget about families with strollers” Segment 2

The Section 4(f) *de minimis* public notification was completed throughout the project, posted on the Project website, and the public was provided the opportunity for review and comment at the design workshops. These activities satisfy the federal requirement for a *de minimis* impact public notification for review and comment for parks.

### 2.6.3 Historic Properties

For historic properties, minor property acquisitions would be needed along sidewalks and the corners of streets to meet the City’s current design standards. These acquisitions will require the purchase of minor amounts of right-of-way near existing sidewalks and streets. These improvements will provide improved accessibility for disabled persons, as required by the ADA, and expanded sidewalks for a shared use path to be constructed alongside of the BRT on existing sidewalks to improve pedestrian safety, bicycle connectivity, and vehicular buffer distances. These minor acquisitions would not alter the characteristics that qualify each of the properties and/or districts for the NRHP. Effects are limited to minor acquisitions. No other direct or indirect impacts would result to historic properties.

Under Section 106 of the National Historic Preservation Act, FTA determined there would be No Adverse Effect to historic properties. THC concurred with this determination. FTA informed the THC of the agency’s decision to make a *de minimis* impact determination.

Table 2-2: Section 4(f) Evaluation by Resource

Segment	Name	OWJ	Property Size (acres )	Location	Potential Impact Area (acres)	Total Property Impacted (%)	Determination
<i>Parks and Recreation Areas</i>							
2	Mandell Park	COH	1.71	1500 Richmond Ave, 77006	0.01	0.36%	<i>De Minimis</i>
3	Peggy Park	COH	2.23	Alameda Rd, 77004	0.0065	0.29%	<i>De Minimis</i>
4	Diez Street Park	COH	9.09	5825 Dumble St, 77023	0.03	0.38%	<i>De Minimis</i>
<i>Historic Properties</i>							
2	-	THC	n/a	1836 Richmond Avenue	0	0	<i>No Use</i>
2	-	THC	1.93	3336 Richmond Avenue	0.02	0.87%	<i>De Minimis</i>
2	-	THC	n/a	3334 Richmond Avenue	0	0	<i>No Use</i>
2	-	THC	n/a	3323 Richmond Avenue	0	0	<i>No Use</i>
2	-	THC	n/a	3322 Richmond Avenue	0	0	<i>No Use</i>
2	-	THC	n/a	3121 Richmond Avenue	0	0	<i>No Use</i>
2	-	THC	n/a	3311 Richmond Avenue	0	0	<i>No Use</i>
2	-	THC	0.93	3101 Richmond Avenue	112	0.27%	<i>De Minimis</i>
3	Albert Sidney Johnston Jr. High School (Young Women's Preparatory Academy)	THC	9.99	1906 Cleburne Street	.11	1.09%	<i>De Minimis</i>
3	Third Ward Historic District	THC	5.66	Third Ward Historic District	.07	1.27%	<i>De Minimis</i>

Segment	Name	OWJ	Property Size (acres )	Location	Potential Impact Area (acres)	Total Property Impacted (%)	Determination
3	Houston Negro Hospital	THC	4.30	3204 Ennis Street	.06	1.46%	<i>De Minimis</i>
3	Houston Negro Hospital School of Nursing	THC	Same as hospital	NW corner of Holman and Ennis Streets	Same as hospital	Same as hospital	<i>De Minimis</i>
4	Eastwood Historic District	THC	2.55	Eastwood Subdivision Plat	.12	4.75%	<i>De Minimis</i>
4	Evergreen Negro Cemetery	THC	4.80		0	0	<i>No Use</i>
4	International Harvester Company (Texas Mattress Makers)	THC	n/a	4901 Navigation Boulevard	0	0	<i>No Use</i>
4	Western Electric Company (Harris County Sheriff's Office)	THC	n/a	601 Lockwood Drive	0	0	<i>No Use</i>
5	Kashmere Gardens Elementary School	THC	5.0	4901 Lockwood	0	0	<i>No Use</i>

Source: METRO 2023, Section 4(f) Technical Report

## 2.7 Environmental Justice

An *Environmental Justice Technical Report* provides the details of presence of and potential impacts to environmental justice (EJ) populations. The corridor is predominately minority with 75 percent of the total population belonging to a minority race and/or ethnicity (See **Table 2-3**). Hispanic/Latino communities comprise the highest percentage of minority populations. All segments except for Segment 2, have a higher percentage of minority populations than the city and county averages. Segment 1 and Segment 5 have the highest minority populations with 97 percent total minority.

*Table 2-3: Race and Ethnicity Summary*

Area	% White *	% Black*	% American Indian*	% Asian*	% Pacific Islander	% Other Race*	% Two or More Races*	% Hispanic or Latino**	% Total Minority
<b>Study Area</b>	24.8%	22.2%	0.1%	7.9%	~0.0%	0.4%	2.1%	42.3%	75.2%
<b>Houston</b>	24.2%	22.0%	0.1%	7.0%	0.1%	0.3%	2.4%	44.0%	75.8%
<b>Harris County</b>	28.9%	18.5%	0.2%	6.9%	~0.0%	0.2%	1.9%	43.3%	71.1%

Source: U.S. Census Bureau, 2016-2020 American Community Survey (ACS) 5-Year Estimates. Table B03002.

Low-income populations account for approximately 25 percent of the total population in the populated census block groups within the study area (See **Table 2-4**). In 2023, the Department of Health and Human Services (DHHS) Federal Poverty Guidelines for a family of four is \$30,000. The poverty threshold for a family of four in 2020 was \$26,200.

*Table 2-4: Poverty and Low-Income Summary*

Geography	Percent Individuals Below Poverty	Median Household Income (in 2019 inflation adjusted dollars)
<b>Study Area</b>	24.7%	\$53,482*
<b>City of Houston</b>	19.4%	\$55,499
<b>Harris County</b>	15.6%	\$63,498

Sources: U.S. Census Bureau, 2016-2020 ACS 5-Year Estimates. Tables B17021 and B19013.

The median household income ranges between segments. Segment 1 ranges from \$19,157 to \$137,530. Segment 2 has the highest median income of the segments, ranging from \$55,000 to \$238,935. Segment 3 has some of the lowest median income census tracts ranging from \$11,662 to \$121,950. Segment 4 ranges from \$15,268 to \$72,833. Segment 5 has the lowest median income, ranging from \$10,467 to \$61,089.

FTA has determined that no disproportionate high and adverse effects on EJ populations would result as the Project would not result in adverse effects. The Project would result in a benefit to EJ populations, due to increased access to transit, improved mobility, improved air quality, and safety

improvements to pedestrian and bicycle transportation. This determination considers the significant individual effects of the Project, along with existing regulations and future planned actions by the COH.

The Project would keep community cohesion and not separate or isolate any distinct neighborhoods, ethnic groups or other special groups as the Project would operate in existing roadways. Existing access would be maintained and will provide enhanced connections with more efficient travel. Bicycle and pedestrian improvements would also improve access and mobility with a shared use paths in areas of the Project, containing wider sidewalks and crosswalks in station areas. Eighteen percent of the study area is transit dependent and would benefit from faster, convenient modes of travel. Vehicular safety will be improved as left turns will be converted to protected left turns lanes and will be separated to control movements across the BRT lanes. Existing left turn access will be retained throughout the Project as much as safely feasible.

A Transit-Oriented Development (TOD) study is ongoing to encourage redevelopment and to create a sense of place in local neighborhoods around station areas. METRO would include an Arts-in-Transit Program as part of the design. The Program supports local, national, and international artists by celebrating the city's diversity through art and would cater to each segment's distinct character.

Direct long-term adverse impacts include residential and commercial displacements and relocations. EJ populations exist in these areas to varying degrees that are not disproportionate, although higher concentrations are present in Segment 1, Segment 3, and Segment 5. During the design process to date, efforts have been made to reduce acquisitions and displacements. After design refinements, additional fieldwork, and data analysis, 23 total displacements and 13 residential displacements are anticipated. Design activities to minimize impacts will continue during subsequent phases of the Project. No community facilities would be displaced. The locations of the displacements would be balanced across areas with high and low concentrations of EJ populations.

Approximately 23 percent of the total population aged five and older in the study area speaks English less than "very-well". METRO sent area residents direct mailers advertising public meetings in four languages - English, Spanish, Vietnamese, and Chinese. METRO provided interpreters at meetings located in predominately Spanish-speaking neighborhoods and provided the option for interpreters of other languages as needed. METRO provided Spanish translations of the meeting presentations and recordings in Spanish on the Project website.

## 2.8 Hazardous and Contaminated Materials

A *Hazardous and Contaminated Materials Technical Report* was prepared to identify known and potential contamination that might be encountered during construction. The technical report documents the results of the search of the Environmental Risk Information Services (ERIS) federal and state hazardous material databases to identify if properties encountered during construction might pose a risk of contamination by hazardous materials. The report also examines past hazardous material releases, remediation, the current presence of active Underground Storage Tanks (USTs), distance, and evaluates the local topography that influences contamination flows.

Phase I Environmental Site Assessments (ESA's) were completed on three properties and resulted in the following conclusions:

- 3520 S. Shepherd Drive/2100 Richmond Avenue – active groundwater monitoring wells located on site, METRO's legal counsel should coordinate with Texas Commission on Environmental Quality's (TCEQ) legal counsel and Dry Cleaner Remediation Program (DCRP) representatives to secure formal agreement that METRO will not be named a responsible party. METRO may enter its acquired portion of the property into the state Innocent Owner/Operator Program (IOP).
- 4615 Harrisburg Boulevard – a former drycleaner was located on the property directly adjacent to proposed excavations for the underpass; chlorinated solvents used in drycleaning tend to be very persistent in the environment; a study by the State Coalition for Remediation of Drycleaners found that up to 75 percent of historical drycleaners may have contaminated the surrounding environment (Schmidt et al 2001). These factors suggest a likelihood that excavations in the northern portion of the underpass will encounter contaminated soils.
- 5311 Clinton Drive and 1025 Lockwood Drive (northwest corner of Clinton Drive and Lockwood Drive and west side of Lockwood Drive) – documented groundwater releases, downgradient of the properties, are recorded near deep excavation sites for bridge supports on Lockwood Drive. It is possible that construction crews could encounter contaminated soils during construction at either site. Records obtained during the Phase I ESA's identified locations of groundwater plumes and other contamination. There was no evidence that contamination had migrated off-site from either property into the ROW of Lockwood Drive; therefore, the likelihood of construction crews encountering contaminated soils during installation of bridge supports is low.

## 2.9 Noise and Vibration

A *Noise & Vibration Technical Report* provides the results of the detailed noise and vibration assessment conducted for the Project. The assessment identified one receiver, Houston Public Media located at 4343 Elgin, that could potentially experience ground-borne noise resulting from vibration that could exceed FTA's impact criteria. The assessment did not determine if the building already includes vibration reduction measures for existing auto and bus traffic. During final design, METRO will conduct a site review and determine if the building already contains vibration reduction and will refine the FTA ground-borne vibration impact assessment to document any required minimization.

The assessment also identified a condominium property at 1100 Richmond Avenue, located 25 feet from the Project construction limits, and as such, is 1-foot within the area modeled to possibly sustain building vibration damage. The assessment was made using a worst-case assumption that the heaviest and most vibration producing equipment would be used. As the Project design progresses, this model will be refined with more design-specific detail and minimization will be developed to limit vibratory equipment that could cause building damage.



## 2.10 Floodplain Impacts

A *Water Resources Technical Report* provides the results of a floodplain analysis and examined the Project's potential to encroach into floodplains. The Project will be constructed on existing public street ROW that cross through existing floodplains and floodways. The Project has been designed to avoid impacts to floodplains to the maximum extent feasible and practicable. Drainage impact analysis based on 30 percent design currently indicates no-rise to the 100-year floodplain.

An underpass would be constructed on Lockwood Drive underneath Harrisburg Boulevard and the Union Pacific Railroad (UPRR) tracks. This area is not located within the 100-year floodplain and would be designed to include a detention pond and pump stations. See **Appendix B-Lockwood Underpass** for information on the proposed underpass.

## 2.11 Biological Resources

A *Biological Resources Technical Report* has been prepared to determine the potential effects on biological resources. The Project would be located in densely developed Houston urban area. Habitat is limited and, in general, is not suitable for many of the federally and state listed specials and the Texas Parks & Wildlife Department (TPWD) Species of Greatest Conservation Need (SGCN).

The Eastern Black Rail, the White-Tailed Hawk, and the Swallow-Tailed Hawk have not been observed within the study area., There is potential foraging and hunting habitat located within the study area; however, any use would be temporary and there is no suitable breeding habitat, therefore no effects are expected to occur to these species. The Project may affect the monarch butterfly; however, the monarch is currently a candidate species and no consultation with United States Fish and Wildlife Service (USFWS) is required at this time.

Long-term impacts to federally and state-listed species, and SGCNs, could include the loss of wildlife habitat, habitat fragmentation, direct removal/disturbance of plant populations, and wildlife/vehicle collisions post-construction.

Long-term impacts to vegetation will include vegetation removal, ground clearing, placement of fill material, and construction of culverts and bridges. The Project is being designed to avoid removing or impacting protected trees where feasible. As the design progresses, each tree will be evaluated to determine the potential for avoidance. METRO will continue coordination with the COH arborist.

## 2.12 Water Resources

A *Water Resources Technical Report* provides the results of possible surface waters impacts. Long-term impacts include the permanent loss to potential Waters of the U.S. by constructing new structures and widening existing structures, including bridges and culverts. Where existing culverts are present, impacts within the footprint of the current existing road structure are assumed to be temporary since the feature is considered previously impacted within those limits. Impacts associated with proposed fill outside of the existing structure such as widening culverts or riprap placement are assumed to be permanent. **Table 2-5** lists the potentially affected surface waters.

Table 2-5: National Hydrology Flowlines and Waterbodies

Segment	Area of Impact (acres)		Major Waterbodies
	Flowlines	Waterbodies	
Segment 1	32	24	Brays Bayou
			Bintliff Ditch
Segment 2	2	1	Poor Farm Ditch
Segment 3	1	2	Brays Bayou
			Buffalo Bayou
Segment 4	10	5	Unnamed tributary
			Buffalo Bayou
Segment 5	31	15	Halls Bayou
			Hunting Bayou
			Unnamed tributary of Halls Bayou
			Unnamed tributary of Hunting Bayou

Source: United States Geological Survey (USGS) National Hydrography, National Hydrography Products, 2021

One wetland feature was identified through desktop survey and field delineated on April 14, 2022. The wetland is located in a stormwater conveyance ditch and is within the Project footprint. As design progresses, measures will be taken to avoid the wetland. If the wetland cannot be feasibly avoided a jurisdictional determination will be requested from the United States Army Corps of Engineers (USACE) and a Nationwide Permit will be acquired if necessary.

### 2.13 Visual and Aesthetics Impacts

The Project would not travel through any areas that are considered visually sensitive and would not result in a negative impact to the visual or aesthetic environment. Each BRT station would include accessible platforms, level boarding, next-bus arrival signs, security cameras, lighting, and offboard fare payment via ticket vending machines, electronic fare cards, or mobile devices.

METRO would use BRT standard design guidelines for the BRT Stations and corridor. Design elements to be determined in community open houses would include choices about materials and design for structures, lighting, aesthetics, wayfinding, ticketing, and passenger amenities.

The Project would also include a shared use path where feasible for pedestrian and bicycle use. Safety buffer areas within the BRT shared paths and sidewalks would provide areas for landscaping, street furniture, sidewalk amenities, and decorative plantings. Arts-in-Transit would be incorporated into station designs. The Project would provide a continuous design along the corridor that should enhance the existing visual and aesthetic character.

### 2.14 Safety and Security

The Project would improve safety for vehicular traffic. The raised median for the BRT lanes would prohibit vehicle crossings and control access and left turns to signalized intersections. The exclusive BRT lanes will also allow transit vehicles to travel most of the corridor without conflicting vehicle paths.

Emergency vehicles will have access to the BRT lanes to circumvent traffic delays. Overpasses at Clinton/Lockwood, Bennington/Lockwood, Hirsh Overpass/Tidwell, and the underpass on Lockwood/UPRR, would provide emergency vehicles with an alternate travel route to bypass traffic and freight congestion.

The Project would provide a safe, reliable, walkable environment along the corridor. Pedestrian crossings would occur at signalized intersections or at signalized midblock crossings. Pedestrian refuge areas and Z-crossings would be included in the geometric design where median width and design context allows. Additional safety buffers would be included in various areas along the Project, where feasible. These safety buffers would include sidewalk design at a width of 2 - 4-ft., a side path of 8-10-ft, or 6-ft for a sidewalk with a 2-ft. frontage buffer.

METRO will coordinate with the local public safety agencies to ensure safety for METRO Riders and staff. METRO Police will provide 24-hour surveillance of the buses, BRT Stations, and other transit connections. Video surveillance on buses and at stations will continue to be monitored by METRO Police. METRO police will provide coordination with local public safety agencies through the TranStar facility.

### 3 Construction Impacts

Construction is planned to start as early as 2028, though construction sequencing plans that would determine where and when construction would start and how it would be phased have not yet been developed. Initial phases of construction are anticipated to focus on major utility relocations. The street reconstruction would then be sequenced in segments to minimize the need for disruptions and construction impacts for the full duration of construction to any one area. Temporary construction easements will be identified during final design to provide staging for parking and construction access.

#### 3.1 Traffic

Construction activities may temporarily create challenges in accessing community facilities and businesses through temporary closure of lanes, streets, intersections, and on-street parking. Travel patterns would temporarily change due to necessary use of detours by drivers, pedestrians, and cyclists. Maintenance of access plans for vehicles and pedestrians will be prepared during final design.

#### 3.2 Air Quality

Air quality construction-related effects would be limited to short-term increased fugitive dust and mobile source emissions. Construction activities associated with excavations, grading, filling, and other operations also disturb the soil, generate dust, and remove groundcover which causes the soil to be susceptible to wind and water erosion. The control of exhaust emanating from various types of construction equipment will be in accordance with USEPA guidelines and best management practices. To minimize exhaust, contractors will be required to use emission control devices and limit the unnecessary idling of construction vehicles. Construction of the Project will not violate any federal, state, or local laws concerning air quality. Therefore, air quality impacts from construction activities will not be substantial.

### 3.3 Historic & Archaeological Resources

No effects would occur to historic properties during construction. The unmarked and abandoned graves located [REDACTED], adjacent to and associated with the existing Evergreen Negro Cemetery, will be exhumed and reinterred prior to construction being initiated on Lockwood Drive under a THC permit. Per the request of the THC, the cemetery will be treated as NRHP-eligible and will be treated as an area where METRO contractors and construction activities are restricted. METRO will comply with the permit conditions for any further archeological investigations, archival research, and any unanticipated late discoveries in this location and believed to be associated with the Evergreen Negro Cemetery. Post-review archeological discoveries, unrelated to the Evergreen Negro Cemetery, will be resolved in accordance with 36 CFR 800.13(b)(3).

### 3.4 Environmental Justice

Closure of lanes, streets, intersections, and on-street parking may create temporary separation of neighborhoods during construction. Community members may avoid visiting certain community facilities or neighborhoods during construction.

The communities adjacent to the footprint of the Project would experience temporary impacts during construction, such as traffic detours, closing off access to certain properties, increasing noise levels, vibration, dust, and the presence of construction equipment. Construction of the Project could result in potential changes to access and travel patterns to residences, businesses, and community facilities in the areas adjacent to the Project footprint.

Additionally, short-term construction impacts would generate jobs, which would be directly supported by construction activities related to constructing the Project. Outside of the construction impacts characterized above, the Project would not cause short-term construction-related impacts to socioeconomic resources. Construction impacts would be a benefit to the study area in terms of employment, labor income, and sales. METRO will coordinate with local businesses to maintain access during construction.

### 3.5 Hazardous Materials

METRO will prepare a soil management plan in case contamination is observed in excavated soils. The plan will provide for worker safety and proper containment and disposal of any contaminated soils. Long term impacts associated with the Project will result in improvement of existing conditions, as any contamination encountered would be removed off-site.

### 3.6 Noise and Vibration

Construction will require the use of heavy equipment that generates relatively high noise and vibration levels typical of those found in urban environments. The Project construction noise and vibration levels would be temporary and intermittent and would cease once construction is complete.

During the construction phase of the Project, there will be temporary increases in the ambient noise level near active construction sites. The estimated construction noise level at 50 feet is 93 dBA

during the demolition phase, 88 dBA during paving, and up to 101 dBA during bridge and underpass phases if impact pile drivers are utilized. Construction could exceed the daytime COH Maximum Permissible Construction Sound Level of 85 dBA for residential receivers. Construction noise impacts have been identified for residential receivers at distances of up to 126 feet during demolition, 71 feet during paving, and 320 feet during impact pile driving. Utilizing drilled piles instead of impact driven piles would reduce the noise impact buffer distance for residential receivers to 71 feet for the bridge and underpass phases. Construction outside of the hours of 7 AM to 8 PM would be done according to COH ordinance requirements.

Construction noise impacts would only occur when there is active construction within the impact distance of a given receiver. Based on the progressive nature of roadway construction work it is anticipated that the duration of active construction within the impact distances would be a week or less at any single receiver for each phase. Therefore, the construction noise impacts for roadway construction is considered not significant due to the inherently limited duration and would not require noise commitments. Best Management Practices will be employed during construction to reduce these temporary construction impacts.

The duration of construction for the UPRR underpass along Lockwood Drive may be longer than the other roadwork phases. However, of the equipment modeled for underpass construction, only a pile driver and rail saw have the potential to exceed the COH construction noise criteria at 50 ft or greater. It is anticipated that these pieces of equipment will only be utilized during a small portion of the construction process and that most of the work will be related to earth and concrete work, which is not predicted to exceed the daytime construction noise criteria.

### 3.7 Biological Resources

Potential construction impacts to federally and state-listed species and SGCNs could be attributed to mobile species interacting with or avoiding construction machinery and vehicles. Birds, mammals, and reptile species may experience harassment effects (in the form of disturbance of normal behavior or activities) as a result of construction; these effects would be temporary, occurring only during the duration of construction.

Because of their mobility, direct mortality of bird species from the Project construction activity is unlikely to occur. The potential may exist for breeding colonies of migratory birds to be present during construction activities. Most vegetation within the ROW consists of maintained grasses due to prior development that has removed most trees and native ground cover. Project-related vegetation-clearing activities would be minimal. It is not anticipated that migratory birds would be impacted as a result of the construction due to the lack of remaining reproductive and foraging habitat.

Fossorial species, which live primarily underground, such as armadillos and rabbits would be susceptible to mortality due to ROW and earth-moving construction activities.

### 3.8 Water Resources

Construction activities could include clearing vegetation, removing soil, importing fill material, and the changes associated with grading and soil compaction. These activities can alter a site's ability to absorb and retain water, which can cause erosion and sediment loading to surface waters. Increased sediment loading could increase nutrient concentrations, harm benthic biota, reduce fish habitat, and, depending on the organic content of suspended sediment, decrease dissolved oxygen levels in receiving waters. In addition, construction runoff could include debris from demolition. Accidental spills of construction chemicals could also occur.

Any construction below the ground surface would locally disturb the uppermost soil layer into which rainwater infiltration occurs. The addition of impervious cover, both temporary and permanent, would alter the infiltration rate in the subsurface within the Project ROW. Construction could also encounter groundwater. If groundwater is encountered, it is typically removed and disposed of, to avoid contaminating or polluting groundwater.

### 3.9 Safety and Security

Crime Prevention Through Environmental Design (CPTED) strategies should be incorporated in the design process of creating transit shelters and stations to mitigate the occurrence of undesirable behaviors, while maintaining an inviting aesthetic. Strategies such as natural surveillance, natural access control, territoriality, activity support and maintenance should be considered.

## 4 Public Involvement

Approximately 20 in-person public meetings and two virtual ones have been held for the general public and interested citizens. The public meetings have been accompanied by meetings with local organizations, neighborhoods, universities, and various stakeholders. See **Table C-1** in **Appendix C-Public Involvement** for a list of public involvement conducted to date.

Community coordination is ongoing, and METRO considers all public and stakeholder input as it refines the design of the Project to maximize transportation and community benefits. This avoids and minimizes impacts to communities and provides commitments where warranted.

## 5 Environmental Commitments

This section provides a summary of environmental commitments made during the planning and environmental studies supporting this Categorical Exclusion. These commitments are required by METRO and will be monitored by FTA during subsequent project phases. Commitment measures (See Table 5-1) required to reduce project impacts will be completed by METRO and will be monitored by FTA during subsequent project phases.

Table 5-1: Summary of Environmental Commitments

Technical Area	Commitments
Property Acquisition/Relocation	METRO will coordinate with property owners upon CE-approval. METRO may acquire real property through a negotiated purchase or through condemnation.
Traffic	METRO will prepare maintenance of access plans during final design and maintain access and transit service as the Project progresses. Access to businesses will be maintained during construction.
Air Quality	METRO will require the construction contractor to comply with federal, state, and local regulations for construction activities relating to air quality. METRO will employ Best Management Practices (BMPs) to reduce air quality impacts. A traffic control plan will be utilized to reduce vehicular CO emissions.
Historic	<p>Third Ward Historic District (Segment 3, Wheeler between SH 288 and Ennis, Ennis between Wheeler and Elgin, Elgin between Ennis and Scott):</p> <ul style="list-style-type: none"> <li>a) Station designs that mimic the neighborhood scale, architectural styles, and materials of the district (varied styles),</li> <li>b) Historic interpretive panels that provide an educational opportunity on the history of the district's Ethnic Heritage/Jewish, Ethnic Heritage/Black, and Community Planning and Development to be identified with community input,</li> <li>c) Replanting of trees in the buffer between the curb and the sidewalk at intervals recommended by the City of Houston Arborist and in accordance with the City's Tree Ordinance,</li> <li>d) Public Outreach on station designs and METRO's arts-in-transit program to include a survey and a design workshop, and,</li> <li>e) 30-day Consulting party design reviews of 60 percent plans.</li> </ul> <p>Eastwood Historic District (Segment 4, Lockwood at Leland Street to UPRR/Lockwood).</p> <ul style="list-style-type: none"> <li>a) Station designs that mimic and complements the neighborhood scale, architectural styles, and materials of the district (Craftsman Bungalow, the Four Square and Colonial Revival),</li> <li>b) Historic interpretive panels that provide an educational opportunity on the history of the subdivision as a streetcar suburb, to be located with community input within the Project limits,</li> <li>c) Incorporation of the community Eastwood neighborhood sign into either the station design or the two entrances of the district along Lockwood,</li> <li>d) Minimizing the visual effects of the traffic barrier between the general-purpose lanes and the underpass, while maintaining safety requirements,</li> <li>e) Minimizing the visual effects of the four-and-a-half-foot-tall flood berm by including decorative fencing and landscaping, and by including arts-in-transit designs based on community input,</li> </ul>



Technical Area	Commitments
	<ul style="list-style-type: none"> <li>f) Replanting of trees in the buffer between the curb and the sidewalk at intervals recommended by the City of Houston Arborist and in accordance with the City's Tree Ordinance,</li> <li>g) Noise minimization during construction,</li> <li>h) Public Outreach on Polk Station designs and arts-in-transit program to include a survey and a design workshop, and,</li> <li>i) 30-day Consulting party design reviews of 60 percent plans.</li> </ul>
Archaeology	The unmarked and abandoned graves associated with the Evergreen Negro Cemetery, will be exhumed, and reinterred prior to construction in compliance with THC permit conditions. Construction will be prohibited to occur within the boundaries of the Evergreen Negro Cemetery.
Environmental Justice	No specific commitments for environmental justice populations is warranted as no disproportionate or adverse impacts are anticipated.
Hazardous Materials	METRO will prepare a Soil Management Plan during final design that the contractor will use during construction in the event that any hazardous or contaminated soils are encountered.
Noise and Vibration	An updated detailed assessment for ground borne vibration at the Houston Public Media building during final design. A vibration impact assessment model will be used at 1100 Richmond Avenue condominium property with more design specific detail. Noise minimization to adjacent residences will be required at the UPRR/Lockwood shoefly to reduce noise from temporary railroad operations on the shoefly during construction of the underpass.
Floodplains	Reevaluation of impacts will be completed during final design. Hydraulic design will be in concurrence with FTA design policies and standards. METRO will obtain a floodplain development permit and comply with regulations. At the conclusion of construction, site restoration, including vegetation replanting, will be performed by METRO in accordance with TCEQ.
Biological Resources	<p>METRO will implement BMPs to avoid, minimize, and mitigate potential impacts to biological resources including:</p> <ul style="list-style-type: none"> <li>- Migratory birds – no nest removal. Construction if nest areas encountered to occur outside of nesting season (Feb 15 to Oct 1).</li> <li>- Tree Replacement and maintenance plan that adheres to the CoH Tree Ordinance</li> <li>- Locally-adapted native plant species used in landscaping and seed mixes</li> </ul>
Water Resources	METRO will take all measures feasible to avoid wetland impacts. If avoidance is not possible, METRO will seek a Jurisdictional Determination on the one potential emergent wetland from the USACE, and a Section 404 Nationwide 14 permit with preconstruction notification, if required.
Safety	METRO will coordinate with local public safety agencies and will provide 24-hour surveillance. Video surveillance on buses and stations will continue to be monitored by METRO police.



## 5.1 Property Acquisition/Relocation

Property acquisition activities would occur after CE approval in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the State of Texas Landowner's Bill of Rights, and other laws that establish the process through which METRO may acquire real property through a negotiated purchase or through condemnation. METRO will coordinate with individual property owners upon CE-approval.

## 5.2 Traffic Impacts

METRO will prepare maintenance of access plans for vehicles and pedestrians during final design. Access to transit service on existing routes will be maintained and METRO will coordinate access to routes with transit passengers. Access to businesses will be maintained during construction for customers, deliveries, and parking lots. METRO will continue communication with local businesses during construction to monitor effects and modify construction plans, as needed, to further reduce impacts.

## 5.3 Air Quality

METRO will require the construction contractor to comply with appropriate federal, state, and local regulations to contain construction dust from equipment and vehicles. Covering and/or treating disturbed areas with dust suppressors, using tarpaulins on loaded trucks, and watering dust generating surfaces are typical best management practices (BMPs) METRO employs on projects to reduce air quality impacts. Traffic congestion during construction will be minimized by a traffic control plan to reduce vehicular CO emissions that increased as vehicle speeds decrease.

## 5.4 Historic Properties

METRO will complete the following conditions to minimize visual effects within the NRHP-eligible Third Ward Historic District:

- a) Station designs that mimic the neighborhood scale, architectural styles, and materials of the district (varied styles),
- b) Historic interpretive panels that provide an educational opportunity on the history of the district's Ethnic Heritage/Jewish, Ethnic Heritage/Black, and Community Planning and Development to be identified with community input,
- c) Replanting of trees in the buffer between the curb and the sidewalk at intervals recommended by the City of Houston Arborist and in accordance with the City's Tree Ordinance,
- d) Public Outreach on station designs and METRO's arts-in-transit program to include a survey and a design workshop, and,
- e) 30-day Consulting party design reviews of 60 percent plans.

METRO has committed to the following conditions to minimize visual effects within the NRHP-eligible Eastwood Historic District:

- a) Station designs that mimic and complements the neighborhood scale, architectural styles, and materials of the district (Craftsman Bungalow, the Four Square and Colonial Revival),

- b) Historic interpretive panels that provide an educational opportunity on the history of the subdivision as a streetcar suburb, to be located with community input within the Project limits,
- c) Incorporation of the community Eastwood neighborhood sign into either the station design or the two entrances of the district along Lockwood,
- d) Minimizing the visual effects of the traffic barrier between the general-purpose lanes and the underpass, while maintaining safety requirements,
- e) Minimizing the visual effects of the four-and-a-half-foot-tall flood berm by including decorative fencing and landscaping, and by including arts-in-transit designs based on community input,
- f) Replanting of trees in the buffer between the curb and the sidewalk at intervals recommended by the City of Houston Arborist and in accordance with the City's Tree Ordinance,
- g) Noise minimization during construction,
- h) Public Outreach on Polk Station designs and arts-in-transit program to include a survey and a design workshop, and,
- i) 30-day Consulting party design reviews of 60 percent plans.

## 5.5 Archaeological Resources

The unmarked and abandoned graves located in the median of Lockwood Drive, adjacent to and associated with the existing Evergreen Negro Cemetery, will be exhumed, and reinterred, prior to construction being initiated on Lockwood Drive under a THC permit. METRO will comply with the permit conditions for any unanticipated late discoveries in this location and believed to be associated with the Evergreen Negro Cemetery. Post-review archeological discoveries, unrelated to the Evergreen Negro Cemetery, will be resolved in accordance with 36 CFR 800.13(b)(3).

## 5.6 Environmental Justice

No specific commitments for environmental justice populations is warranted as no disproportionate or adverse impacts are anticipated. Environmental commitments applied to the whole Project will also be made in environmental justice communities. Communication about the Project during design and construction will continue to be provided in both English and Spanish and made available in other language upon request.

## 5.7 Hazardous Materials

METRO will prepare a Soil Management Plan during final design that the contractor will use to identify, treat, and dispose of any hazardous or contaminated soils encountered during construction.

## 5.8 Noise & Vibration

METRO will prepare an updated detailed assessment for ground-borne vibration at the Houston Public Media building during final design. This assessment will identify if vibration reduction measures are included in the existing building and will update the model with additional design detail that includes more specifics on the proposed construction equipment, amplitude settings,

and construction staging. Specific minimization measures, if warranted, will be identified for this sensitive receiver.

The condominium property at 1100 Richmond Avenue is 25-feet from construction activities. As the Project design progresses, vibration impact assessment model will be refined with more design-specific detail. Minimization measures, if warranted, will be developed into construction specifications to limit vibratory equipment that could cause building damage.

## 5.9 Floodplains

A reevaluation of floodplain impacts will be completed during final design. The hydraulic design practices will be in accordance with current FTA design policies and standards. All bridges, culverts, and drainage structures will be designed to Federal Highway Administration (FHWA) standards for a 100-year storm event. METRO will obtain floodplain development permits from the local floodplain administrators and comply with local floodplain regulations.

If METRO determines during design refinements, that the Project will result in an increase of more than one foot of the base flood elevation, a conditional letter of map revision and coordination with the Federal Emergency Management Agency (FEMA), USACE and the COH will be required.

The following compliance measures could be anticipated to be required (subject to change based on further design):

***Floodplain Development Permit.*** During final design, METRO will obtain floodplain development permits from the local floodplain administrators/directors and comply with local floodplain regulations, as required by the floodplain development permits.

***Construction Floodplain Best Management Practices.*** During construction within floodplains, METRO will implement erosion and sedimentation controls in accordance with Texas Pollutant Discharge Elimination System (TPDES) Permit No. TXR150000. METRO will conduct periodic site inspections and maintenance when BMPs are in place to identify and address areas requiring maintenance. METRO will maintain records of all inspections as part of the Stormwater Pollution Prevention Plan (SWPPP). Local regulatory entities will have the authority to conduct additional inspections as they deem necessary. Compliance and measures, including temporary detention, will be used to offset potential significant encroachment (or effects) on floodplains from piers and construction within the floodplains.

At the conclusion of construction, site restoration, including vegetation replanting, will be performed by METRO in accordance with TCEQ Clean Water Act (CWA) Section 401 water quality certification standards (refer to Section 401 Water Quality Certification).

For all stream crossings temporarily impacted during construction, METRO will implement BMPs in accordance with local regulating authorities, any local site development permits, and any USACE 404 permits.

**Operational Floodplain BMPs.** During final design, METRO will incorporate permanent floodplain controls that could include swales, vegetative strips, and soil stabilization measures to reduce peak flow rates in compliance with current applicable floodplain permit requirements.

**Channel Stability.** During final design, METRO will follow the latest FHWA Hydrologic Engineering Center (HEC) HEC-20 and HEC-18 procedures to maintain stable stream channels and protect existing and planned infrastructure. These procedures will apply to hydraulic structures, outfalls, intakes, bridges, rail crossings of roads regulated by FHWA and the TxDOT, and rail crossings over waterbodies.

## 5.10 Biological Resources

METRO will implement the following construction BMPs to avoid, minimize, and mitigate potential impacts to biological resources:

### *Migratory Birds:*

METRO will take all appropriate actions to prevent the take of migratory birds, their active nests, eggs, or young by the proper phasing of the Project and BMPs. Migratory Bird Treaty Act (MBTA) appropriate commitments will be included in construction specification.

- No active migratory bird nests (nests containing eggs and/or young) will be removed or destroyed at any time of the year.
- No colonial nests (swallows, for example) on or in structures will be removed until all nests in the colony become inactive.
- Measures, to the extent practicable, will be used to prevent or discourage migratory birds from building nests within portions of the Project area planned for construction.
- Inactive nests will be removed from the Project area to minimize the potential for reuse by migratory birds.
- Construction or demolition activities will be scheduled outside the typical nesting season (February 15 to October 1) and will comply with the previously listed prohibitive provisions of the MBTA, which apply year-round.

### *Vegetation:*

METRO will implement the following BMPs for vegetative habitat:

- Removal of native vegetation, particularly mature native trees and shrubs will be avoided to the greatest extent practicable. Wherever practicable, impacted vegetation will be replaced with in-kind, on-site replacement/restoration of native vegetation.
- Activities will be planned to preserve mature trees and COH protected and heritage trees, particularly acorn, nut, or berry-producing varieties. These types of vegetation have high value to wildlife.
- Replacement trees will be of equal or better wildlife quality and be regionally adapted native species.
- A maintenance plan will be developed when trees are planted.
- The use of locally adapted native species will be used in landscaping and seed mixes.

- Avoidance of vegetation clearing activities during the bird nesting season, to minimize adverse impacts to birds.
- The COH's Tree Ordinance will be adhered to for tree removal. METRO will make all feasible efforts to avoid impacts to protected and heritage trees.

#### *Aquatic Amphibians and Reptiles:*

METRO will implement the following BMPs in order to avoid, minimize, and mitigate potential impacts to vegetative habitat:

- Minimize impacts to wetlands, temporary and permanent open water features, including depressions, and riverine habitats.
- Maintain the existing hydrologic regime and any connections between wetlands and other aquatic features.
- Use barrier fencing to direct animal movements away from construction activities and areas of potential wildlife-vehicle collisions in construction areas.
- Apply hydro mulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas.
- If gutters and curbs are part of the roadway design, install gutters that do not include the side box inlet and include sloped (i.e., mountable) curbs to allow small animals to leave the roadway. If this modification to the curb system is not possible, install sections of sloped curb on either side of the stormwater drain for several feet to allow small animals to leave the roadway. Priority areas for these design recommendations are those with nearby wetlands or other aquatic features.

### 5.11 Water Resources

The Project could affect one potential jurisdictional emergent wetland. As design progresses, METRO will take all measures feasible to avoid the wetland. If avoidance is not possible, METRO will request a Jurisdictional Determination from the USACE to determine if the existing wetland is jurisdictional and is regulated under the CWA. If jurisdictional, and impacts cannot be avoided, a Section 404 Nationwide Permit 14 for linear transportation projects with preconstruction notification may be necessary.

### 5.12 Safety and Security

METRO will coordinate with the local public safety agencies to ensure safety for METRO Riders and staff. METRO Police will provide 24-hour surveillance of the buses, BRT Stations, and other transit connections. Video surveillance on buses and at stations will continue to be monitored by METRO Police. METRO police will provide coordination with local public safety agencies through the TranStar facility.